



**BIREX**  
SOLUTIONS



# PRODUCT CATALOGUE

**CHUTE SYSTEMS  
(GARBAGE & LINEN CHUTES)**



## OVERVIEW

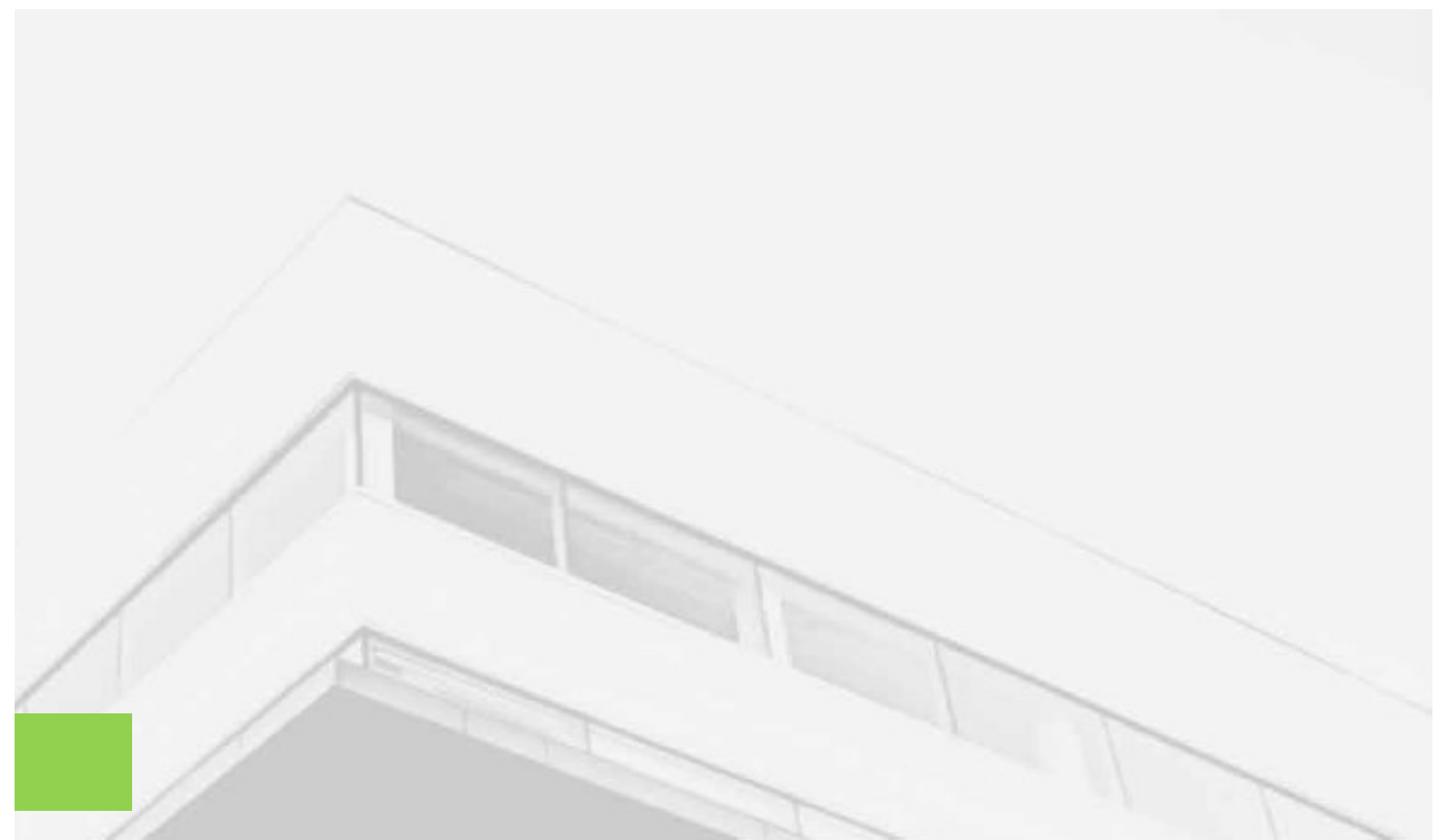
BIREX Solutions is a leading company in environmental services, **Garbage & Linen chute systems**, and waste management, operating in Lebanon since 2020. We specialize in the design, supply, installation, and maintenance of garbage and linen chutes, as well as providing a full range of integrated waste management solutions, including **food waste composting machines, Waste compactors, balers, and other waste-handling equipment and services.**

With years of hands-on experience in Lebanon and Qatar, BIREX Solutions is committed to delivering high-quality, reliable, and sustainable solutions for residential, commercial, and industrial projects.

We provide Annual Maintenance Contracts (AMC) and specialized support for chute systems **and Automated Waste Collection Systems (AWCS)**. Our expertise also includes waste reduction strategies, recycling solutions, and practical support to help clients achieve efficient and environmentally-friendly waste management practices.

**WE ARE YOUR PARTNER FOR CLEAN BUILDINGS AND SMART WASTE SOLUTIONS, DELIVERING PRACTICAL, RELIABLE, AND EFFICIENT SERVICES THAT ENSURE CONTINUOUS PERFORMANCE, SAFETY, AND OPERATIONAL EFFICIENCY.**

## KEY SERVICES





## CORE SERVICES

A range of chute solutions designed to enhance functionality, efficiency, comfort, and ease, catering to both commercial and residential needs.

### CHUTE SYSTEMS (GARBAGE & LINEN CHUTES)

Advanced supply, installation, and maintenance of garbage and linen chute systems, including multi-sort solutions, fire-rated components, and annual maintenance programs for residential, commercial, and high-rise buildings.

### WASTE COLLECTION OPERATIONS

Comprehensive private waste collection services covering recyclables, construction waste, oil, e-waste, and food waste (collection-only), with sorting and preparation for resale through our managed processing yard.

### CLEANING & SUPPORT SERVICES

Professional on-site manpower and cleaning teams for buildings, businesses, and events. Includes pre/post-event cleanup, waste-station management, and temporary support operations for festivals, exhibitions, and private gatherings.

### EQUIPMENT & MACHINES

Supply of reliable environmental equipment such as balers, compactors, shredders, and food waste machines, designed to support efficient recycling, waste reduction, and facility operations.

### CUSTOM BINS & TROLLEYS

Design and fabrication of customized street bins, PVC/GI trolleys, industrial containers, and collection units tailored to residential, commercial, and municipal needs.



# CONTACT INFORMATION

We're here to help you with all your waste management and building finishing needs. Reach out to us via phone, email, or visit our office for inquiries about our services, products, or project collaborations. Your satisfaction is our priority.

## BUSINESS HOURS (UTC+3) ZONE

Sunday to Thursday: 8:00 AM – 5:00 PM

Friday & Saturday: 8:00 AM – 2:00 PM

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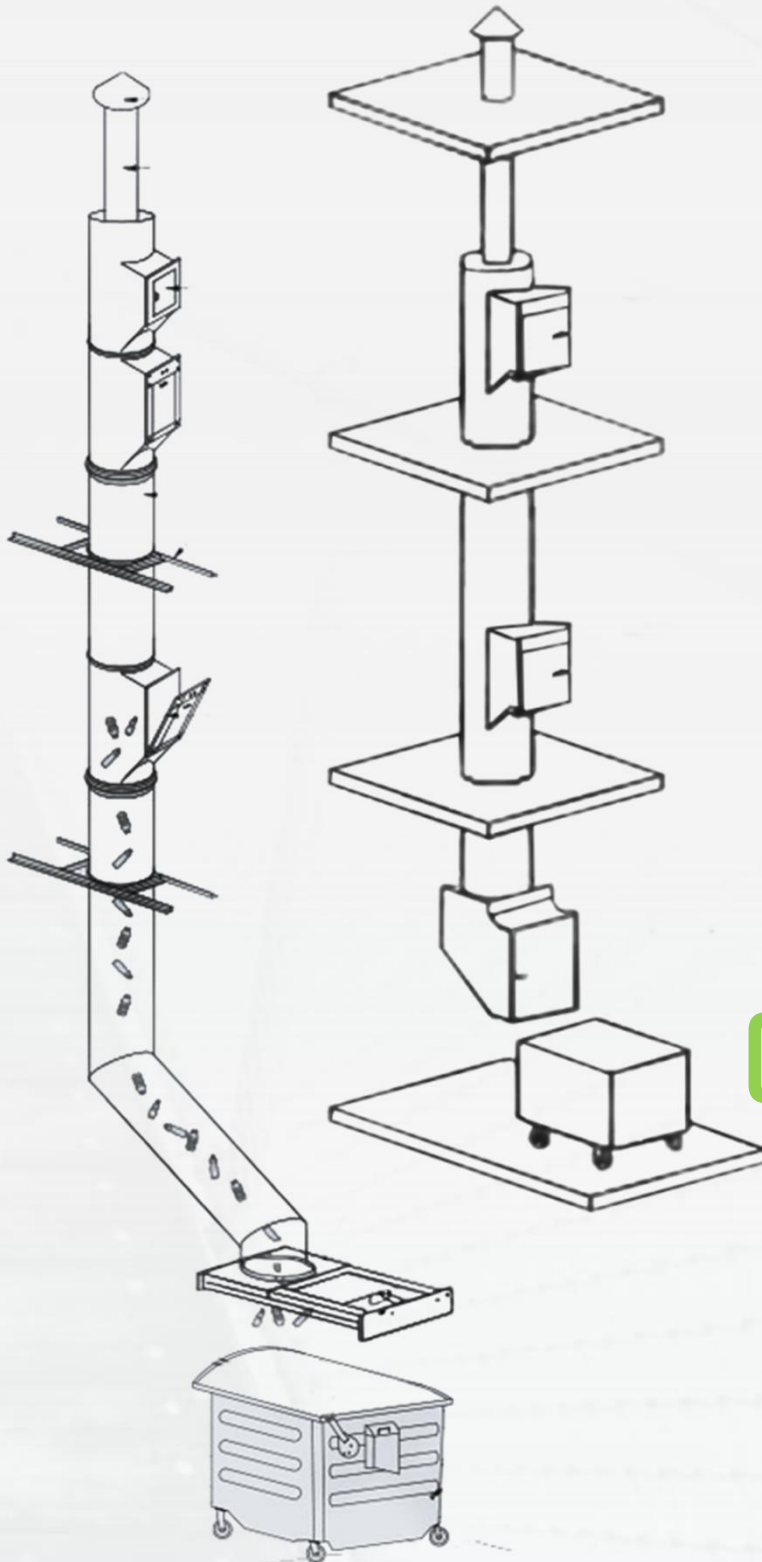
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Contact details

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**BIREX**  
SOLUTIONS



# GARBAGE & LINEN CHUTES

## PRODUCT CATALOGUE

# CHUTE SYSTEMS (GARBAGE & LINEN CHUTES)

Chutes from Birex Solutions are very convenient, simple and low cost method of controlling and disposing of refuse and linen. Chutes meet the most stringent requirements of environmental health and safety. Chutes are used as original equipment in new buildings, such as: **Hotels, Hospitals, High Rises and Residential Towers.**

## CHOICES OF MATERIALS

Birex Solutions Company provides refuse and linen chutes from the following high quality materials:

Birex Solutions strongly recommends the use of stainless steel for the manufacture of refuse chutes. Stainless is highly resistant to the humidity, acid and alkalis contained within refuse.

## MATERIAL THICKNESS & GAUGES

Birex provides the following material gauges:

- 1.2mm
- 1.5mm
- 2.0mm
- As Per Required

## INDOOR CHUTES

The majority of refuse chutes are fitted internally within a building. Birex Chute. chutes can either pass through the floor slab of the building or be fixed within a vertical shaft.

## OUTDOOR CHUTES

Birex refuse chutes can be fixed externally to most types of building, particularly useful when a refuse chute has to be provided after the building has been finished or where it is not possible to replace in the same location. External refuse chutes can be single or double skinned.



# CHUTE SYSTEMS (GARBAGE & LINEN CHUTES)

## MATERIALS

**STAINLESS STEEL SS 304 & SS316** : We strongly advocate for the use of stainless steel in the manufacturing of refuse chutes due to its exceptional resistance to humidity, acids, and alkalis commonly found in refuse. This material ensures longevity and minimal maintenance requirements.



## DESIGN OF CHUTES

### CHOICES OF MATERIALS

**Birex Solutions** provides refuse and linen chutes from the following high quality materials:

**STAINLESS STEEL:** Birex Solutions strongly recommends the use of stainless steel for the manufacture of refuse chutes.

Stainless steel is highly resistant to the humidity, acid and alkalis contained within refuse.

**GALVANIZED STEEL:** Galvanized steel does not have the same protective characteristics of stainless steel, yet, it is used extensively for refuse chutes.

Material	1.5 mm	2.0 mm	3.0 mm	Standard
Stainless Steel Type 304	*	*	*	EN 10088-2
Stainless Steel Type 316	*	*	*	EN 10088-2
Galvanized Steel	*	*	*	EN 10346 / DX51D+Z
Aluminized Steel	*	*	*	ASTM A463 / BS 6830
Aluzink	*	*	*	EN 10215 / EN 10143 DIN 55928 / ASTM A 792

### MATERIAL THICKNESSES & GAUGES

Birex Solutions provides the following material gauges:

- 1.5mm (16 Gauge) or any gauges need
- 2.00 mm (14Gauge)
- 3.00 mm (11 gauge)

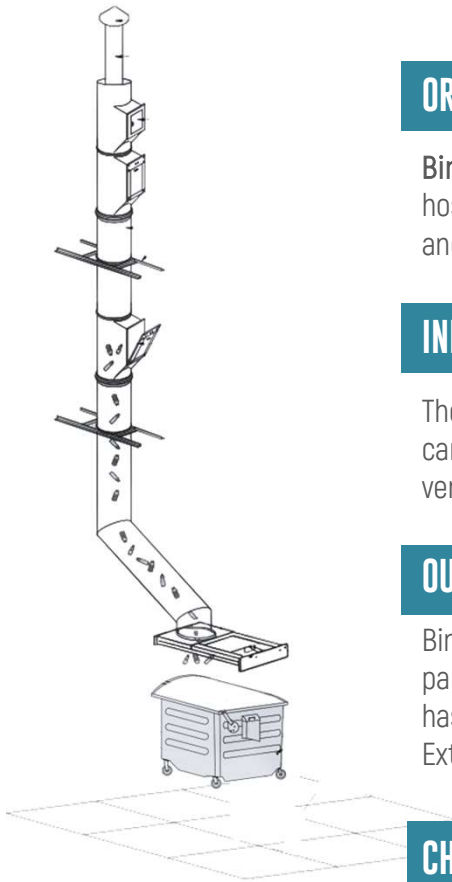
Number of Storeys	Storey	Material Thickness
1 10	All	1.5mm
1 20	1 9	2.0mm
	10 20	1.5mm
1 30	1 6	3.0mm
	7 20	2.0mm
	21 30	1.5mm
1 45	1 9	3.0mm
	11 30	2.0mm
	31 45	1.5mm

### USEFUL WEIGHTS

Material	Kg/m <sup>3</sup>
Carboard stacked flat or baled, folded newspaper	500
Food Waste, well compacted	600
Vegetable waste, uncompacted	200
Empty Bottles	300
Mixed general refuse, similar to domestic	150
General office waste and paper	50
Waste paper loose in sacks	20

# CHUTE SYSTEMS (GARBAGE & LINEN CHUTES)

## TECHNICAL INFORMATION



### ORIGINAL EQUIPMENT

**Birex Solutions** refuse chutes are specially designed for use in flats, hotels, hospitals, apartments, factories, condominiums, offices, commercial complexes and shopping centers.

### INDOOR CHUTES

The majority of refuse chutes are fitted internally within a building. Birex Team can either pass through the floor slab of the building or be fixed within a vertical shaft.

### OUTDOOR CHUTES

Birex Solutions refuse chutes can be fixed externally to most types of building, particularly useful when a refuse chute has to be provided after the building has been finished or where it is not possible to replace in the same location. External refuse chutes can be single or double skinned.

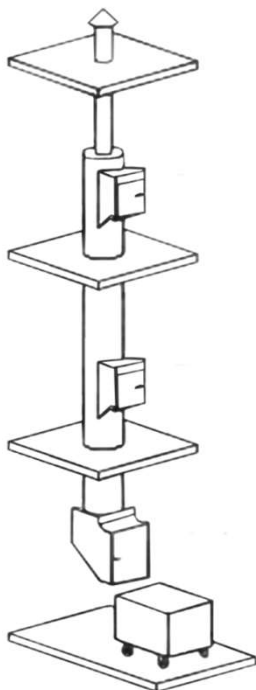
### CHOOSING THE CORRECT SIZE OF CHUTE

Birex Solutions provides a comprehensive range of refuse chutes, both in size and material choice.

The choice of materials to be used are covered thoroughly elsewhere, the choice of refuse chute diameter is shown on this page.

However we strongly recommend the use of 600 mm diameter chutes, as in practical terms this diameter is the least likely to cause any long term problems.

Appreciating that design and space considerations sometimes lead to compromises, this table opposite is given as a guide to assist you in choosing the correct diameter of chute.



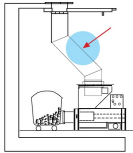
RECOMMENDED CHUTE DIAMETER	PLASTIC SACK CAPACITY	NO. OF APARTMENTS PER CHUTE
500 mm	20 liters	21 - 30
550 mm	30 liters	31 - 40
600 mm	40 - 50 liters	40 +
700 mm	40 - 50 liters	40 +



# CHUTE SYSTEMS (GARBAGE & LINEN CHUTES)

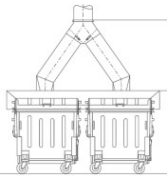
## TECHNICAL INFORMATION

### GARBAGE CHUTE



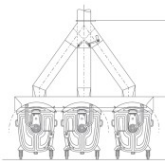
#### 1. STANDARD GARBAGE CHUTE:

- Our standard garbage chute system offers a simple yet effective waste disposal solution for residential and commercial buildings. Designed for convenience and efficiency, this system features a single chute that allows users to discard general waste easily.



#### 2. TWO BI-SORTERS CHUTE SYSTEM:

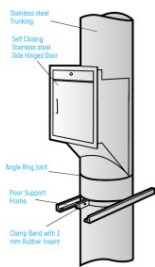
- Our two bi-sorters chute system is ideal for buildings where waste segregation is a priority. This system features two separate chutes equipped with bi-sorters, allowing users to segregate recyclables from non-recyclables conveniently.



#### 3. TRI-SORTERS CHUTE SYSTEM:

- Our tri-sorters chute system offers advanced waste segregation capabilities for buildings with complex waste streams. This system features three separate chutes equipped with tri-sorters, enabling users to segregate waste into recyclables, organic waste, and general refuse.

### LINEN CHUTE

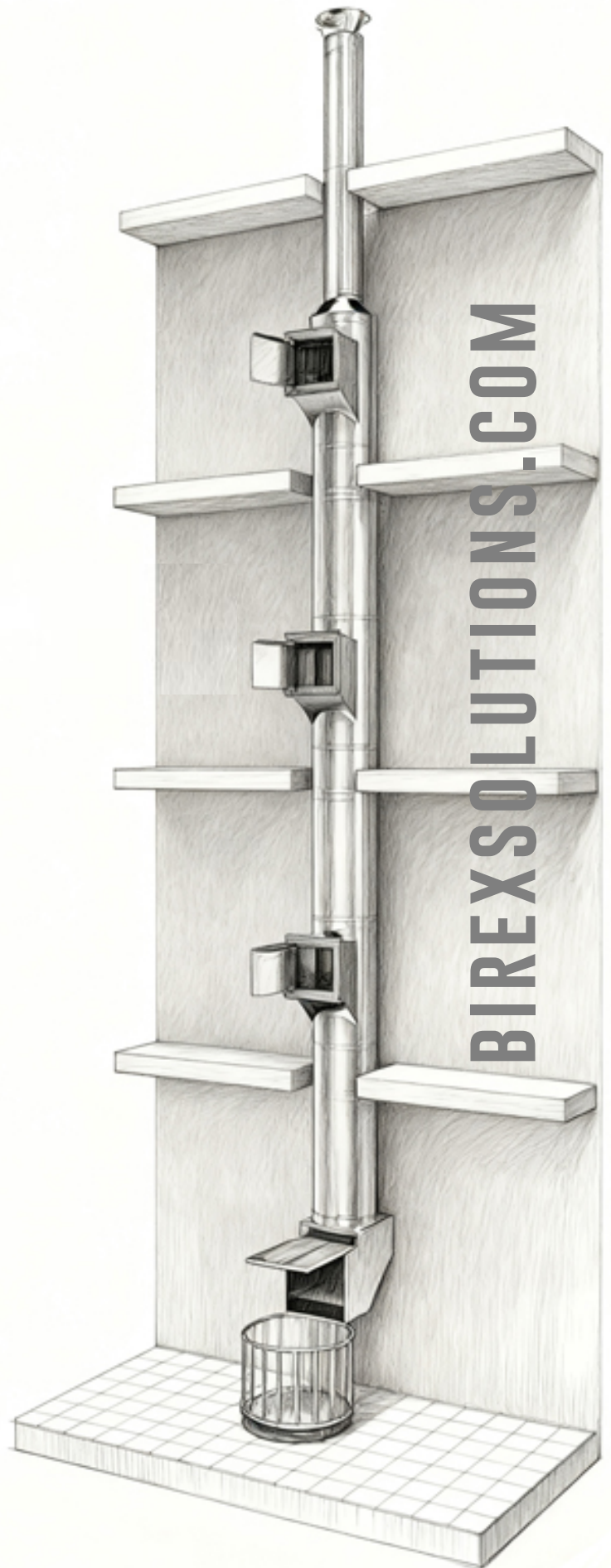


**Linen Chute Systems:** Designed specifically for the disposal of linens and textiles, our linen chute systems ensure hygienic and efficient waste disposal in healthcare facilities, hotels, and residential buildings. With customizable options to accommodate various linen sizes and volumes, our chute systems are ideal for maintaining cleanliness and organization.

# COMPONENTS

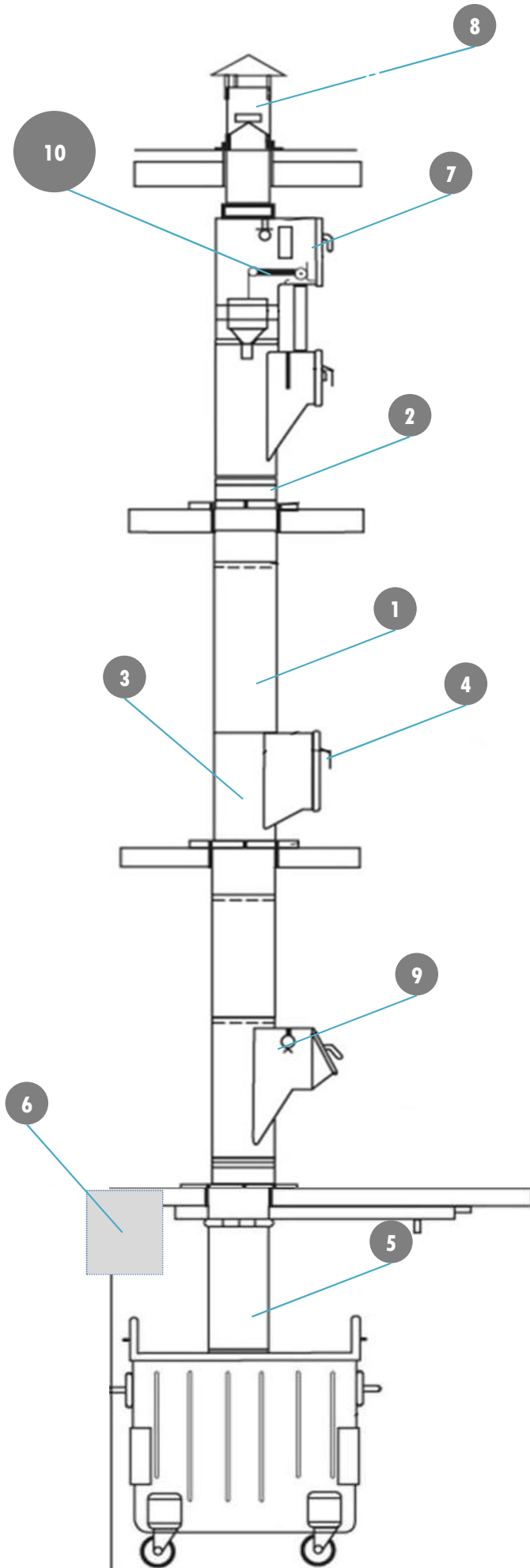
## CHUTE SYSTEMS

(GARBAGE & LINEN CHUTES)



BIREXSOLUTIONS.COM

# COMPONENTS OF GARBAGE CHUTE SYSTEM



1. CHUTE TUBE & SOUND DAMPING

2. CLAMP RING & SUPPORTING FRAME

3. INTAKE THROAT

4. HOOPER DOORS

5. DECELERATION ELBOW

6. CONTROL PANEL

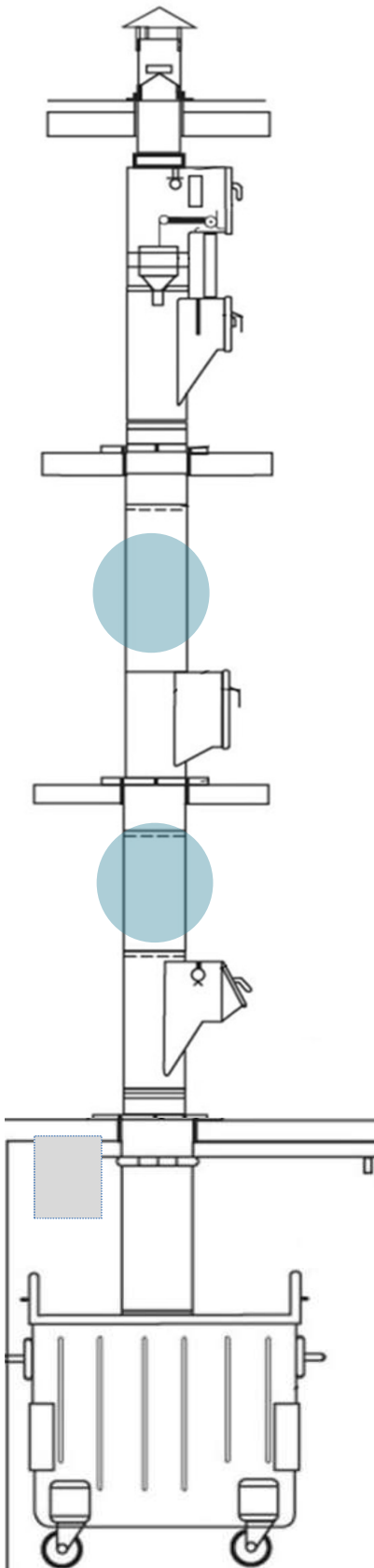
7. ACCESS DOORS

8. VENT TUBE & EXHAUST FAN

9. CLEANING & FIRE SPRINKLERS

10. AUTOMATIC CHUTE CLEANING & SANITIZING  
SYSTEM

# 1. CHUTE TUBE & SOUND DAMPING



## CHUTE TUBE

### MATERIAL & FABRICATION:

Birex strongly recommends SS304 stainless steel for the fabrication of garbage and linen chute systems. Our intake throats and chute tubes are manufactured locally by Birex in Turkey, Qatar, or Lebanon, ensuring premium quality that meets international industry standards and certifications.

Stainless steel 304 offers exceptional resistance to humidity, acids, and alkalis commonly found in refuse, providing **superior durability, hygiene, and long-term performance—critical** for high-traffic buildings and facilities.



## SOUND DAMPING SOLUTIONS

Metal refuse chutes can produce excessive noise due to resonant vibrations. To mitigate this, Birex applies a factory-coated sound-dampening compound with the following specifications:

Applied at a thickness **equal to or greater than the metal substrate.**

Covers the **entire exterior surface** of the chute tube (excluding the refuse opening, hopper face, and side-hinged door faces).



## 2. CLAMP RING & SUPPORTING FRAME

**Design & Fabrication:** The clamp ring and supporting frame are custom-designed based on project requirements, number of floors, and specific application needs.

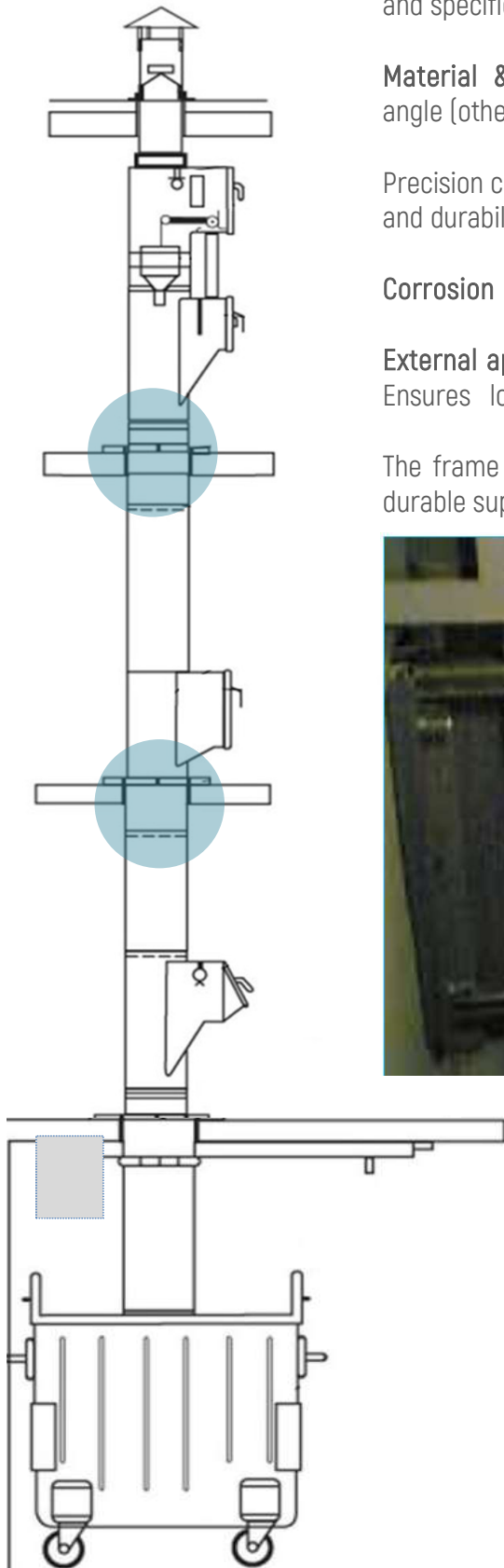
**Material & Construction:** Fabricated from 35x35x3 mm mild steel angle (other sizes available as required)

Precision cut, shaped, drilled, and rigidly welded for maximum strength and durability

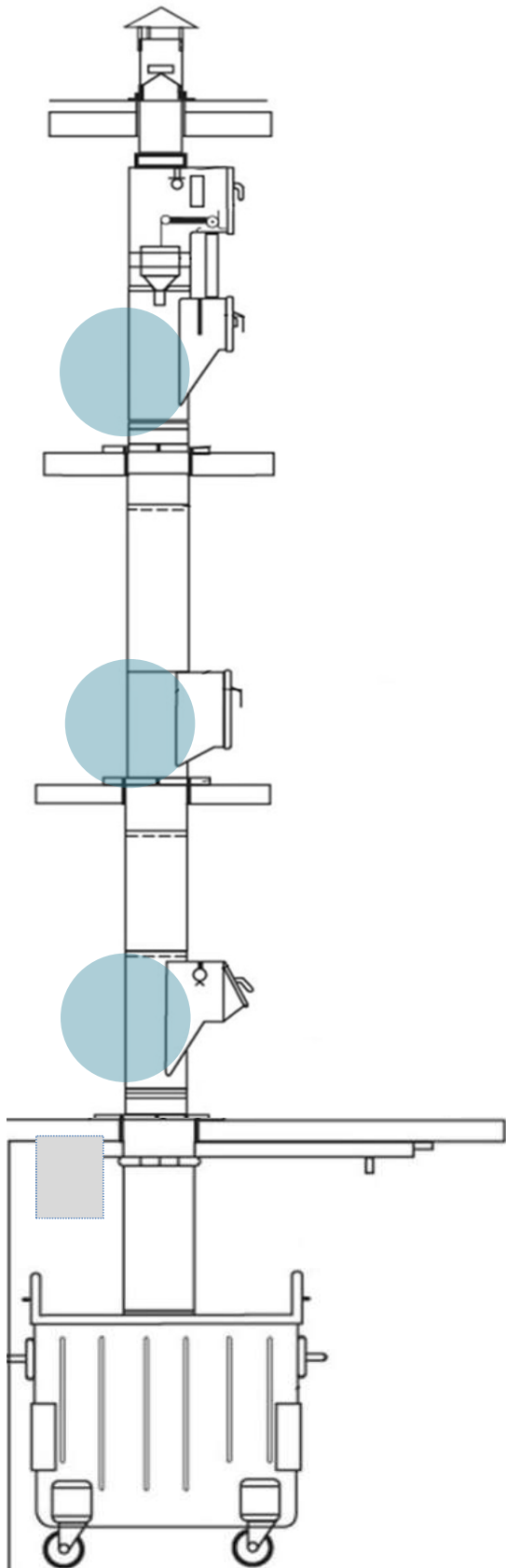
**Corrosion Protection:** Internal applications: Rust-proof coating

**External applications:** Hot-dip galvanized  
Ensures long-term protection and reliability in all environments

The frame securely holds a metal clamp band, providing stable and durable support for chute systems.



### 3. INTAKE THROAT

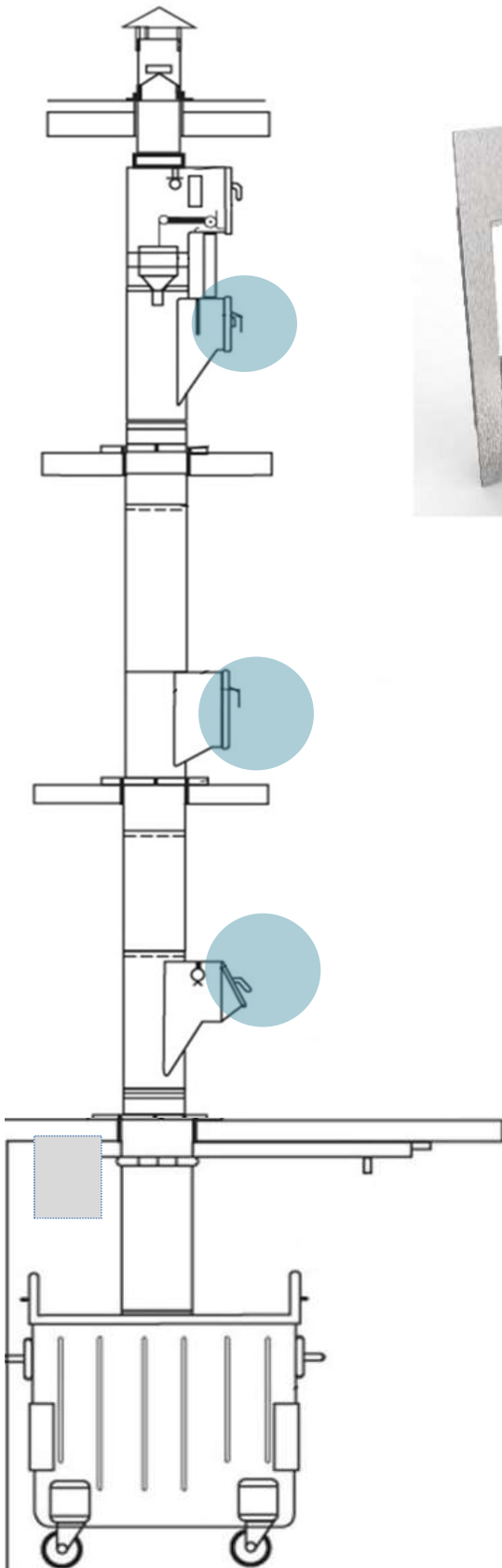


- Has an opening on each floor with throat for throwing the garbage. The opening of the throat shall be compatible to the chute door.
- The entire inner surface area is smooth and free from any projections that will impede the free flow of refuse within the total vertical length of the chute.
- Beading Ribs will be shaped to strengthen it and improve the sealing.
- Sound dampening coating to reduce the sound transmission and vibration.
- Throat are full welded and polished



## 4. HOOPER DOOR

### INTERLOCKING SYSTEM & SORTER SYSTEM



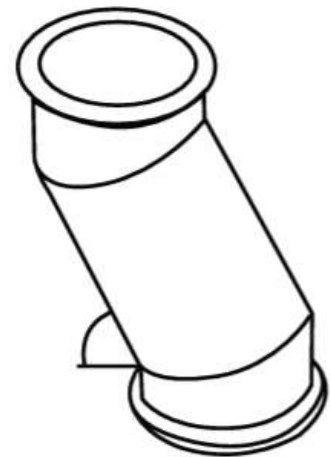
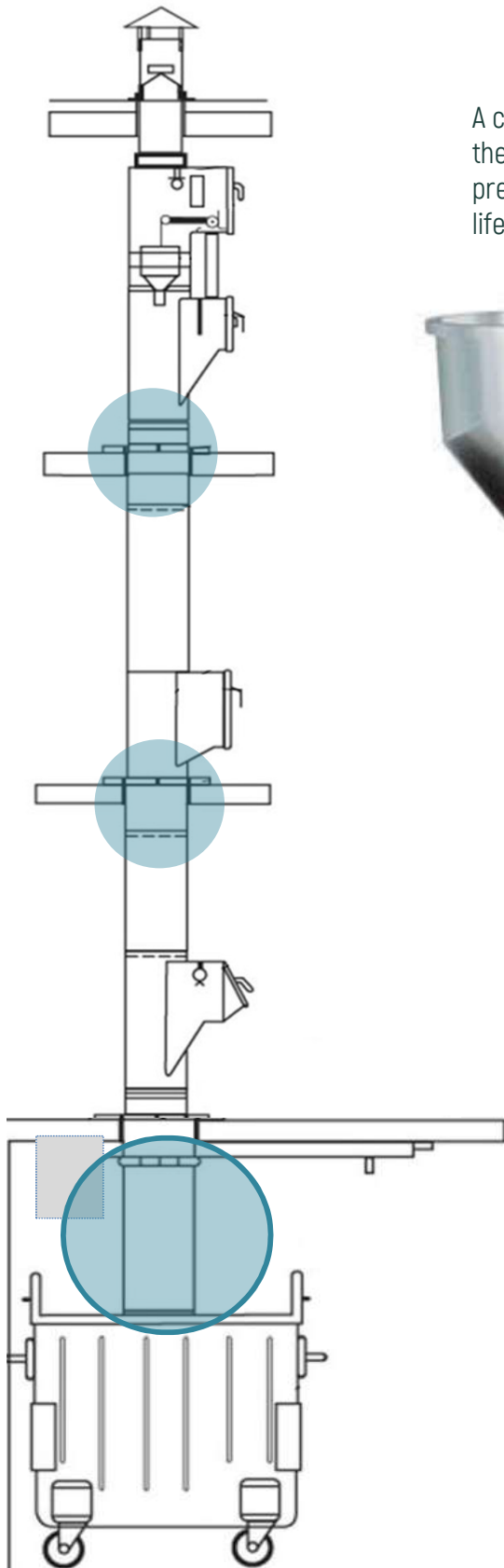
- When all floor door are ready for operating, all doors' green lamp will be lit.
- When someone want to open one door, he can pull the door open directly, then the interlocking is activated, the other doors will be locked, meanwhile, all doors' red lamp will be lit.
- We should make a cleaning, disinfection and maintenance work for the chute system periodically. The yellow lamp will be lit during these work.
- The below works will activate the interlocking function:
  - Cleaning process
  - Disinfection process
  - Maintenance
  - Emergency button
  - Fire Alarm
  - Brushing cleaning process (Optional)
  - Bin replacing and Bin full (Optional)
  - Smoke detector is activated (Optional)



- The interlock system is pre-wired and is designed to be plugged into a 120V or 220V receptacle and stepped down to 24VDC located in main control panel.

## 5. DECELERATION ELBOW

A critical component in centralized garbage chute systems, the deceleration elbow protects the compactor/container by preventing direct impact damage and extending equipment lifespan.

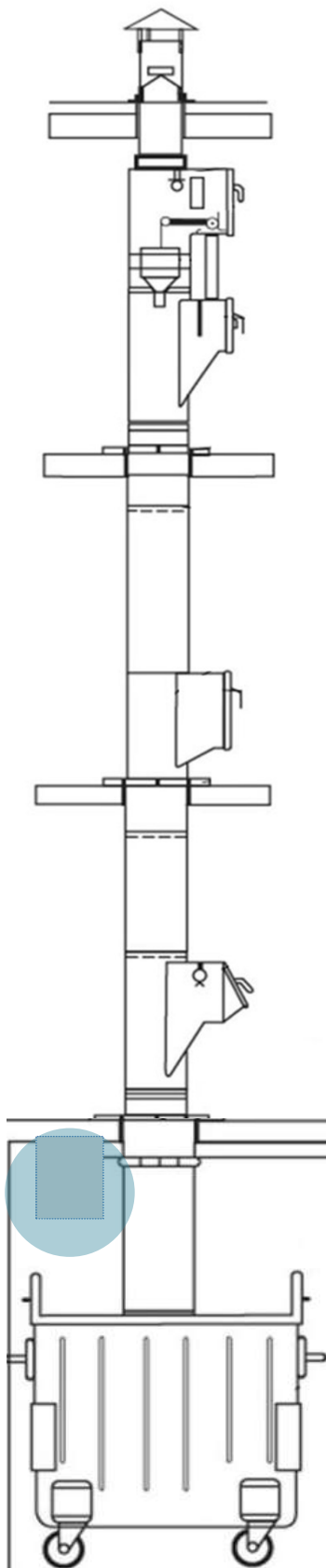


### Functionality:

The specialized 2-fold slowing mechanism effectively reduces waste velocity through:

- Initial impact absorption
- Progressive velocity reduction

## 6. CONTROL PANEL

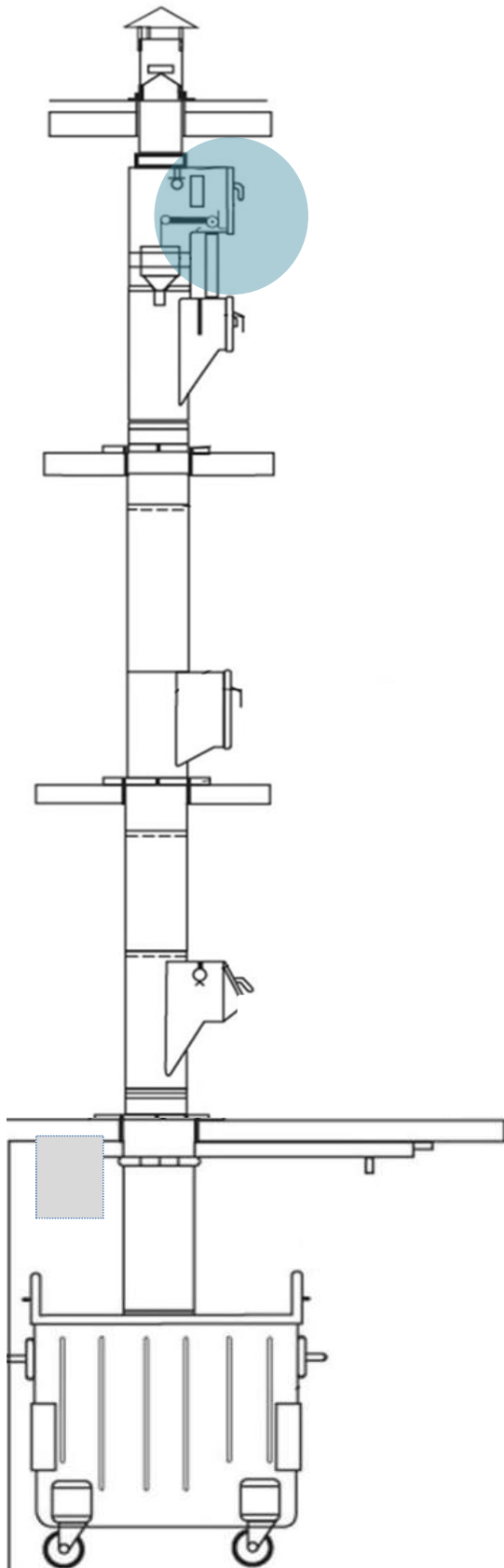


*This advanced control panel delivers comprehensive system oversight with intelligent automation, emergency responsiveness, and seamless safety integration, ensuring optimal performance and occupant protection in all operational scenarios.*

The control panel functions as the central command unit for the automated waste chute system, integrating and coordinating all operational components. It features:

- Centralized management of cleaning system operations
  - Precision control of electro-magnetic door locking mechanisms
  - Instant emergency shutdown capability with power isolation
  - Seamless integration with building fire alarm systems
  - Customizable interface options (LCS screens or advanced digital controls)
- 
- ✓ Complete system control and monitoring
  - ✓ Enhanced safety through emergency features
  - ✓ Customizable to project requirements
  - ✓ Future-ready technology integration

## 7. ACCESS DOORS



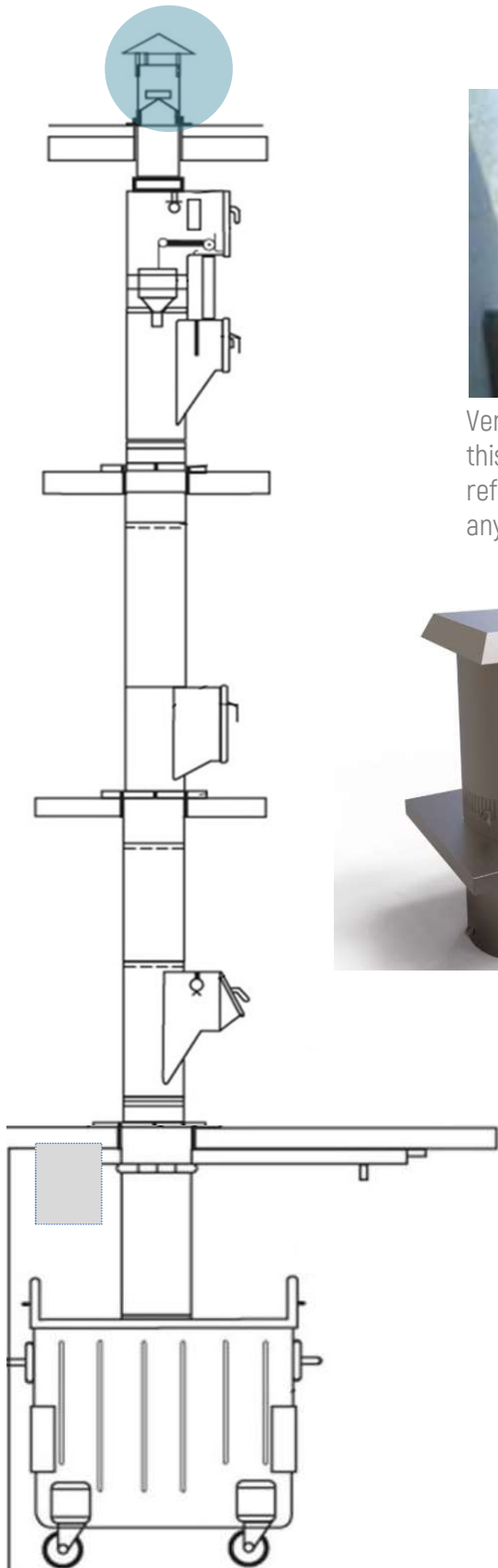
### ACCESS DOOR WITH INTAKE

Access maintenance of motor unit, solenoid valve, brush and disinfecting sanitizing unit

- The access door is 450mm\*450mm
- T-handle, Side Hinged, hand-operated, self-closing, positive latching.
- The whole door panel and the frame are made of 304 stainless steel, 1.5mm thickness.
- UL fire rated 1-1/2 hour, 30 minute – 250-degree max temperature rise.
- Intumescent strip to fire rated and sound dampening.



## 8. VENT TUBE & EXHAUST FAN



Vents are installed at the top of the chutes, usually above roof level this ventilator maintains a smooth flow of fresh air within the refuse chute. The foul air exhaust fan helps prevent the escape of any bad odors or gases released by the garbage material.

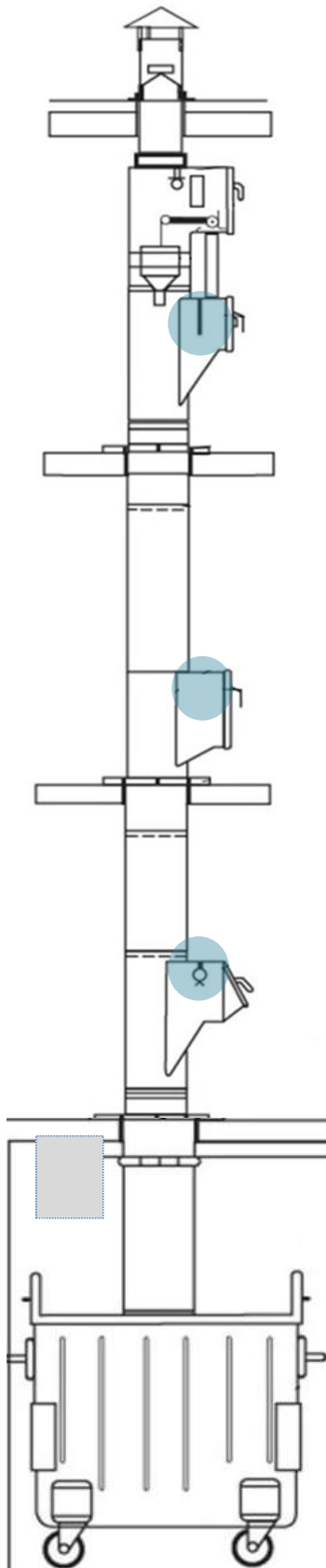


### AUTOMATIC FOUL AIR EXHAUST FAN

The vents are made the same diameter as the chute and extend above the finished roof per NFPA recommendations.

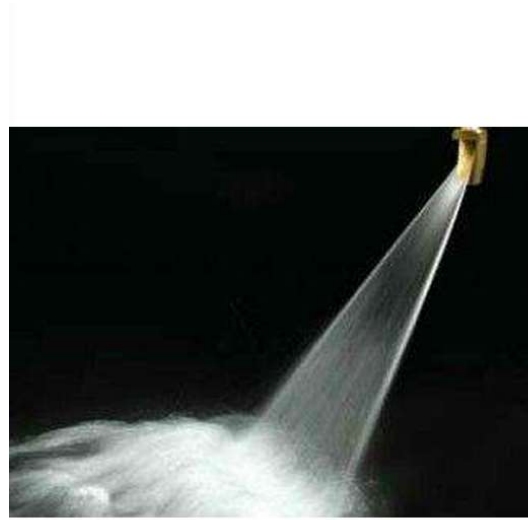
Vents are constructed of 16 gauge stainless steel and are complete with roof flashing and metal weather cap.

# 9. CLEANING & FIRE SPRINKLERS



## CLEANING SPRINKLERS

Spray head located in all floors behind the door opening for cleaning issues.



**Water Sprinklers:** Birex will be responsible for the supply and installation of the water sprinkler system, including the piping line, testing, and commissioning.

**Country Origin : China**



## FIRE SPRINKLER:

Glass bulb sprinklers installed for fire detection inside the chute in each floor. 1/2" IPS, 68°C (165°F). Glass Sprinklers can be used in conjunction with a normal water supply at a pressure of up to 8 bar.

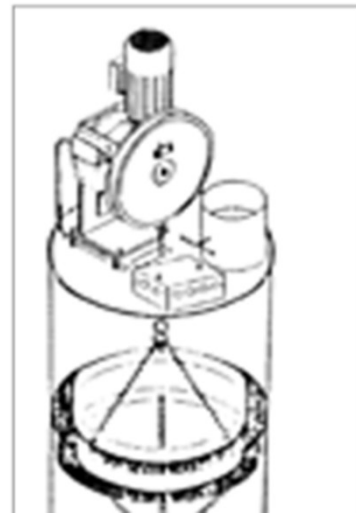
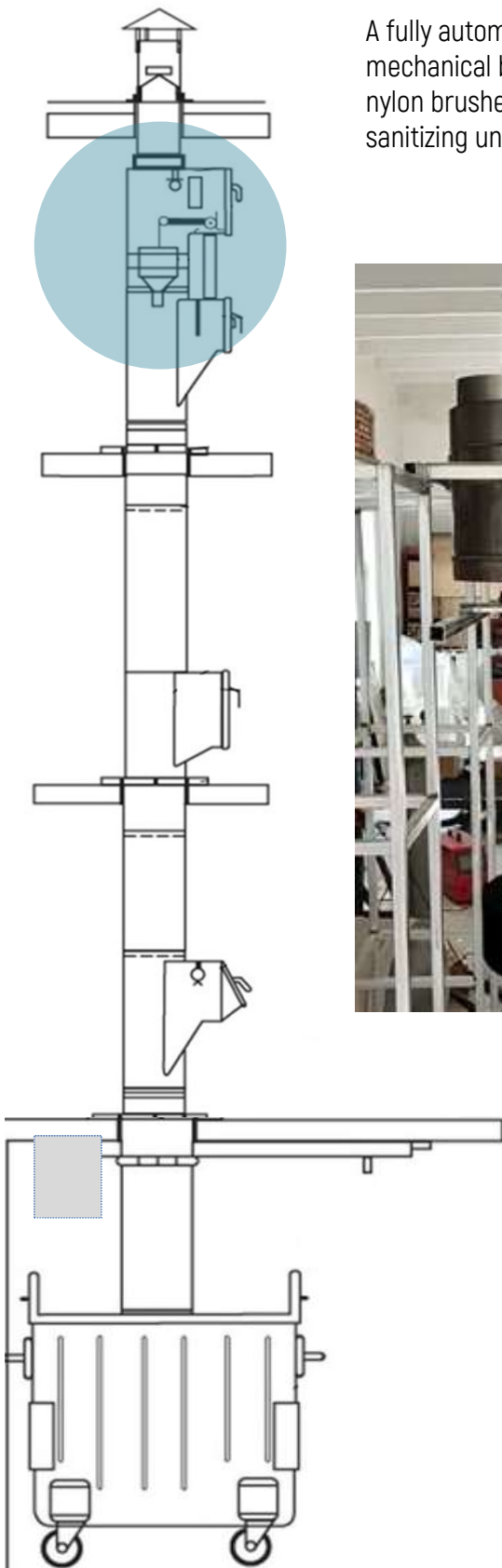
**Smoke Detection System:** This system shall be provided by the fire alarm subcontractor

**Fire Sprinklers:** Birex will be responsible only for the supply of fire sprinklers related to the chute systems. Installation of the fire line is not under Birex's scope. Birex will coordinate with MEP contractor to ensure proper integration.



# 10. AUTOMATIC BRUSHING CLEANING SYSTEM

A fully automated solution for maintaining hygienic waste chutes, combining mechanical brushing with disinfectant flushing. The system features **motorized** nylon brushes that scrub the entire chute interior, paired with an optional sanitizing unit to eliminate odors and bacteria..

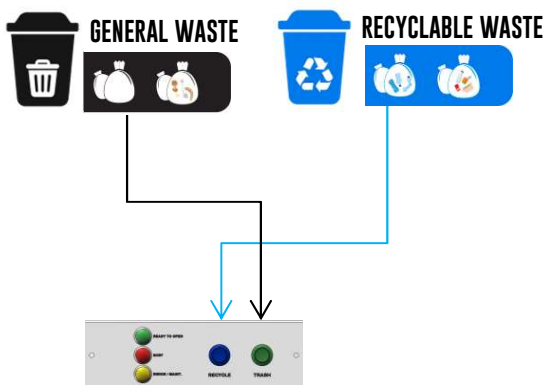
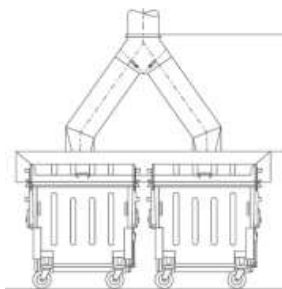


- Self-contained, ready-to-install unit
- Programmable cleaning cycles
- Heavy-duty replaceable brushes
- Integrated water flushing system
- Optional disinfectant module
- Safety overload protection
- Simple maintenance design

# BI-SORTING CHUTES

## DUAL WASTE DEFLECTION SYSTEM

The Sorter / Bi-Sorter is an advanced chute system component designed to efficiently separate waste streams within a single chute. Equipped with a precision-engineered **deflector plate**, the unit automatically directs each waste type into its designated trolley, ensuring clean and accurate segregation.

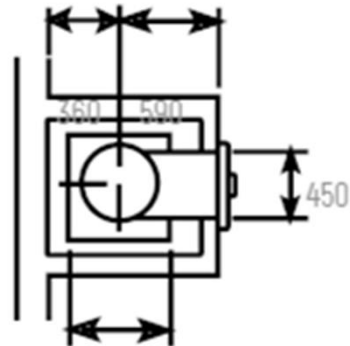


### TO DISPOSE OF WASTE, PRESS THE BUTTON FOR YOUR SELECTED TYPE:

- For **General Waste**, the chute door unlocks after a short delay of 3–5 seconds.
  - For **Recyclables**, the door opens immediately.
- Each item is automatically directed to its correct bin in the waste room, ensuring proper separation and efficient waste management.



# GARBAGE CHUTES EXAMPLES

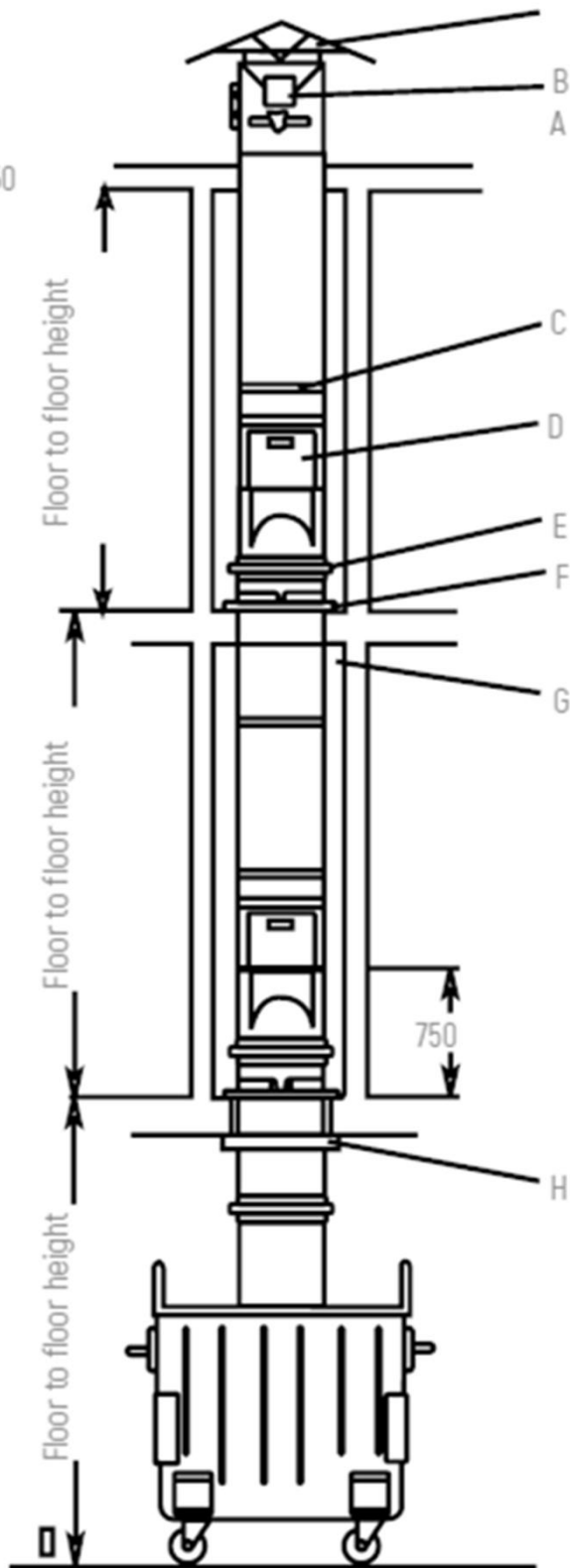


600 mm hole  
through floor slab  
for 500 mm chute

## ALL DIMENSIONS IN MM

- A. Cowl with insect screen.
- B. Automatic exhaust air fan with access door.
- C. 1 1/2 hour fire rated hopper.
- D. Angle ring joint.
- E. Floor support frame
- F. Floor opening to be infilled by contractor.
- G. Enclosing walls built after chute installation.
- H. Fire shutter door.
- NB. Flashing of vent pipe to roof by other.

- A. Full diameter vent and cowl (or as specified)
- B. Disinfecting and sanitizing unit
- C. Automatic chute cleaning system
- D. 1 1/2 hour fire rated hopper
- E. Floor support frame
- F. Floor opening to be infilled by contractor
- G. Enclosing walls built after chute installation
- H. Sprinklers
- I. Fire shutter door
- J. Discharge section





**BIREX SOLUTIONS**

# BIG IMPACT STATEMENT

**CLEAN BUILDINGS.  
SMART WASTE.  
ONE PARTNER FOR EVERYTHING.**



LET'S BUILD A  
CLEANER, SMARTER,  
AND SAFER FUTURE TOGETHER.

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