

Specialized Factory for Steel Products
SIGMA Factory for Steel Products



GARBAGE & LINEN CHUTES CATALOGUE



www.ikkgroup.com

INDEX

Garbage & Linen Chutes Catalogue

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www.sfsp-ikk.com



**ABOUT
SFSP**



Specialized/Sigma Factory for Steel Products (SFSP) was first established in KSA in 1989 and has been expanding ever since through a variety of products and through its geographical presence.

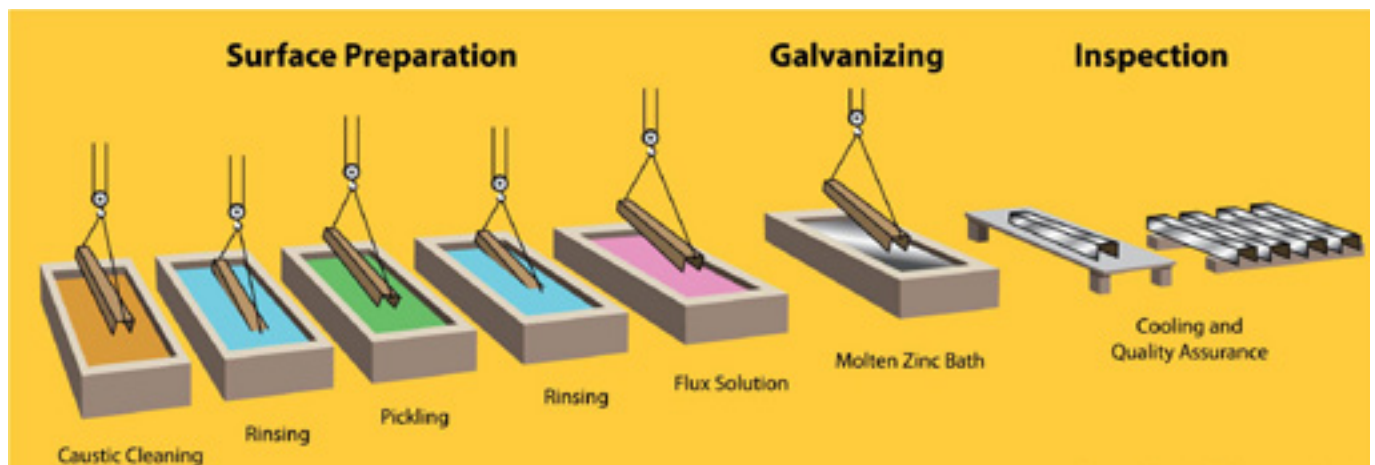
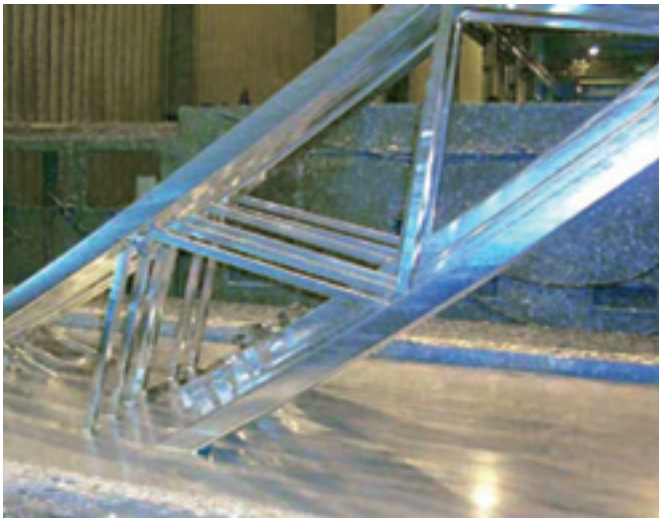
Production at the factory is observed using modern practices of manufacturing methods in the steel construction industry with a definite compliance to international standards of fabrication.

SFSP has manufacturing facilities in KSA, UAE, Egypt, and Lebanon. SFSP adapts quickly and easily to market demands and requirements. The factory is operating a top of the line production machinery, fully automated with highest technology to ensure quality and maintain speed with delicacy.

Quality at SFSP is uncompromised; the factories have been able to acquire ISO 9001: 2008 Quality Management System, ISO 14001:2004 Environmental Management certified factory, and OHSAS 18001:2007 Occupational, Health and Safety Management factory.

HOT-DIP GALVANIZATION

SFSP has an in-house state of the art Hot-Dip Galvanization facility, which permits a full control of the quality of its finished products, offering better services to our clients globally.





Specialized Factory for Steel Products Co. Ltd

www.sfsp-ikk.com

Specialized Factory for Steel Products Co., Ltd, which is part of Isam Khairi Kabbani Group of companies is a leading fabricator of steel construction products serving the kingdom of Saudi Arabia since 1989.

The factory operates under TQM ISO modules, using the latest modern technology in the steel fabrication and manufacturing industry in conformity with International standards for safety and in compliance with the environmental regulations in the Kingdom.

The factory has inaugurated its new manufacturing facilities which is located in the 3rd Industrial Area of Jeddah with a total built facilities of 37,000 squared meters.



The facilities include two manufacturing areas, a hot dip galvanization advanced section, warehousing areas and administrative building. The project is an advanced environmental low emissions factory built with a definite consideration of the safety of its workers and visitors.





TECHNICAL SERVICES

A crucial factor in the job of a factory is to provide continuous technical services and consultations. That's why SFSP has invested in a professional team of researchers and specialists.

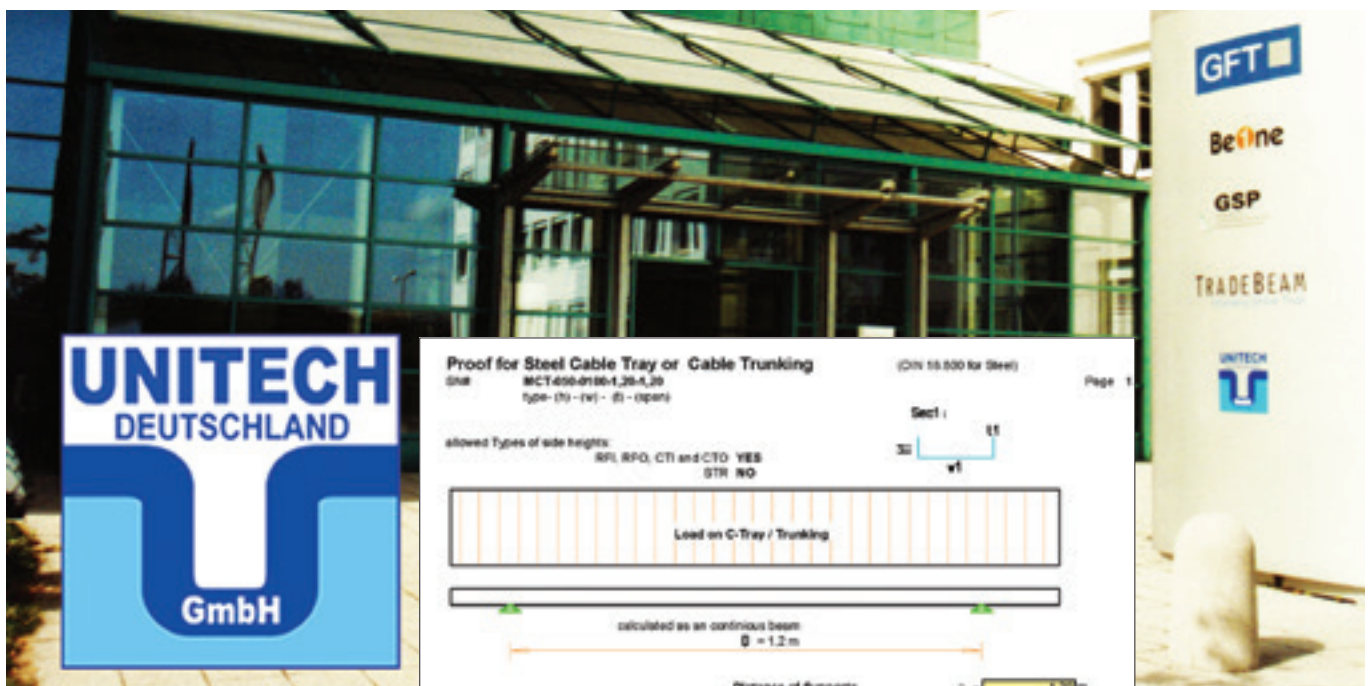
SFSP has recruited brilliant graduates and experienced engineers having the appropriate knowhow on the on latest technology changes and development in the steel building materials industry.

The product range is developed and updated according to the relevant standards of fabrication across markets, whilst the business processes are evaluated to achieve maximum efficiency.

SFSP R&D Core Objectives

- Carry out responsibilities effectively in a safe and healthy work environment.
- Develop and implement research programs relevant to the products and solutions introduced and ensure that the results are communicated clearly in-house and among the clients , concisely and accurately.

DESIGN AND ENGINEERING OFFICE - GERMANY



Unitech Deutschland GmbH is the design office of Unitech for Building and Construction Materials and is situated in Stuttgart, Germany.

Proof for Steel Cable Tray or Cable Trunking			
(CIN 15.030 for Steel)			
Page 1			
allowed Types of side heights: RFI, RPD, CTI and CTD: YES STR: NO			
Load on C-Tray / Trunking			
calculated as an continuous beam $\ell = 1.2 \text{ m}$			
Distance of Supports Load on Cable Tray			
Cable Tray Sec 5:			
*** Center Load only possible for $w \leq 300 \text{ mm}$!!			
SN	Mechanical Properties	Equations	Figures unit
1	Type of materials used	$DIN 50102$	5.205.2002
2	Allow. 0.2 Yield Stress up to 50°C	$F_{0.2} = F_{0.2} / 1.5$	21.82 N/mm ²
3	Allow. Shear Stress		12.60 N/mm ²
4	Allow. Deflection	$\delta / 200 =$	6.00 mm
5	Modulus of Elasticity		21.000 N/mm ²
Applied Loads			
1	Distance of Supports	$D =$	120.00 cm
2	Self Weight Cable	$W_{c} =$	1.74 N/mm
3	Self Weight Cable Tray	$W_{tr} <$	0.02 N/mm
4	Self Weight	$W_{tr} = W_{c} + W_{tr}$	1.76 N/mm
Design of Elements			
1	Cable Tray / Trunking		
1	Description	Equations	Figures unit
Structural Properties of Sec. 5			

SOCIAL RESPONSIBILITY

Being socially responsible is a part of who we are and how we do our business. We aim to provide useful products and services, to provide jobs and development opportunities for our communities, and to gain satisfaction through meaningful work.

We make a difference by acting on the values and principles of our societies and we inspire others to do so. At SFSP, we anticipate and reduce threats caused by environmental changes or natural disasters, and we are well adapted to significant social changes.

We contribute to a more sustainable society by means of value and support to our consumers, supply chains, and stakeholders. We are keen to identify ways they can improve our impacts on the people and places we work and live in, and thereby become more valuable and valued members of society.

- Organizational governance: We promote accountability and transparency at all levels, thus, promoting responsibility
- Human care: We treat individuals with respect; and make efforts to help members of vulnerable groups
- Labor practices: We provide just, safe and favorable conditions to workers
- Environment: At SFSP, we identify and improve environmental impacts of our operations, including the resource use of natural resources and waste disposal.



- Fair operating practices: Practicing accountability and fairness in dealings with other businesses

At SFSP, we are committed to continuous improvement ongoing learning, process review and innovative thinking that foster new initiatives; and better practices. Our environmental programs evolve to meet today's changing needs while; protecting resources for future generations.

HEALTH AND SAFETY

The Factory Management regard the health and safety of the employees, clients and all others that may be affected by their operations to be of a major importance.

In support of this, the management promotes health and safety throughout the Factory's operations and endeavour to engender a positive attitude in all employees towards the prevention of accidents and maintenance of healthy working arrangements.

The Factory satisfies the requirements of the Health, Safety and related legislation by setting out the responsibilities of all levels of staff and the arrangements for carrying out those responsibilities and in particular do what is reasonably practicable to:

1. Maintains safe & healthy working conditions.

2. Ensures that all facilities and equipment are safe and properly maintained.
3. Provides products that can be applied and used safely and without risk to health.
4. Provides and maintain working procedures, that are safe and without risk to health, throughout the its operations in respect of:
 - The use, handling, storage, transports and disposal of materials and substances.
 - The use of factory equipment.
 - Potential emergency situations, including first aid, fire and escape of substances.
5. Ensure the competence of employees.

The factory is an OHSAS 18001:2007 Occupational, Health and Safety Management certified Factory.



ENVIRONMENTAL AWARENESS

SFSP is committed to the following:

- Compliance with all statutory and regulatory requirements related to its activities, products and services and the environmental aspects.
- Identifying quality and environmental objectives by review and audit of the processes both in-house and on-site.
- Formally setting objectives based on the results of the process reviews and their significance in relation to their impact on the environment and the continual improvement of the quality and environmental management system.
- Implementing management programs to achieve these objectives.
- Investing in a well-trained and motivated workforce.
- Working closely with suppliers and customers to ensure mutual understanding and benefits of the environmental aspects consideration.
- Reviewing our policy and objectives as part of the Management Review Process.
- Communicating this policy to all persons working for or on behalf of the organization.
- Preventing and minimizing Pollution to the environment.



SFSP operates under environmental management system certification BS EN ISO 14001:2004 and maintain it through registration and annual review.



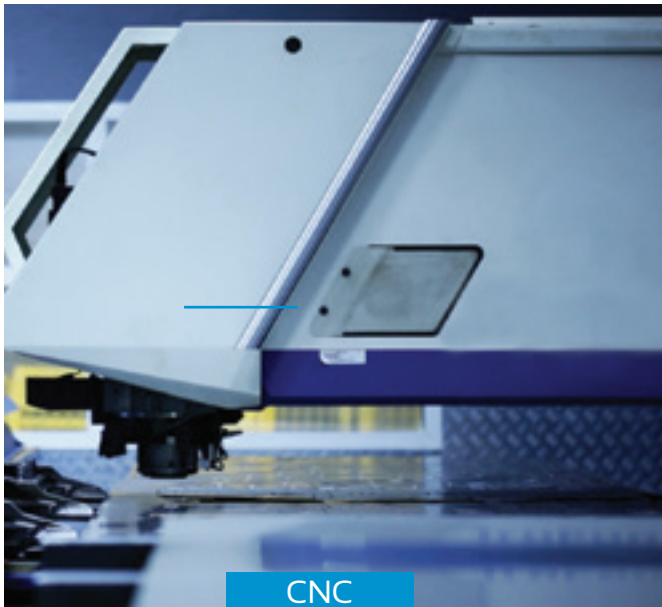
SFSP facilities are equipped with the most technologically advanced machinery amongst are Laser Cut Machines, Robot Bending Sets, Welding Robot Sets, sophisticated Cable Management Production Lines, as well as Specialized Industrial Sections for its Hot Dip Galvanization facilities.



CNC MACHINES



WELDING
ROBOT
SETS



CNC
PUNCHING



FIBER LASER
CUT



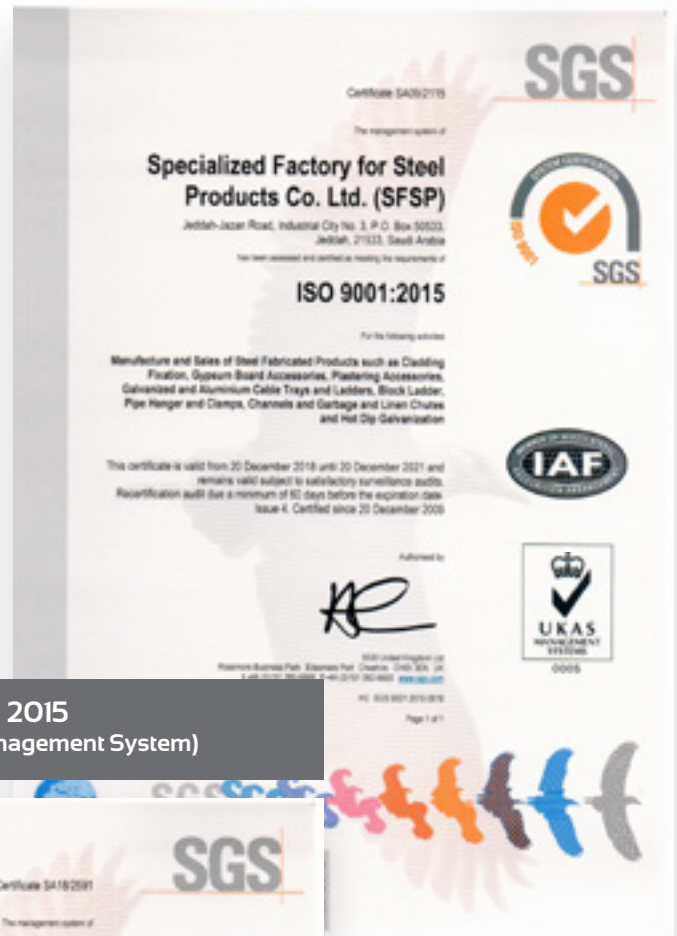
ROBOTIC
BENDING
CELL

SFSP CERTIFICATIONS

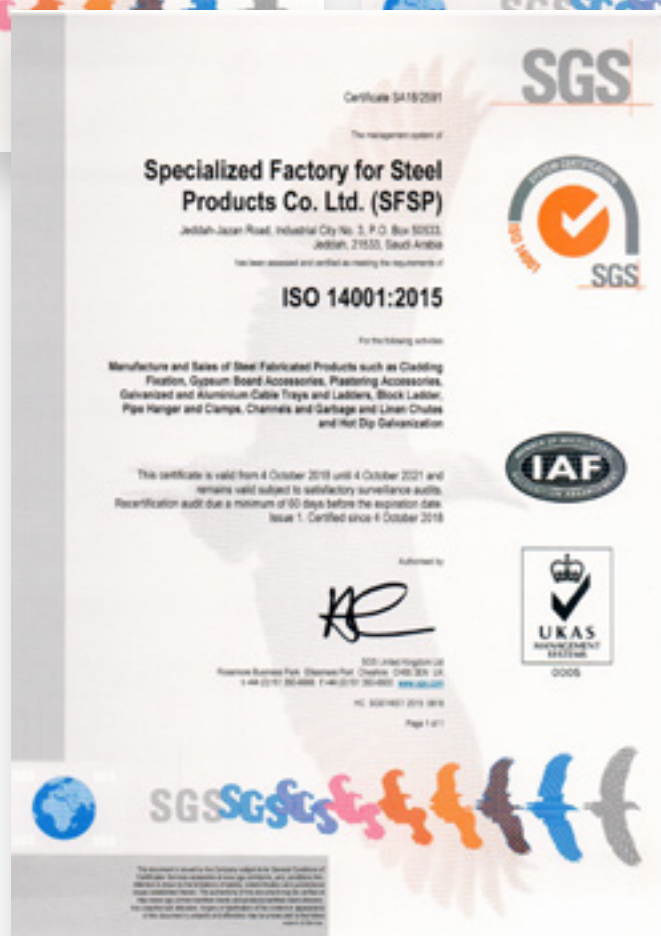
ISO 45001: 2018 (Occupational Health & Safety)



ISO 9001: 2015 (Quality Management Systems)



14001: 2015 (Environmental Management System)



STD 096 (Q-Mark Certificate)



CERTIFICATE OF REGISTRATION

This is to certify that

Sigma Factory
P.O. Box 37991
Dubai Industrial City
Dubai
United Arab Emirates

Meets the requirements of
Fire Door Manufacture
which only operate in
Libya, Oman, Qatar
products on the attached



Certificate Number
476

Date of Initial Certification
16 June 2014

Date of last issue
13 October 2017

Date of Expiry
15 June 2020

Exova
Registered Office
This certificate remains the
property of Exova (UK) Ltd or its
subsidiaries.
The use of the UKAS accreditation
mark indicates accreditation in respect of those activities covered by the accreditation certification 012

ISO 14001:2015 (Environmental Management System)



CERTIFICATE OF REGISTRATION

This is to certify that

Sigma Factory for Steel Products
P.O. Box 37991
Saih Suhaib - 3, 4 Round About
Dubai Industrial City
Dubai
United Arab Emirates

has been audited and found to meet the requirements of standard
ISO 14001:2015 Environmental Management System

Scope of certification

Trading and Manufacturing of all kinds of Steel related Construction
Materials

Certificate number: 2524

Issue number: 2018-02

Certificate start date: 22 September 2018

Certificate expiry date: 21 September 2021

Date of initial certification: 22 September 2015

Karen Prendergast
Sector Director - Certification
Exova BM TRADA

Exova (UK) Ltd, (T/A Exova BM TRADA), Chiltern House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4ND, UK
Registered Office: Exova (UK) Ltd, Lochend Industrial Estate, Newbridge, Midlothian EH28 8PL United Kingdom. Reg No. SC070429.

This certificate remains the property of Exova (UK) Ltd. This certificate and all copies or reproductions of the certificate shall be returned to Exova (UK) Ltd or destroyed if requested. Further clarification regarding the scope of this certificate and verification of the certificate is available through Exova BM TRADA or at the above address or at www.exovabmtrada.com

The use of the UKAS accreditation mark indicates accreditation in respect of those activities covered by the accreditation certification 012

SFSP CERTIFICATIONS

OHSAS 18001: 2018 (Health & Safety Management System)



CERTIFICATE OF REGISTRATION

This is to certify that

Sigma Factory for Steel Products

P.O. Box 37991
Saih Suhaib - 3, 4 Round About
Dubai Industrial City
Dubai
United Arab Emirates

has been audited and found to meet the requirements of standard
OHSAS 18001:2007 Health & Safety Management System

Scope of certification
Trading and Manufacturing of Steel Related Construction Materials



ISO 9001: 2015 (Quality Management System)



CERTIFICATE OF REGISTRATION

This is to certify that

Sigma Factory for Steel Products

P.O. Box 37991
Saih Suhaib - 3, 4 Round About
Dubai Industrial City
Dubai
United Arab Emirates

has been audited and found to meet the requirements of standard
ISO 9001:2015 Quality Management System

Scope of certification
Trading and Manufacturing of all kinds of Steel Related Construction Materials



Certificate number: 1006

Issue number: 2018-01

Certificate start date: 22 September 2018

Certificate expiry date: 11 March 2021

Date of initial certification: 22 September 2015

Exova (UK) Ltd,
Registered Office: Exova (UK) Ltd

This certificate remains the property of Exova (UK) Ltd or destroyed if requested.

The use of the UKAS accreditation mark indicates accreditation in respect of those activities covered by the accreditation certification 012

Certificate number: 5965

Issue number: 2018-02

Certificate start date: 23 February 2018

Certificate expiry date: 22 February 2021

Date of initial certification: 23 February 2015

Karen Prendergast

Karen Prendergast
Sector Director - Certification
Exova BM TRADA

Exova (UK) Ltd, (T/A Exova BM TRADA), Chiltern House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4ND, UK
Registered Office: Exova (UK) Ltd, Lochend Industrial Estate, Newbridge, Midlothian EH26 8PL United Kingdom, Reg No. SC070429.

This certificate remains the property of Exova (UK) Ltd. This certificate and all copies or reproductions of the certificate shall be returned to Exova (UK) Ltd or destroyed if requested. Further clarification regarding the scope of this certificate and verification of the certificate is available through Exova BM TRADA or at the above address or at www.exovabmtrada.com

The use of the UKAS accreditation mark indicates accreditation in respect of those activities covered by the accreditation certification 012

BS EN 61537:2007 (KEMA - KEUR Certified For Cable Management Products)

CERTIFICATE

Issued to:
Applicant:
Isam Kabbani Trading Est. (Unitech)
Rashidiya
Dubai, United Arab Emirates

Manufacturer/Licensee:
Sigma Factory for Steel Products (SFSP)
Saih Shuaib 3, 4R/A, Dubai Industrial City,
Dubai, United Arab Emirates

Product : Cable management system
Trade name : SFSP
Types : IE-CT-X-10, IE-CT-X-12, IE-CT-X-15, IE-CT-X-20

The product and any acceptable variation thereto is specified in the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:
- a type test according to the standard IEC 61537:2006
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2156954.01

DEKRA hereby grants the right to use the KEMA-KEUR BS certification mark.

The KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration of the KEMA-KEUR certification agreement and under the conditions of the KEMA-KEUR BS certification agreement.

This certificate is issued on: 20 January, 2014 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 2156954.01

DEKRA Certification B.V.

drs. G.J. Zoetbrood
Managing Director

H.R.M. Barends
Certification Manager

© Integral publication of this certificate is allowed

ACCREDITED BY THE
DUTCH ACCREDITATION
COUNCIL



DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com

BS EN 61537:2007 (KEMA - KEUR BS Certified For Cable Management Products)

CERTIFICATE

Issued to:
Applicant:
Isam Kabbani Trading Est. (Unitech)
Rashidiya
Dubai, United Arab Emirates

Manufacturer/Licensee:
Sigma Factory for Steel Products (SFSP)
Saih Shuaib 3, 4R/A, Dubai Industrial City,
Dubai, United Arab Emirates

Product : Cable management system
Trade name : SFSP
Types : IE-CT-X-10, IE-CT-X-12, IE-CT-X-15, IE-CT-X-20

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:
- a type test according to the standard BS EN 61537:2007 based on IEC 61537:2006
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2156954

DEKRA hereby grants the right to use the KEMA-KEUR BS certification mark.

The KEMA-KEUR BS certification mark may be applied to the product as specified in this certificate for the duration of the KEMA-KEUR BS certification agreement and under the conditions of the KEMA-KEUR BS certification agreement.

This certificate is issued on: 3 February, 2014 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 2156954.02

DEKRA Certification B.V.

drs. G.J. Zoetbrood
Managing Director

H.R.M. Barends
Certification Manager

© Integral publication of this certificate is allowed

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DUTCH ACCREDITATION
COUNCIL



DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Registered Arnhem 09085396

UL Certification* (Cable Trays)

CERTIFICATE OF COMPLIANCE

Certificate Number 20160816-E483358
Report Reference E483358-20160816
Issue Date 2016-AUGUST-16

Issued to: Sigma Factory for Steel Products
Saih Shuaib 3, 4 R/A Dubai Industrial City
Opposite DEWA Substation
Dubai UNITED ARAB EMIRATES

This is to certify that
representative samples of CABLE TRAY
Steel Channel
Very Heavy

Have been
Standard(s)

Standard(s) for Safety: ANSI/NFPA
Additional Information: See the UL
for additional information

Only those products bearing the ULC Listing Mark should be considered as being covered by UL's
Listing and Follow-Up Service.

The ULC Listing Mark generally includes the following:
the word "LISTED"; a control number (may be alpha or numeric); and a category name (product identifier) as indicated in the

To confirm the status, validate the above information

Look for the ULC Listing Mark on the product.

Joseph H. Hwang

Joseph Hwang, General Manager, Director of Sales - Canada
UNDERWRITERS LABORATORIES OF CANADA INC.

Any information and documentation involving ULC Listing Mark services are provided on behalf of Underwriters Laboratories of U.S.A. For questions, please contact a local ULC Customer Service Representative at

UL Certification* (Chute Type Fire Doors)

CERTIFICATE OF COMPLIANCE

Certificate Number 20170811-R38825
Report Reference R38825-20170811
Issue Date 2017-AUGUST-11

Issued to: Sigma Factory for Steel Products
Saih Shuaib 3, 4 R/A Dubai Industrial City
Opposite DEWA Substation
Dubai UNITED ARAB EMIRATES

This is to certify that
representative samples of

CHUTE-TYPE FIRE DOORS

Chute-type fire door and frame assembly of the insulated type, rated up to and including 2 hr, 450°F Temperature Rise Rating.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: ANSI/UL 10B, Fire Tests of Door Assemblies
Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz

Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/about/certifications>

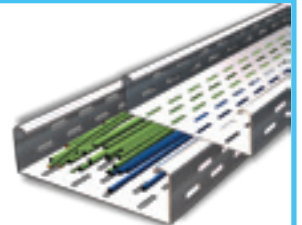


SFSP PRODUCTS

SFSP produces a variety of products ranging from cable management systems; cable trays, cable ladders, basket trays, trunkings and support systems, to mechanical cladding fixations, steel lintels and block work accessories, plasterers' beads, expanded metal and block work reinforcement, strut channel systems, pipe clamps & hangers, gypsum profiles as well as garbage and linen chutes. With the introduction of new machines and the enhancement of production methods, SFSP continues to develop its production methods systematically as well as thoroughly. Its design office in Stuttgart, Germany provides a comprehensive design and calculation case studies, enabling the factory to have the safety factors required for the usage of its products.

CABLE TRAYS & ACCESSORIES

Cable Trays are designed to meet most requirements of cable and electrical wire installations and comply to local and international standards of fabrications and finishes.



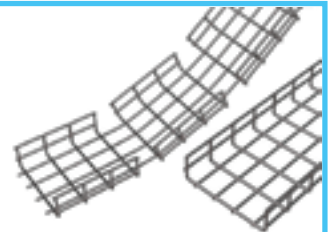
CABLE LADDERS (WELDED & SWAGED)

Cable Ladders of different side heights are available upon request.



BASKET TRAYS & ACCESSORIES

SFSP's Basket Tray systems make connections fast and simple with limited need for tools. Its design allows for continuous airflow, and prevents heating up of cables. SFSP's Basket Tray comes in a full range of sizes and is made with high-strength welded steel wires.



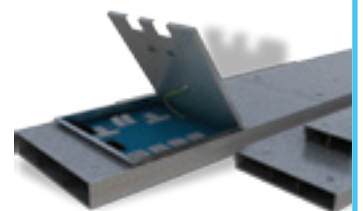
CABLE TRUNKINGS

Cable Trunkings and Accessories are offered in a comprehensive range. Mill galvanized, hot-dip galvanized, and powder coated are the various finishes produced in our factories.



UNDERFLOOR TRUNKING

Underfloor Trunking Systems solutions incorporate a range of products for the distribution of power and data services, it is a coordinated set of containments that protect, segregate, contain, and route cables within a given environment.



CABLE MANAGEMENT SUPPORT SYSTEMS

Cable Support Systems are well designed to provide necessary support for cable trays, cable ladders and trunkings. Cable supports are manufactured according to common standards from high quality raw materials.



C-CHANNEL STRUT SYSTEMS

SFSP's Metal Framing Systems provide an economical solution for electrical, mechanical and industrial supports with a wide variety of applications in the construction industry.

Applications: - Pipe and Conduit Supports - Tunnel Pipe Stanchions - Racks and Shelvings - Wall Framings.



EXPANDED METALS, PLASTERERS' BEADS

Expanded Metals help the formation of joints, protection of corners and resistance against cracks, chips and impact damage.

BLOCK LADDER REINFORCEMENT

SFSP ladder and truss types are used for the reinforcement of brick and block masonry to give improved tensile strength to walls subjected to lateral loading e.g. wind and seismic. SFSP block reinforcements reduces the risk of cracking either at stress concentration around opening.

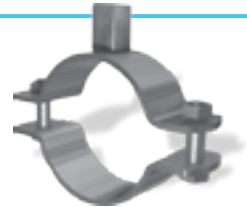
STEEL LINTELS & BLOCK WORK ACCESSORIES

Steel Lintels provide a combination of strength and light weight, resulting in efficient load bearing performance and increased productivity on site. They are characterized by their ease of installation in addition to time as well as money saving.



PIPE CLAMPS & HANGERS

Pipe Clamps and Hangers from SFSP used in the support of pipes and equipments are manufactured according to the highest standards of fabrication. A diversified choice of Pipe Hangers, Pipe Clamps, EMT Straps, Omega Clamps, Beam Clamps, J and U-Bolts and Threaded Accessories.



MARBLE & GRANITE FIXINGS

Stangle Cladding Fixation includes design, calculation and production of several types of mechanical fixings and accessories used for cladding purposes. Stainless and galvanized steel are among the various materials used in the fabrication.



DRY WALL & CEILING PROFILES

SFSP provides a complete product range for dry wall and ceiling constructions. Studs, Runners, Furring Channels, Ceiling Channels and Wall Angles are among the range of products produced to service the dry wall installers.



GARBAGE & LINEN CHUTES

Chutes from SFSP 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.





SFSP Products are solely distributed by UNITECH for Building and Construction Materials

All Products Manufactured by SFSP are Solely Distributed by SFSP Sister Companies in the Following Countries

KSA

Isam Kabbani & Partners for Building and Construction Materials Co., Ltd.

شركة عصام قباني وشركاه لمواد الإنشاء والتعمير المحدودة

BAHRAIN

Isam Kabbani Trading Est.

مؤسسة عصام قباني التجارية

UAE

Issam Kabbani Trading Est.

مؤسسة عصام قباني للتجارة

KUWAIT

Hassan Kabbani for General Contracting Est.

مؤسسة حسان قباني للمقاولات العامة للمباني

OMAN

Isam Kabbani & Partners Trading Co.

شركة عصام قباني وشركاه للتجارة

EGYPT

UNITECH Egypt for Building Materials

شركة يونيتك مصر لمواد البناء

JORDAN

Jordan Build Co. for Building & Construction Materials

شركة بناء الأردن لمواد الإنشاء والتعمير والكهرباء

LEBANON

UNITECH ME s.a.r.l

شركة يونيتك ميدل إيست ش.م.م

SFSP CUSTOMER SERVICE CALL CENTER

KSA

+966 13 8590097, Ext. 3214

UAE

+971 4 8181925, Ext. 4269



IKK

Group of Companies

The IKK Group is a major business institution, serving most of the Arab World in the industrial, construction and trading fields, as well as in specialized maintenance and services.

Today, the IKK Group of Companies is a pioneer in waterproofing, weatherproofing, building material supplies, UPVC and CPVC and high density polyethylene pipes and fittings and several other products for the construction industry.

The Group is also represented in the sanitary products, steel production, kitchen manufacturing, telecommunications, food, decoration, re-insurance and real estate business domain.

Composed of 60 companies, the IKK Group operates through almost 200 divisions, branches and outlets; it is spread over 12 countries, covering all major cities in the region and employing around 13,000 employees.

Our vision is to maintain and improve our leading position as a contractor whose reputation is built on the ability to completely satisfy customers by providing high quality services. As specialists in their respective fields, our teams of professionals are dedicated to a standard of excellence for quality and performance, through continuous development, which will set standards in our industry. We are simply providing solutions for a future of success.

Our mission is to provide our part of the Arab World with local and reliable services in a variety of sectors and products.

To create employment to thousands of personnel and in-house training for hundreds of young Arab graduates in crucial sectors to the benefit of the IKK Group, the graduates themselves and their own communities.

To set a good example of our basic business philosophy: "Hire well, train well, pay well and treat well."

UNITECH

ISAM KABBANI & PARTNERS FOR BUILDING & CONSTRUCTION MATERIALS

Isam Kabbani & Partners for buildings & construction materials co. Ltd (UNITECH) which is part of the IKK group of companies is recognized and acknowledged for the quality and reliability of its products and services as well as for the commitment, professionalism and experience of its employees.

Isam Kabbani & partners for buildings & construction materials co. Ltd (UNITECH) core values are to offer value products and services to its clients, to work closely with them in a lasting business partnership that provides an outstanding performance.

A partnership based on trust, harmony, and a hard to beat services and solutions.

Our Factories have acquired, in addition to ISO 9001:2008 Quality Management System, the ISO 14001:2004 Environmental Management System.

Our care for the environment has been translated via Isam Kabbani & partners for buildings & construction materials co. Ltd (UNITECH)'s membership in the US Green Building Council as a Golden Member.

Our Vision

UNITECH to be the Customer's First Choice.

Our Mission

We have the conviction to be the leader in building & construction industry through:

- Providing Excellence in Services with Passionate and Educated Sales Force
- Strengthen Culture through Unified Sense of Purpose
- Innovative Product Range which is Customer Centric
- Reputable and Quality Service Company
- Attracting, Engaging and Retaining Talent

GARBAGE & LINEN CHUTES

Chutes from SFSP 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

SFSP provides refuse and linen chutes from the following high quality materials:

- Stainless Steel: SFSP 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.
- Galvanized Steel: Galvanized steel does not have the same protective characteristics of stainless steel, yet, it is used extensively for refuse chutes.

Material Thickness & Gauges

SFSP provides the following material gauges:

- 1.5mm (16 Gauge)
- 2.0mm (14 Gauge)
- 3.0mm (11 Gauge) (when specified).

Indoor Chutes

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

Outdoor Chutes

SFSP 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.





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TECHNICAL DATA

MATERIALS

STAINLESS STEEL

Austenitic Stainless Steels

SS 304 & SS 316

As per:

ASTM A 240/ DIN 17400 /EN 10088-2

ASTM A480 / ASTM A666 / ISO 3506 / EN 10028-7 /

JIS G 4304

F.1 Stainless Steel Fasteners EN 3506

F.2 Stainless Steel Wire BS 1554, ASTM A276

ALUZINK STEEL

AluZink Steel DX 51D + AZ

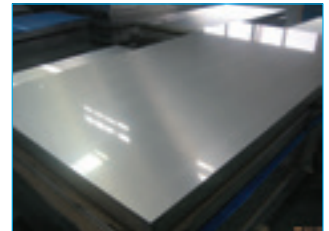
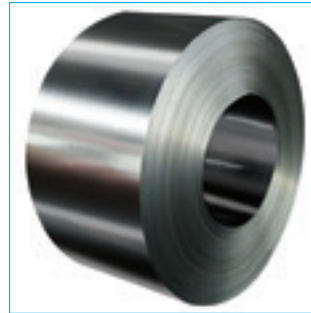
As per:

EN 10215 / EN 10143/ DIN 55928 /ASTM A 792

ALUMINIZED STEEL

Aluminized Steel CR4: ASTM A463:2

Aluminized STC (H2): BS 1470



DESIGN OF CHUTES

Choices of Materials

SFSP provides refuse and linen chutes from the following high quality materials:

Stainless Steel: SFSP 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

SFSP provides the following material gauges:

- 1.5mm (16 Gauge)
- 2.0mm (14 Gauge)
- 3.0mm (11 Gauge) (when specified).

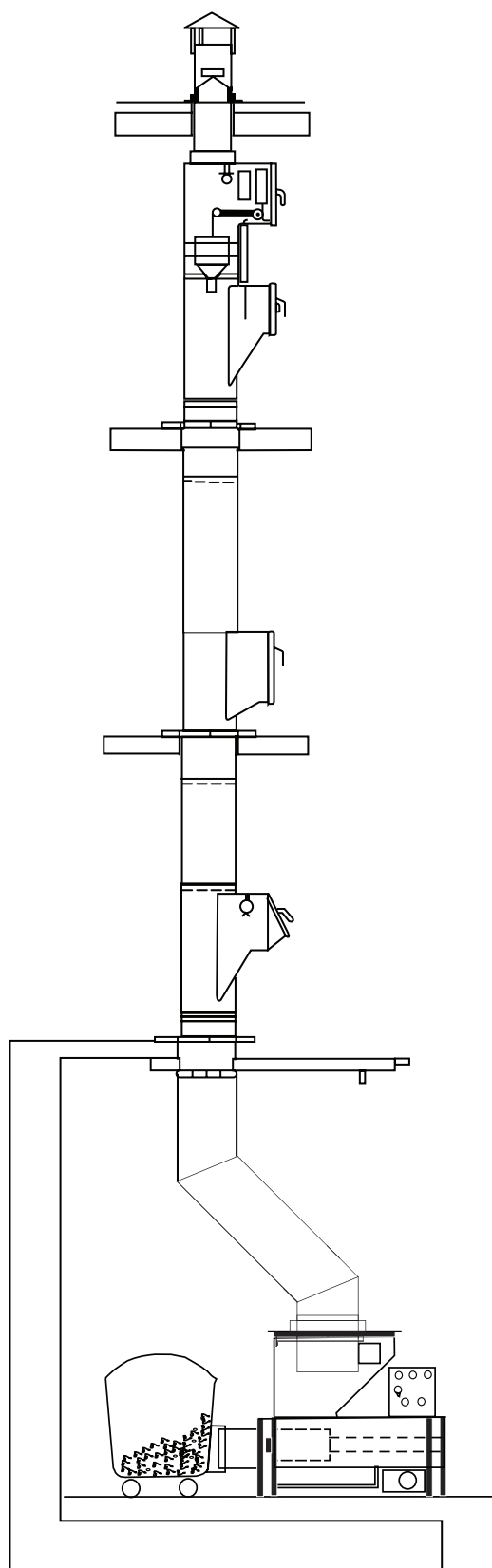
Usage of 1.5 mm thick material is recommended for buildings up to 10 storey's high, for other heights refer to the following table:

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

Useful Weights

Material	Kg/m ³
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

TECHNICAL INFORMATION



Original Equipment

SFSP 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. SFSP chutes can either pass through the floor slab of the building or be fixed within a vertical shaft.

Outdoor Chutes

SFSP 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. Please contact our technical department for further advice.

Choosing the Correct Size of Chute

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

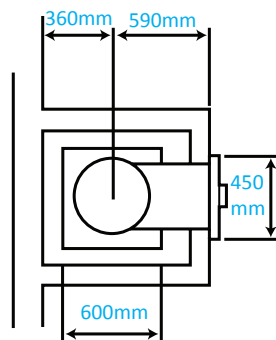
The choice of materials to be used are covered thoroughly elsewhere, the choice of refuse chute diameter is shown on this page.

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.

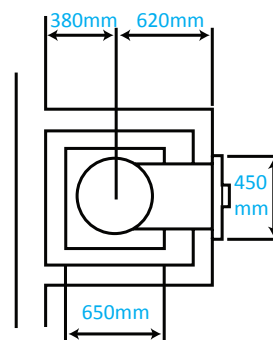
Recommened Chute Diameter	Plastic Sack Capacity	No. of Apartments per Chute
500 mm	20 liters	21 - 30
550 mm	30 liters	31 - 40
600 mm	40 - 50 liters	40 +
700 mm	40 - 50 liters	40 +
800 mm	45 - 55 liters	45 +
900 mm	50 - 60 liters	50 +

VARIATION



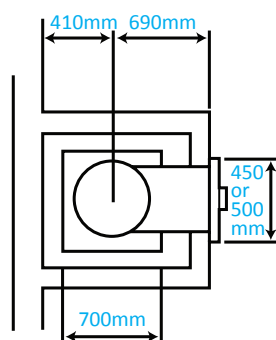
600 mm hole through floor slab for 500 mm chute

500 mm diameter



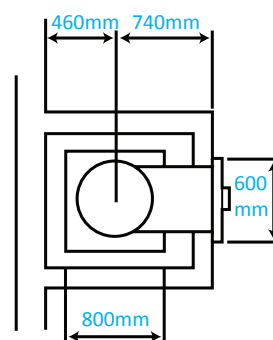
650 mm hole through floor slab for 550 mm chute

550 mm diameter



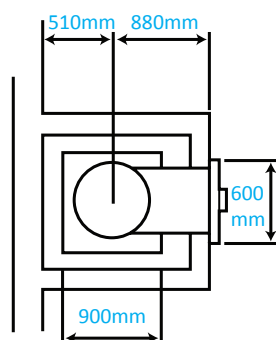
700 mm hole through floor slab for 600 mm chute

600 mm diameter



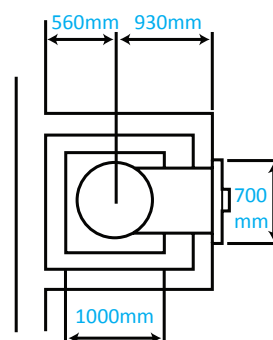
800 mm hole through floor slab for 700 mm chute

700 mm diameter



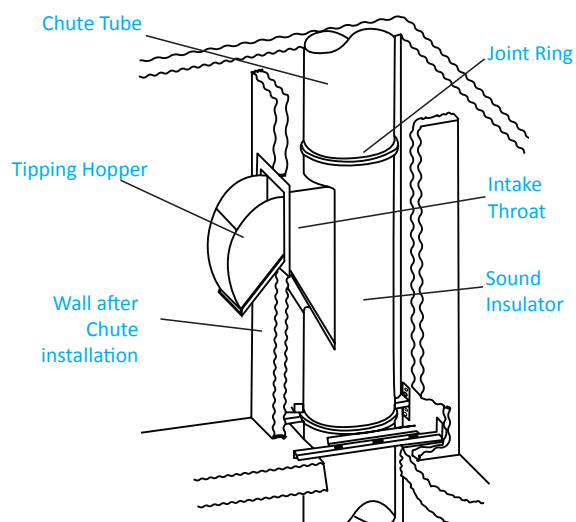
900 mm hole through floor slab for 800 mm chute

800 mm diameter



1000 mm hole through floor slab for 900 mm chute

900 mm diameter



Refuse Chute Sizes

SFSP chutes are available with the following standard internal diameters:

500mm (20"), 550mm (22"), 600mm (24")

700mm (28"), 800mm (32"), 900mm (36")

N.B: We will also manufacture to customers special requirements.

Height

Varies according to individual building design.

SFSP provides chutes within the range of 1- 45 storeys, or from as small as 1 meter up to a maximum of 165-170 meters. Over this height two chutes should be provided, the first terminating at a mid building level refuse collecting room, the second chute to start at mid-building level and terminating at ground floor or basement level.

Shape

To give an unimpeded free flow of refuse within a chute, the best shape has proved to be circular, SFSP refuse chutes therefore have a circular cross section. We will make square section chutes to customers special requirements.

Refuse Chute Trunking

Cut to shape from flat metal sheet, mechanical rolled into an accurate cylindrical form. Vertical seams are according to material type and gauge either lock seamed or welded, to give smooth, watertight sealed joints.

The entire inner surface area of the trunking is smooth and free from any projections that will impede the free flow of refuse within the total vertical length of the chute.

Entry Section

This could be described as the most critical component of a refuse chute. If it is not designed and manufactured correctly there is a probability the refuse chute will not work satisfactorily.

The entry sections of SFSP chutes are designed and manufactured within the constraints of BS 1703:1977 / BS 5906:1980 to ensure complete satisfaction.

Flat metal sheet is accurately cut and shaped by highly skilled craftsmen, vertical seams being welded or lock seamed, horizontal are mechanically jointed or welded.

SFSP refuse chute entry sections have our specially designed Inner baffle, to prevent air or falling refuse already present in the chute from accidentally blowing back when any refuse hopper is opened.

ACCESSORIES

Vents & Fans

Automatic Foul Air Exhaust Fan installed at the top of the chutes, usually above roof level this ventilator maintains a smooth flow of fresh air within the refuse chute.

Normally changing the air approximately 50 times per hour. The foul air exhaust fan helps prevent the escape of any bad odors or explosive gases released by aerosols etc, through refuse hoppers or into the refuse room. For use with vent pipes of (9") 230 mm diameter or above.

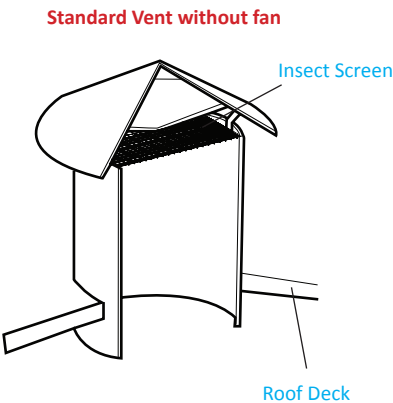
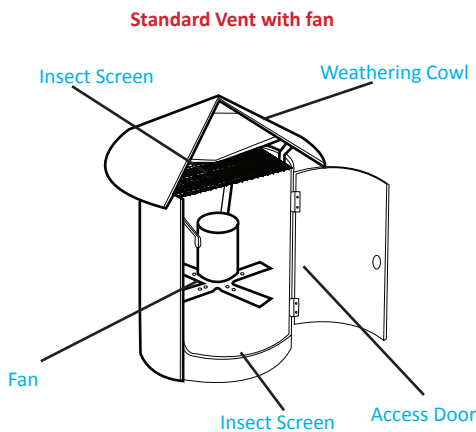
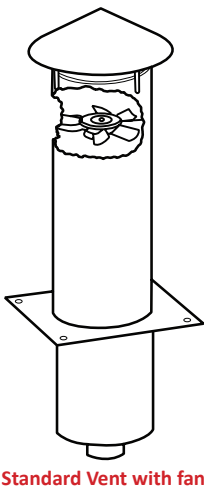
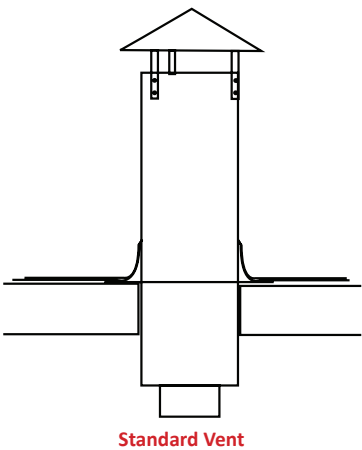
Technical Specification

Air displacement 200m3/hour. Fan motor, Class H tropicalized continuously rated, 1300 RPM. Electric Supply 220/240 volts or 110/120 volts, 50/60 Hz.

N.B. Flashed to roof by others.

Full Diameter with Insect Screen:

Recommended on chutes if a foul air exhaust fan is not being specified. The fan diameter is usually 300 to 400 mm . The screen keeps out any insects or birds attracted to the vent pipe. An exhaust fan can be fitted to any full diameter vent pipe, complete with inspection door. It extends 4 feet (1.2m) above roof.



Description	Vent Tube, 1.5 mm thick
Quantity	One Unit per Chute
Location	1.22 meter above roof slab

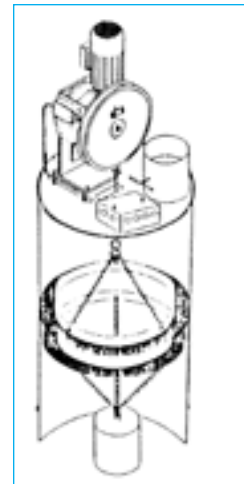
Description	Fan
Quantity	One Unit per Chute
Location	Top of vent tube

CLEANING EQUIPMENT

Automatic Chute Cleaning System

Specifically designed to clean the total vertical length of the internal surface of all chutes. The system is factory fabricated as an integral unit ready for immediate on site connection.

A cylindrical housing with replaceable stiff nylon brushes is automatically lowered and raised by a geared electric motor. The nylon brushes scrape and clean the internal surface as they move down and up the chute. The water supply for flushing the chute, the electric motor and the built in safety overloads, are all individually controlled by a robust electric logic control circuit.



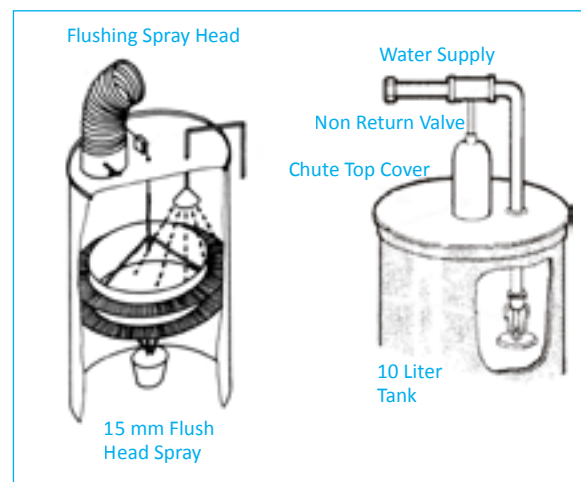
Automatic Brushing Device

Electrical Specification

Supply 380/415 volts, 50/60hz, 3 phase.
Motor 1/6 HP 1600 R.P.M. continuous.

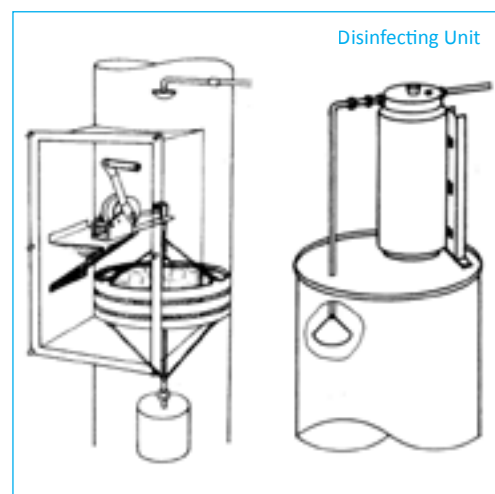
Disinfecting and Sanitizing Unit

Designed to give manual or automatic flushing of the internal surface of SFSP chutes. Fitted above the topmost entry section of the refuse chutes as part of an automatic or manual cleaning system or on its own. Simple to operate and maintain, a disinfectant or sanitizing unit is recommended for use with every chute installation, particularly as it overcomes one of the problems associated with the use of chutes-strong odors. The specification given above can be changed by using a smaller volume stainless steel tank within an automatic chute cleaning system.



Manual Cleaning System

Designed, like the automatic cleaning system, to clean the total vertical length of the internal surfaces of SFSP chutes. This manually operated system is factory fabricated as an integral unit, ready for immediate on-site connection. A cylindrical housing, with replaceable stiff nylon brushes, is manually lowered and raised on a high geared winch which has a ratchet to give operator safety. The water supply to the flushing head spray is manually controlled by a conveniently placed gate valve. Manual cleaning is recommended on buildings up to 5 storeys high. Water supply is made normal header tank pressure, at least 1800 mm above spray head.

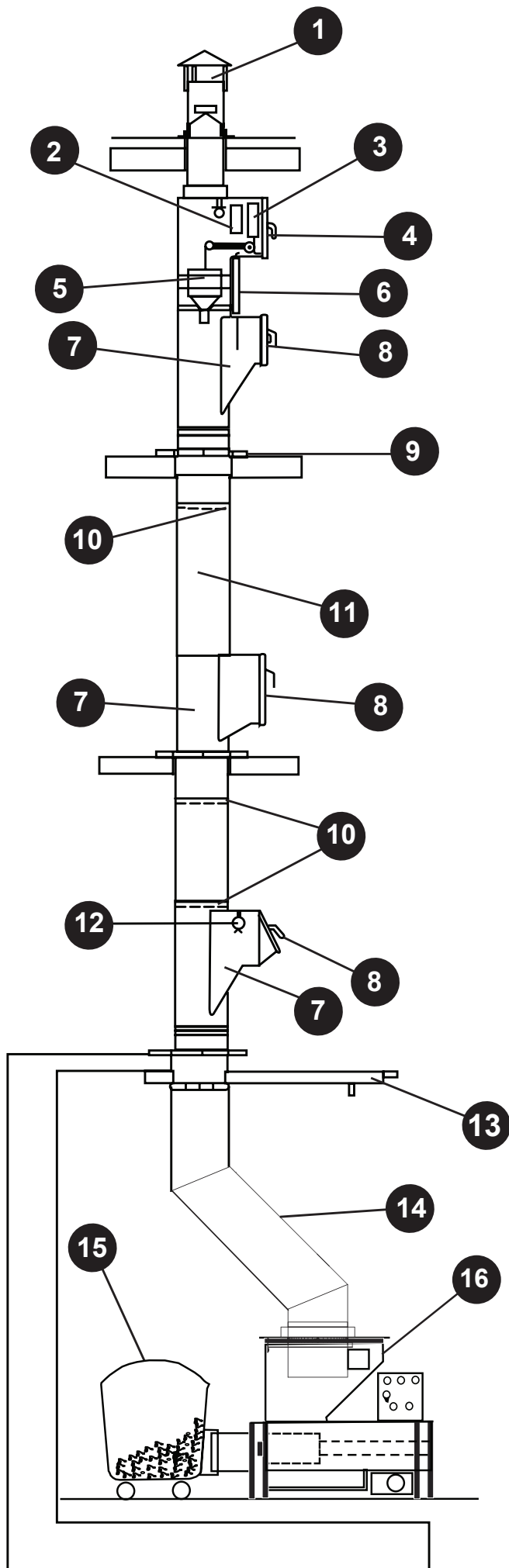




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COMPONENTS OF GARBAGE CHUTE SYSTEM



1.	Vent Tube with Insect Screen & Exhaust Fan
2.	Solenoid Valve
3.	Disinfecting & Sanitizing Unit
4.	Access Door
5.	Cleaning System & Brushing Device
6.	Control Panel
7.	Intake Throat
8.	Hopper Door
9.	Clamp Ring & Supporting Frame
10.	Swaged Joint
11.	Chute Tube
12.	Cleaning & Fire Sprinklers
13.	Fire Cut Off Door
14.	Elbow
15.	Garbage Container
16.	Compactor

1

VENT TUBE WITH INSECT SCREEN & 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.

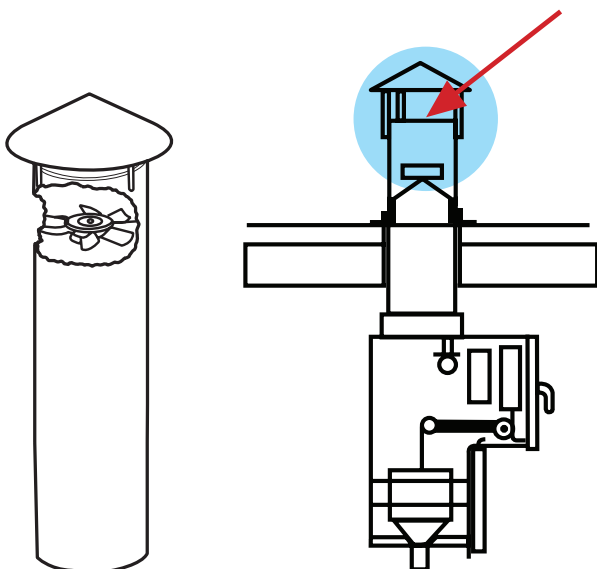
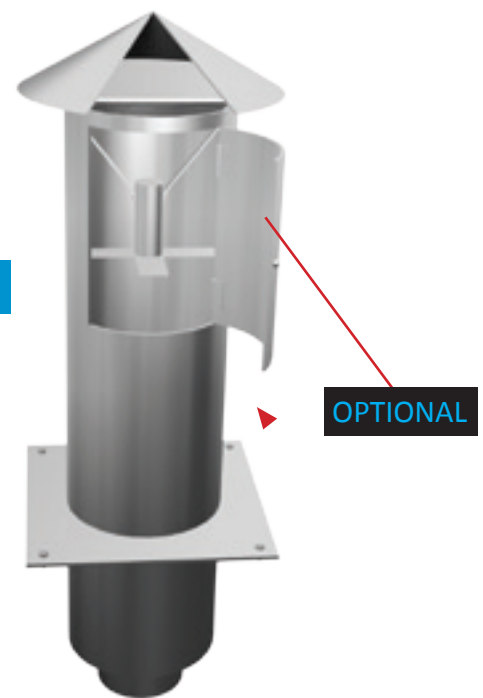


Automatic Foul Air Exhaust Fan

Installed at the top of the chutes, usually above roof level this ventilator maintains a smooth flow of fresh air within the refuse chute. It normally changes the air by approximately 50 times per one hour. The foul air exhaust fan helps prevent the escape of any bad odors or explosive gases released by aerosols etc, through refuse hoppers or into the refuse room.

Technical Specification

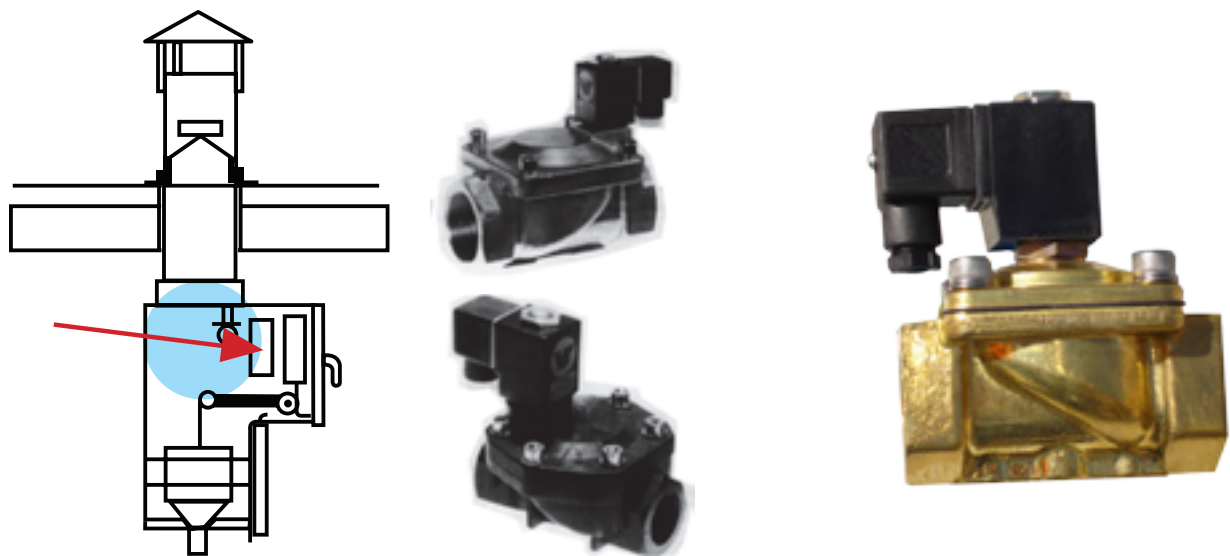
The fan from SFSP has air displacement 1820 m³/h. Fan motor, Class H tropicalized continuously rated, 1300 RPM.



2

SOLENOID VALVE

Electrically operated valve controlling the flow of water to the sanitizing unit.

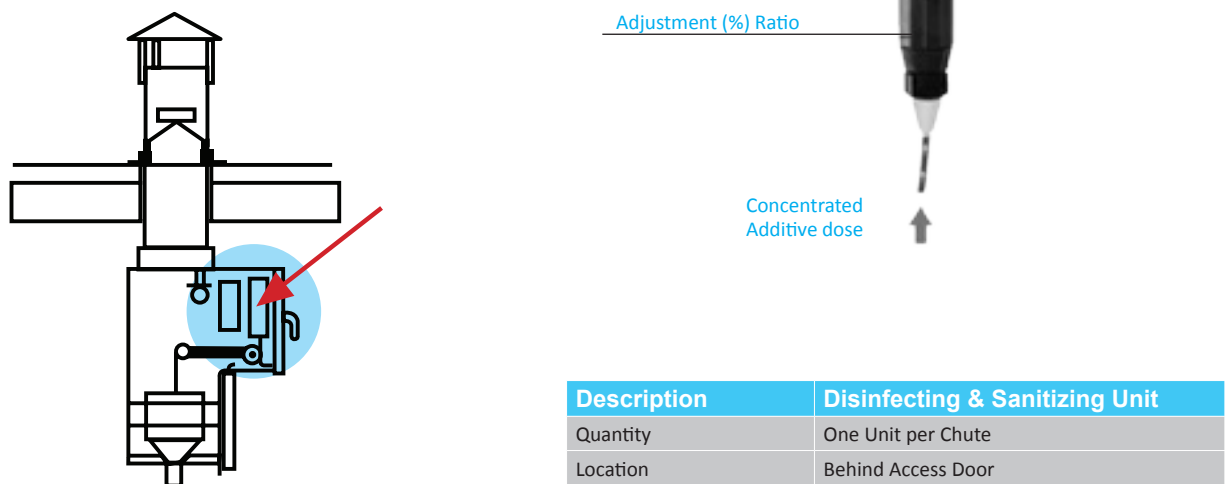


Description	Solenoid Valve
Quantity	One Unit per Chute
Location	Behind Access Door

3

DISINFECTING & SANITIZING UNIT

It is part of the automatic cleaning system of the chute, the sanitizing unit mixes soap along with the water where by the interior surfaces are sprinkled with water from alternate floors by sprinklers of Capacity. It is recommended for use with every chute installation where proper operation and maintenance of the sanitizing unit reduces the immersion of strong odors and germs.

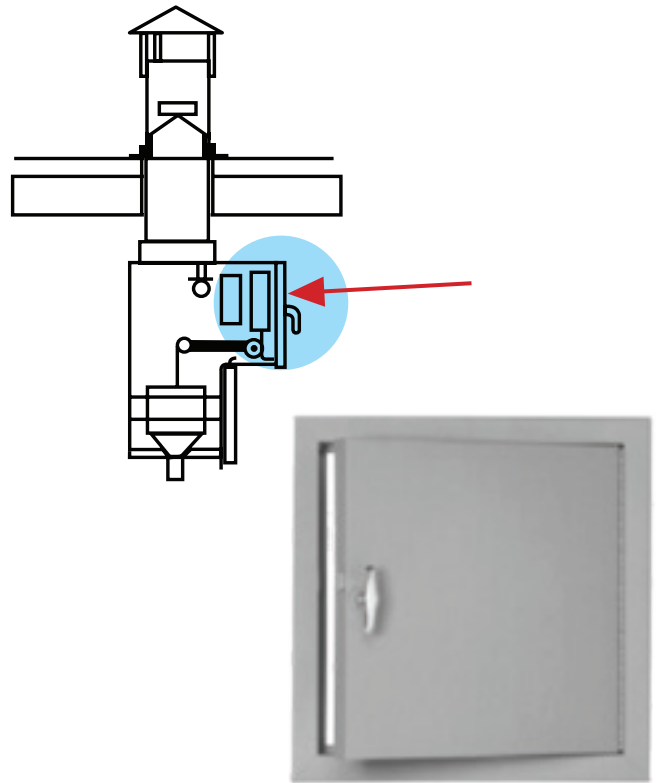


Description	Disinfecting & Sanitizing Unit
Quantity	One Unit per Chute
Location	Behind Access Door

4

ACCESS DOOR

Access door is located below the vent tube on the last floor. It is used for accessing the equipment in case of maintenance or revision of the chute. When opening the access door, the equipment located inside consists of the motor unit, solenoid valve, brush, disinfecting and sanitizing unit, designed to give manual or automatic brushing of the internal surface of chute.

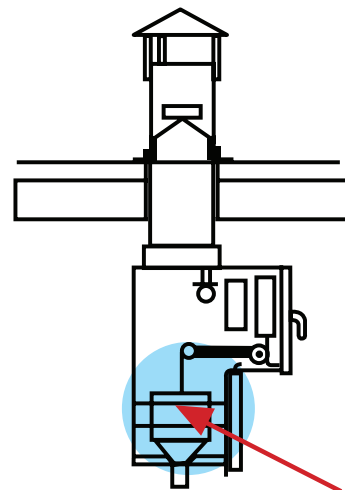


Description	Access Door	
Quantity	One Unit per Chute	
Location	Last floor (Mechanical Room)	

5

CLEANING SYSTEM & BRUSHING DEVICE

Chute cleaning system specifically designed to clean the total vertical length of the internal surface of all chutes, where by it includes brush unit and motor unit.



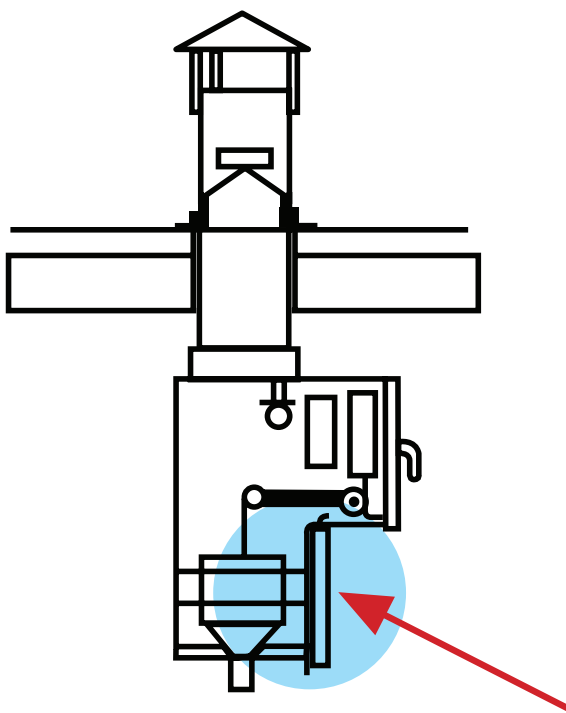
Description	Motor Unit
Quantity	One Unit per Chute
Location	Top of Chute

Description	Brushing Unit
Quantity	One Unit per Chute
Location	Attached by cable or wire to motor axel

6

CONTROL PANEL

Controls the entire automated systems within the chute; operates the cleaning system, controls the function of electro-magnetic door locks with the presence of an emergency button which isolates electricity and stop all the running functions.

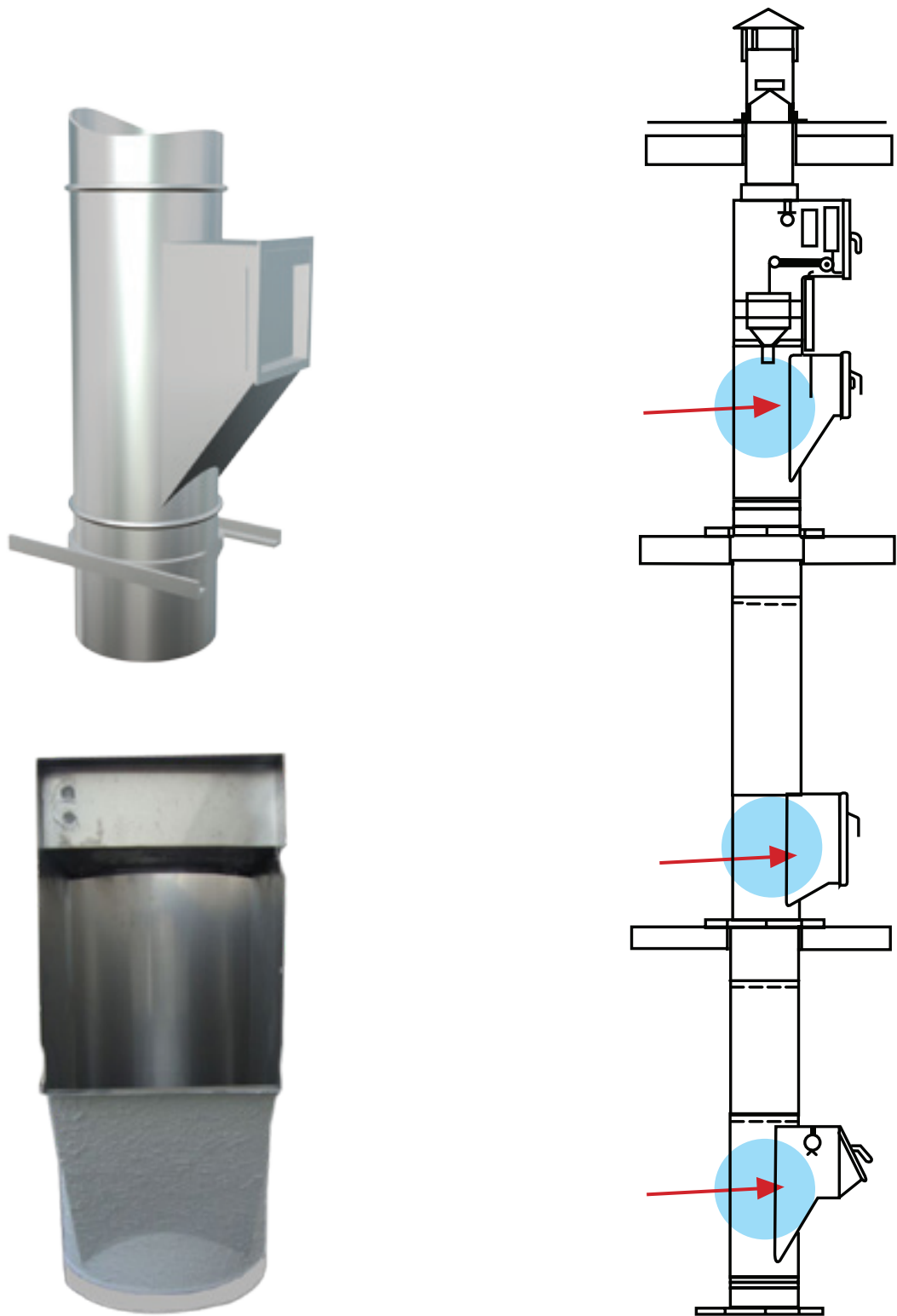


Description	Access Door
QUANTITY	One Unit per Chute
LOCATION	Below Access Door or at ground Floor

7

INTAKE THROAT

For each floor there is an intake throat for the hopper door...



Description	Intake Throat Cylinders
LOCATION	Through the Chute Height

8

HOPPER DOOR

For each floor there is an intake throat for the hopper door...



Hopper doors are provided in the service room on each floor and are designed to eject loose or bagged refuse (discharge garbage) directly into a refuse chute or a container. Hopper doors have an effective self-sealing system.

General

SFSP refuse hoppers are supplied with SFSP refuse chutes or supplied for separate fitting as independent or replacement hoppers. Designed and can be eject loose or bagged refuse directly into a refuse chute or a container.

Materials and manufacture

Factory fabricated with a robust welded steel construction. The double skinned satin stainless steel facings have a special fire resistant core giving a 1 1/2 hour fire rating.

Finish

Base and side cheeks from epoxy powder coated mild steel sheet.
Door facings in stainless steel.

Operation

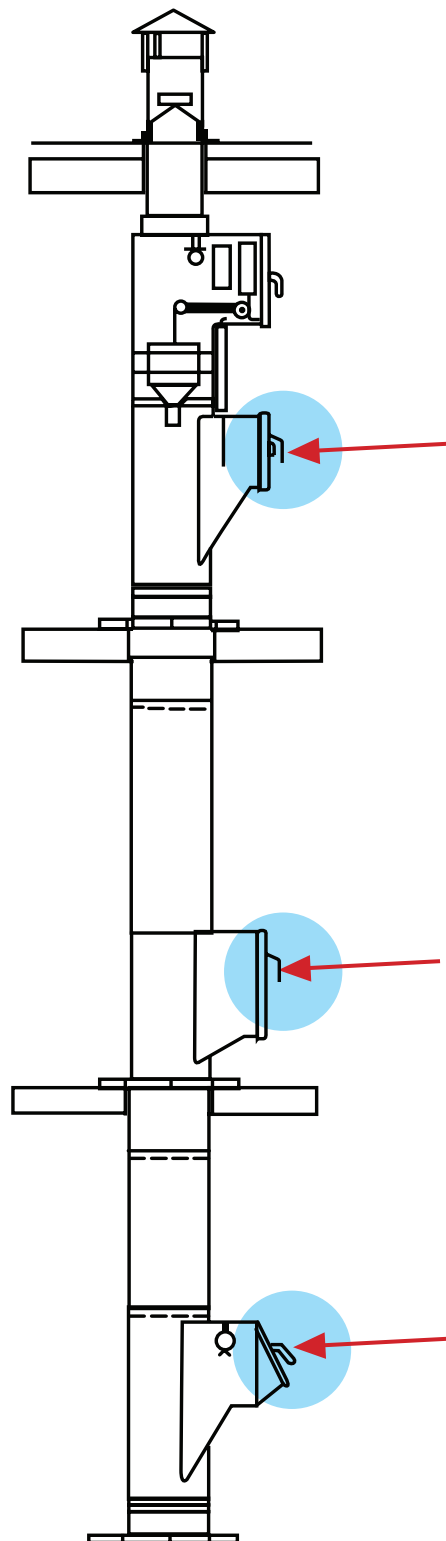
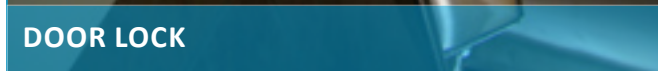
Hopper door pivots on an anti vandal hinge and is counter balanced to be self closing and self sealing against a fire resistant seal. SFSP hoppers are specially designed to prevent blockages inside refuse chutes.

Application

For use with refuse chutes of 500, 550, 600, 700, 800, and 900mm internal diameter or as independent replacement hoppers.

Hoppers comply with BS 476 and BS 5588

Smoke resistant : meets BS 476 section 31.1
Fire resistant : meets BS 476 part 22, section 6
Flush fitting : in accordance with BS 1703 6.3.3.5
Self closing : hopper door quietly and safely self closes after every operation in accordance with BS 1703 6.3.3.4
Hopper doors are made out of stainless steel or primed enameled steel.



Chute Diameter	Lengths	Width
500 mm	450x450 mm (18"x18")	450x450 mm (18"x18")
550 mm	450x450 mm (18"x18")	450x450 mm (18"x18")
600 mm	500x550 mm (20"x22")	450x450 mm (18"x18")
700 mm	600x900 mm (24"x36")	600x900 mm (24"x24")
800 mm	600x900 mm (24"x36")	600x900 mm (24"x24")
900 mm	700x950 mm (28"x36")	700x950 mm (24"x24")

Description	Hopper Doors	
LOCATION	Through the Chute Height	

ELECTROMAGNETIC DOOR LOCK (ELECTRIC INTERLOCK)

Introduction

Electromagnetic door locking systems are used to enhance the safety of garbage and linen disposal chute systems; although not required by law, they considerably improve and ensure proper operation of intake doors.

Application

Electric latches can be incorporated in tipping hopper and side-hinged door fixtures; they can be coupled to warning light indicators, signal light indicators, smoke and fire alarms so that the doors remain closed in an emergency situation. Coupled with timers they can be used to control and dictate operating hours of the chute system. Door control is made at the central switchboard so that when one door is open, all others remain closed.

This arrangement prevents injury to operating personnel by a falling bag should the chute be used simultaneously at two different levels in disposal, for instance.

Design

Electromagnetic door locking systems are fitted under the filler frame on tipping hopper and bag intake doors. In the door leaf a falling latch is incorporated which can be opened in an emergency by a simple allen key.

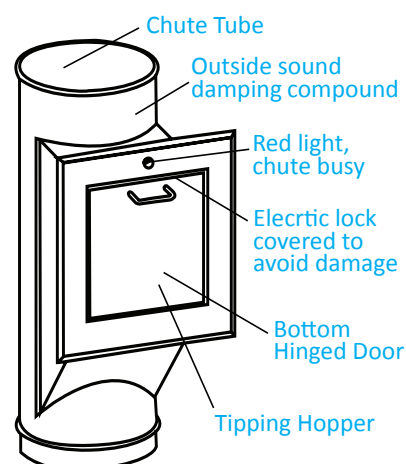
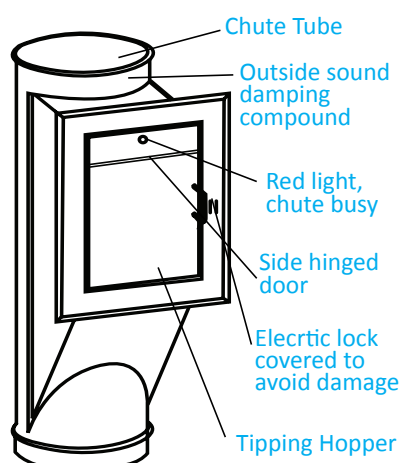
The lock is operated via a green illuminated push button; a red indicator lamp signaling that the chute has no access. All components of a door locking system and the operating controls are connected during installation and the final connection to the power unit is done by the main contractor.

Operating instructions

- 1- All doors shall be locked when the chute cleaning systems are in operation.
- 2- Doors can only be opened individually, a feedback contact preventing opening of other doors; an indicator lamp on the switchboard indicates that a door is open.
- 3- When all doors are locked it may be that the smoke detectors or fire alarms have been triggered.
- 4- When work is going on in the collection room, personnel safety should be ensured by closing all doors to the system via the switchboard.

Supply requirements & specification

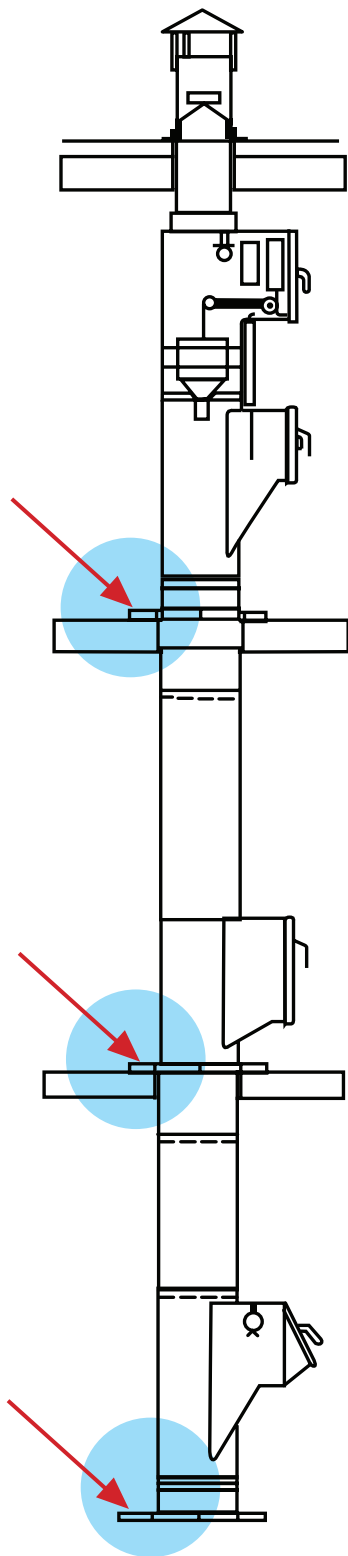
- Electro magnetic solenoid bolts.
- 220/240 volts. 50/60 Hz. 10 Amps max. or 120/240 volts. 50/60Hz 5 Amps max.
- Low power factor
- Pre-set timer. Electric supply as above
- Delay on/off. Range 5/200 seconds.



9

CLAMP RING & SUPPORTING FRAME

Cut, shaped and drilled from 35x35x3 mm or (other sizes are applicable for use) Mild steel angle with a rigid, welded construction. The frame holds a metal clamp band. The frame is rust proof for internal use and hot dip galvanized for external use.

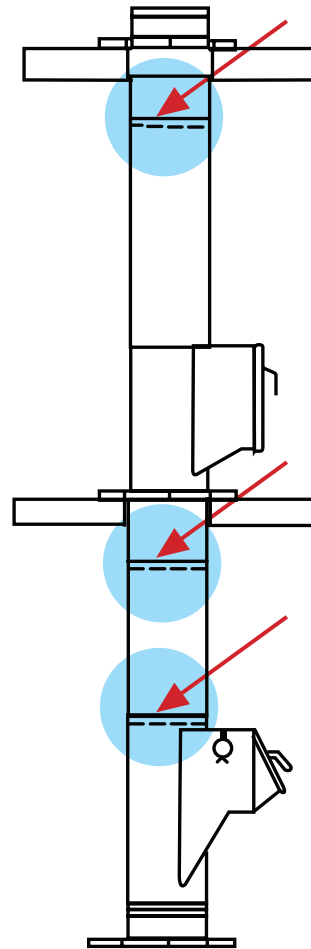
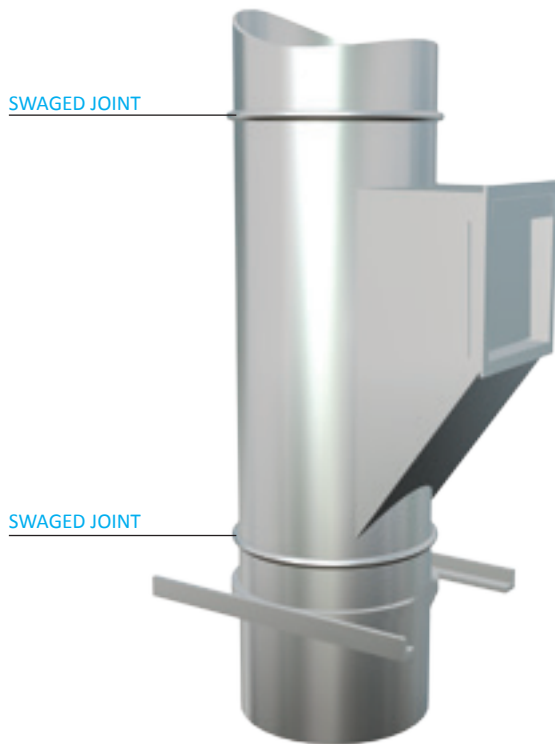


Description		Clamp Ring	
QUANTITY		One set per floor	
LOCATION		At Each Floor	
Description		Supporting Frames	
QUANTITY		One set per floor	
LOCATION		At Each Floor	

10

SWAGED JOINT

Used to join certain section of duct.



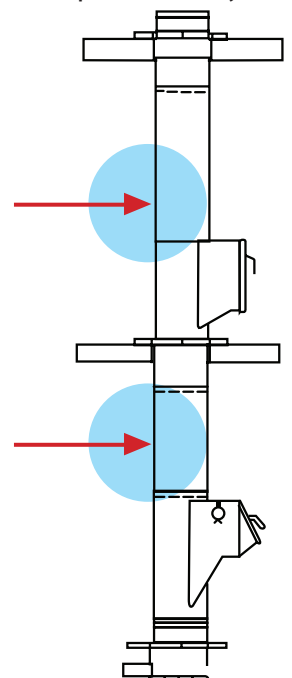
11

CHUTE TUBE & SOUND DAMPING

Chute Tube gives an unimpeded dumping of refuse within a chute, the best shape has proved to be circular.

Sound Damping

All metal refuse chutes can produce, uncomfortable levels of noise. A factory applied coating of a proven sound dampening compound will dramatically reduce noise level produced by resonant vibrations in metal refuse chutes. Factory applied at the same thickness as the metal substrate or more and over the total area of the exterior surface of the refuse chute, (except refuse, hopper face and side hinged door faces).



DESCRIPTION

Chute Tubes SS 304, 1.5 mm thickness

LOCATION

Through the Chute Height

12

SPRINKLERS

CLEANING & FIRE SPRINKLERS

Cleaning Sprinklers

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

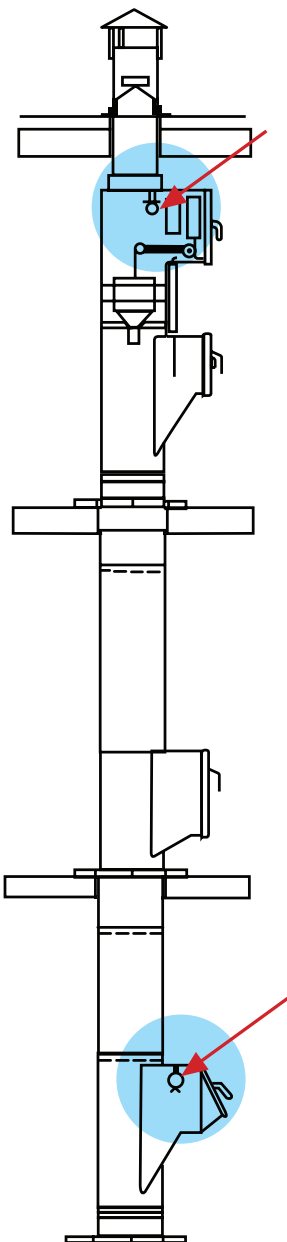
Fire Sprinkler:

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.



Spray nozzle used for cleaning the chute



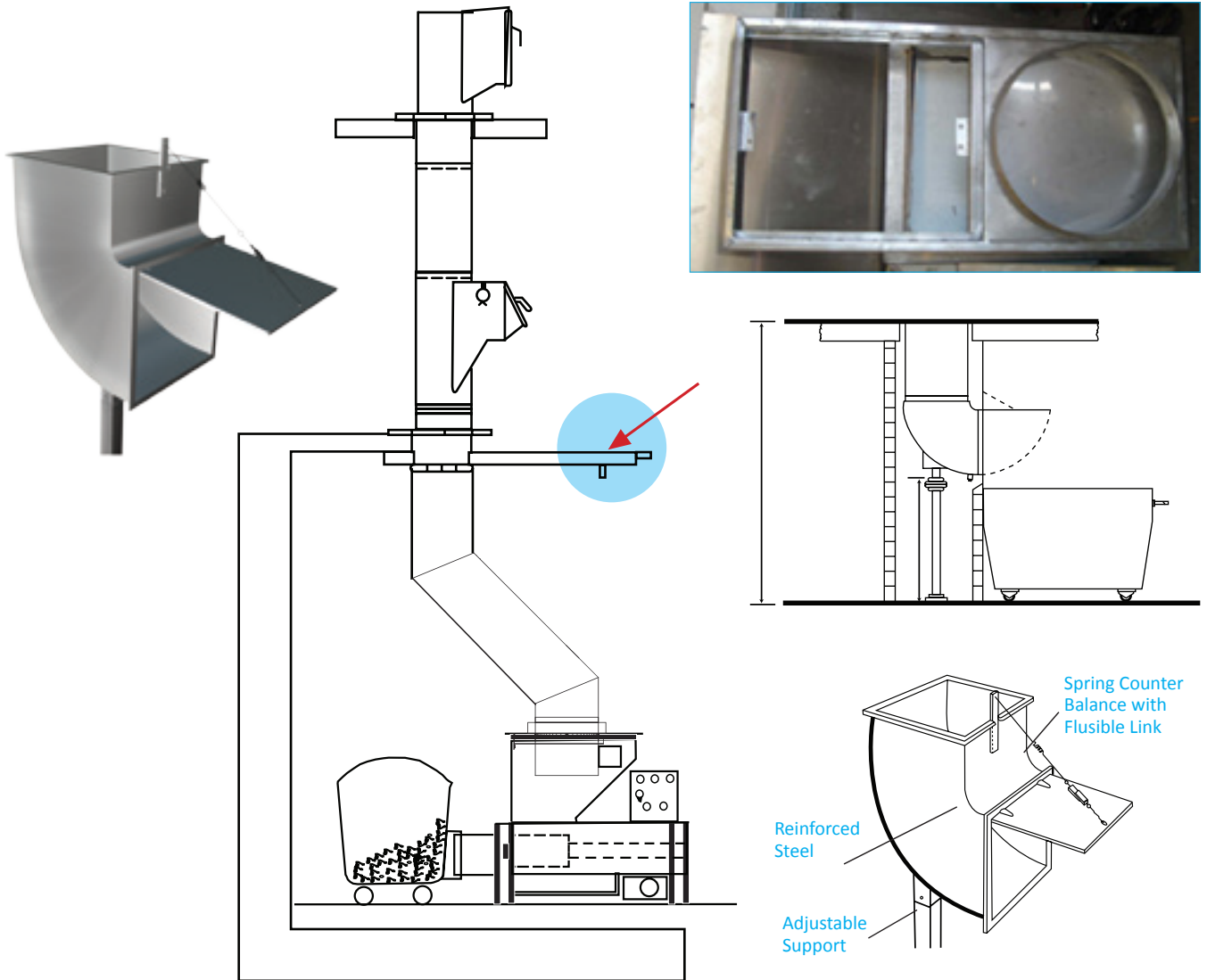
A fire sprinkler

Description		Spray Nozzle	
LOCATION		Inside the Intake Throat	
Description		Fire Sprinklers	
LOCATION		Inside the Intake Throat	

13

FIRE CUT OFF DOOR

Fire Cut Off Door has a horizontal rolling door held by a spring on each side connected to a fusible link. In case of excessive heat (or fire) the link gets fused at 165° F (68°C) causing the door to roll shut. The discharge is 1.5 hours fire rated.

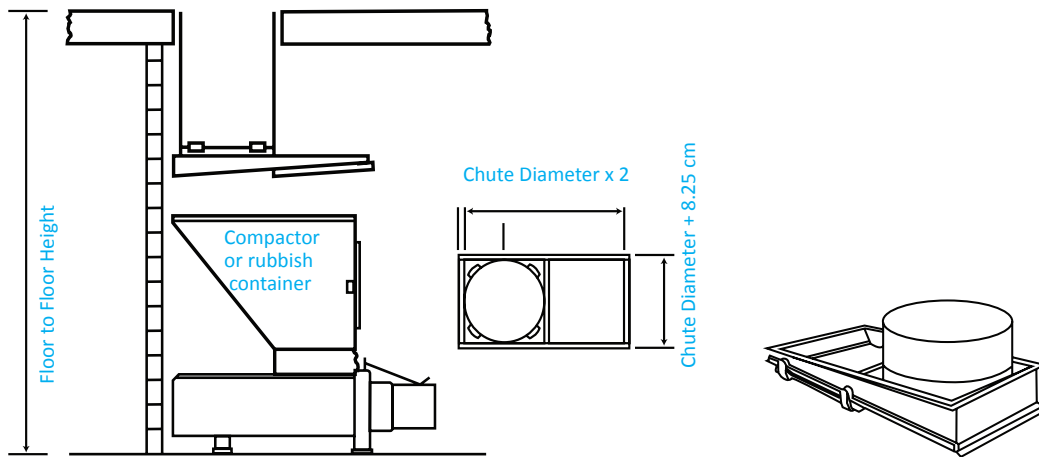


Type 'C' Automatic Fire Shutter Door

This type is widely used in both garbage & linen chutes. It has a horizontal rolling door held by springs on each side connected to a fusible link. In case of excessive heat (or fire) the link gets fused at 165°F (68°C) causing the door to roll shut. The discharge is 1.5 hours fire rated.

The Automatic Fire Shutter Door also has a manual closing facility and can be used in certain location as both a fire shutter-door and a manual cut off door.

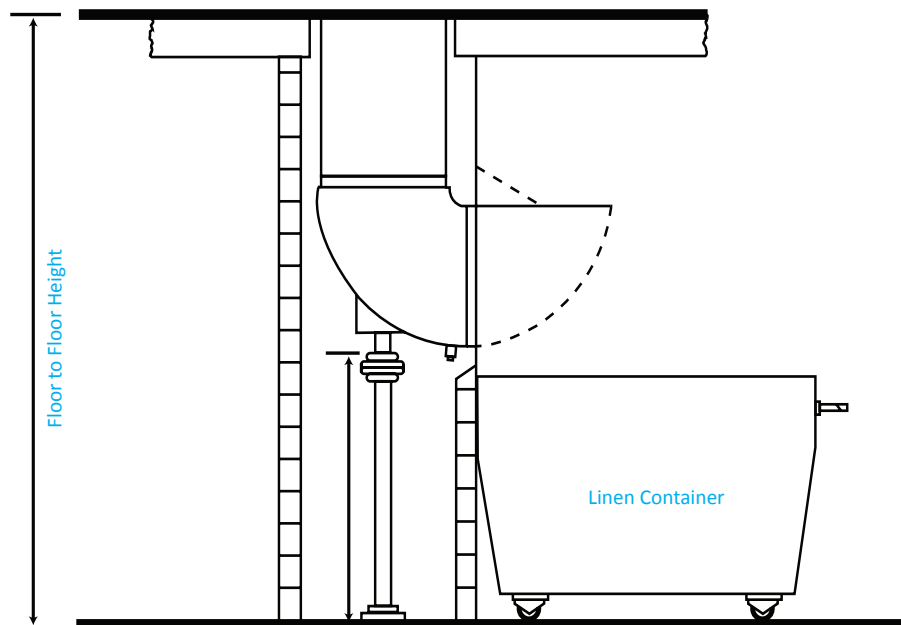
Fire Cut Off Door has a horizontal rolling door held by a spring on each side connected to a fusible link. In case of excessive heat (or fire) the link gets fused at 165° F (68°C) causing the door to roll shut. The discharge is 1.5 hours fire rated.



Type 'D' Top Hung Automatic Fire Door

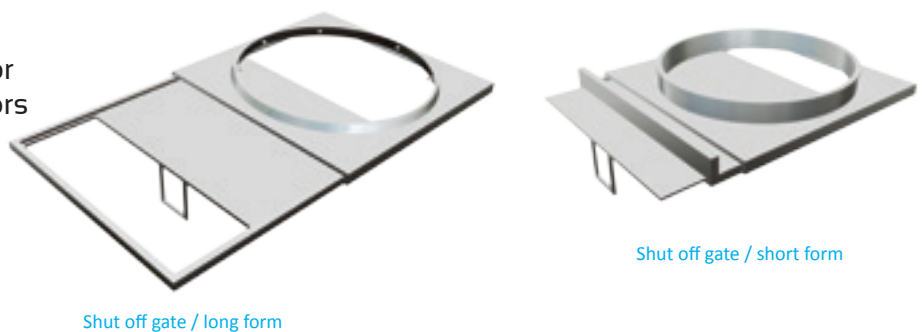
Designed for use where it is not possible to fit a standard automatic fire shutter door. The top hung door gives the same 1.5 hours fire protection, but without the same degree of operator safety (Safety fencing is recommended).

Operation is by the top hinged counter balanced door pulling against a fusible link. In case of fire the door drops shut and is held closed by two retaining catches. Suitable for use with 600mm and 800mm linen chutes.



Manual Cut-off Door

Shuts and cuts off chute for cleaning, removal of containers or maintenance of refuse compactors or shredders.

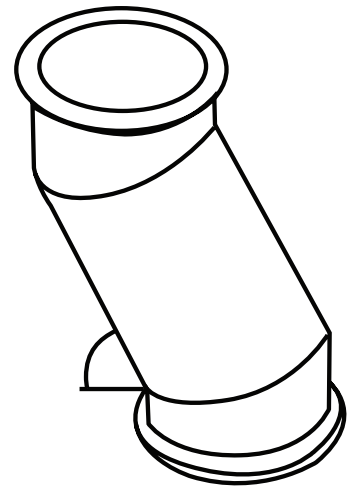
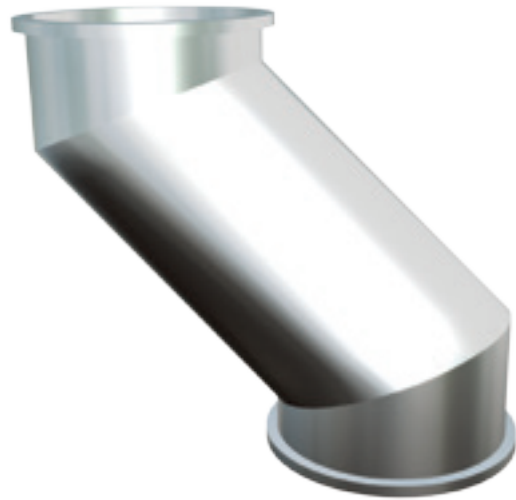
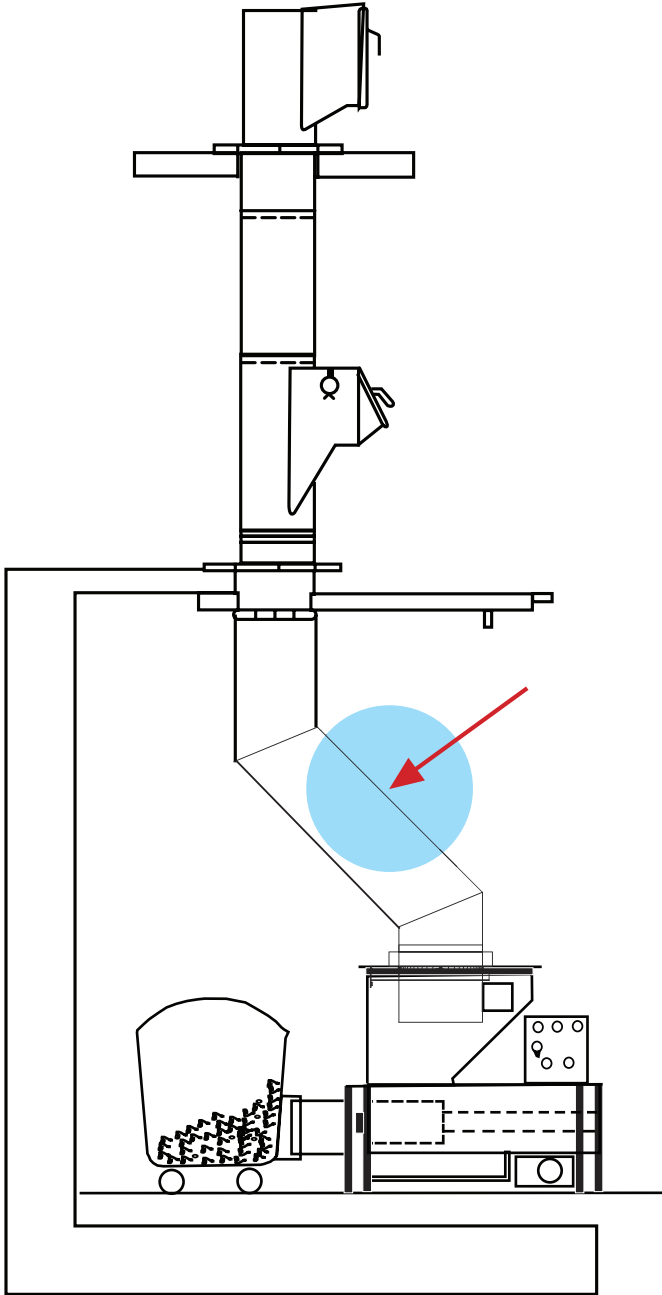


14

ELBOW

Offsets

Factory fabricated from the same material as the refuse chute, but in a heavier gauge to withstand the impact of falling bags. Offsets should not be less than 45° from the horizontal. Offsets are fabricated to all diameters of refuse and linen chutes provided by SFSP.



TYPE MGB

Capacity:

1.1m

Material:

Hot-dip galvanized steel (DIN 30700)

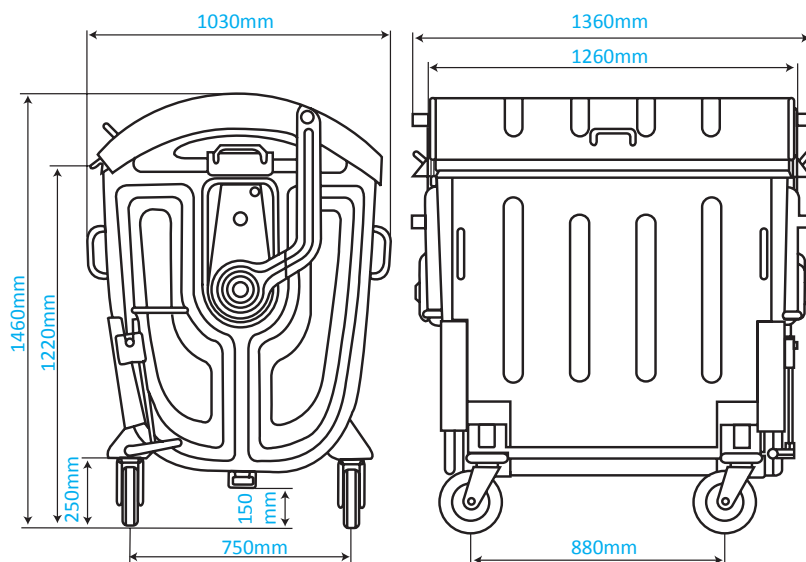
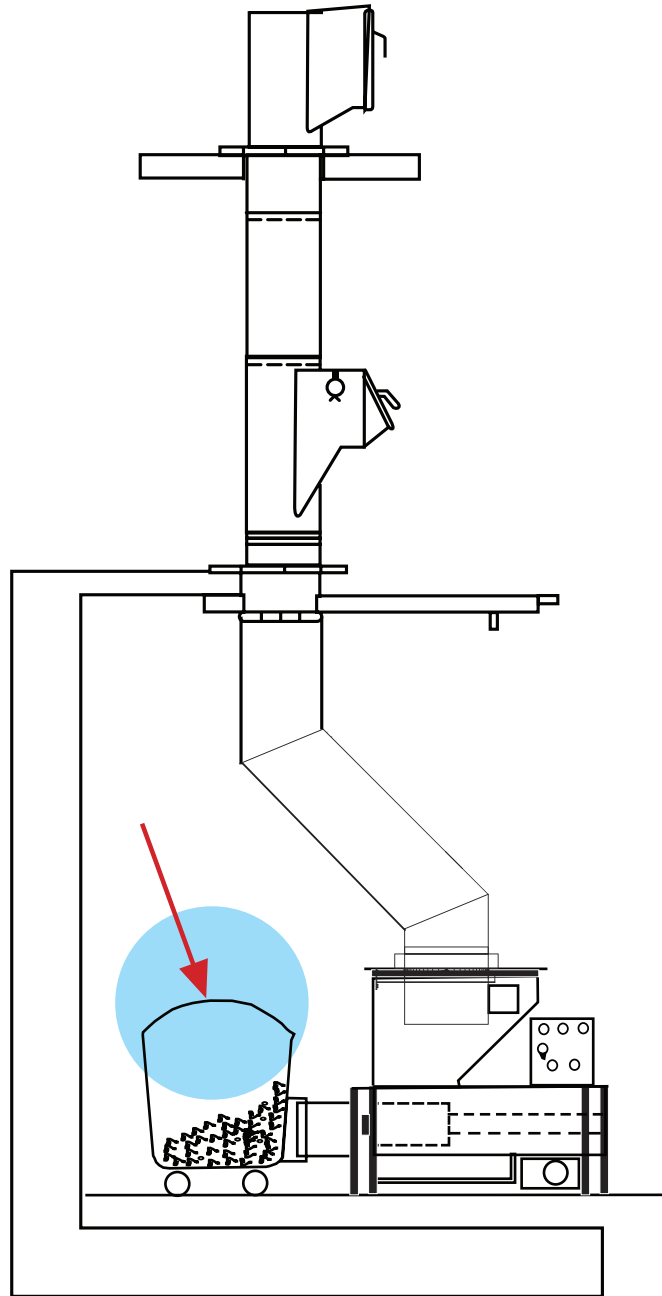
Specifications:

- Body and lid hot dip galvanized
- Form stability through slotted all around running tube profile
- Dome lid hot dip galvanized vaulted and reinforced
- Special tension spring for easy opening
- Remains in 2 positions with an automatic locking device
- Moulded rubber hand protection
- Frontally operated central locking
- Water drain for cleaning purposes
- 4 swivel wheels 3600 maintenance free ball bearing with solid rubber tires
- Carrying capacity per wheel 400 kg
- Lateral central locking device of two front wheels

Options:

- Instead of central locking, brake on single wheel
- Towing gear with trailer bracket and coupling, heavy wheel implementation
- Colour coded lid
- Slot opening in lid for recycling waste
- Lid locking device
- Special body treatment for collecting hazardous waste (filling stations, vehicles workshops etc.)





Frontal Operation of
Central Locking

Lock



Foot Pedestal

TYPE MGD 2.5

Capacity:

2.5 m³

Material:

DIN 30738 hot-dip galvanized steel

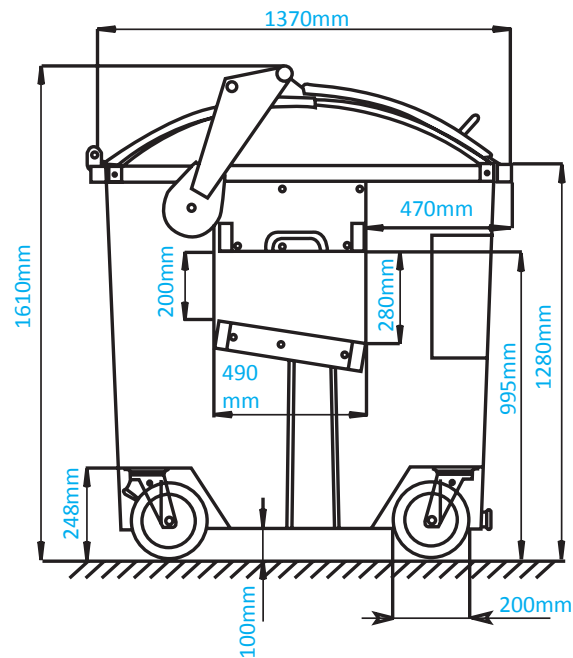
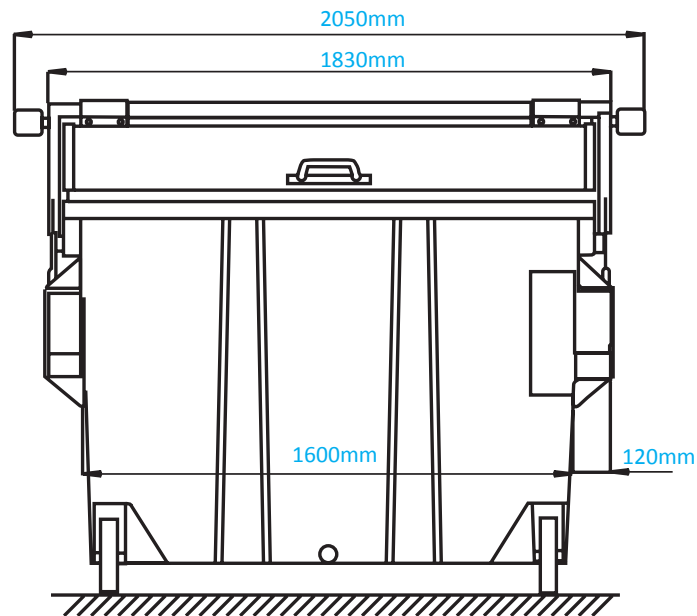
Specifications:

- Hot dip galvanized body
- Formstability through box-profile framework
- Strengthening ribs at body, bottom reinforced with stable wheel cases
- 2x360° swivel wheels with direction fixing device at the front 200 mm diameter
- 2x360° swivel wheels at the back with single wheel stop 200 mm diameter
- Galvanized sliding lid
- Lateral and rear sliding lid

Options:

- Skids instead of wheels
- 2 fixed wheels 200 mm diameter at the front
- Central brake for the rear swivel wheels
- Interlocking device on the rear steering wheel
- Towing gear with heavy-duty-wheels for collective - transportation
- Reflex warning-foil at the corners
- Owner-stamping in the lid
- Slot-opening in the fore lid
- Locking device of the fore lid
- Locking device for the rear lid for controlled collection with rear lifts
- Horizontal sliding grip at the rear
- RAL color painting on zinc coating primer



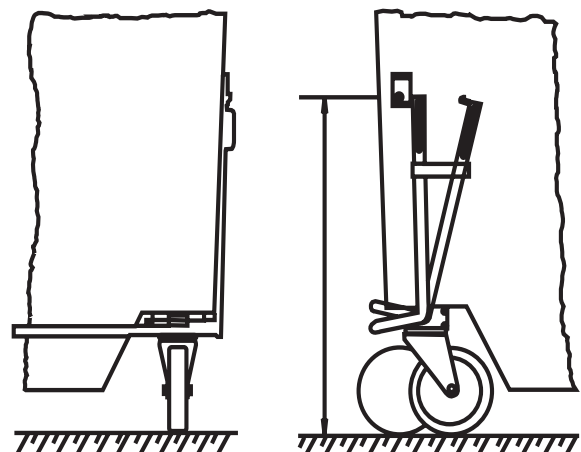


Interlocking device of the rear swivel wheels:

The operating lever is optional to the waste disposals at the receptacle left or right behind. This lever is welded with a spindle which connects the brake equipment of the two steering wheels.

Essential advantages of this system:

1. Lateral order of the lever-short way of the worker of the vehicle to the activity-lever.
2. Trouble-free activity of the interlocking device under optimal place utilization of the receptacle (House-walls or alike)



TYPE MGD 4.5

Capacity:

4.5 m³

Material:

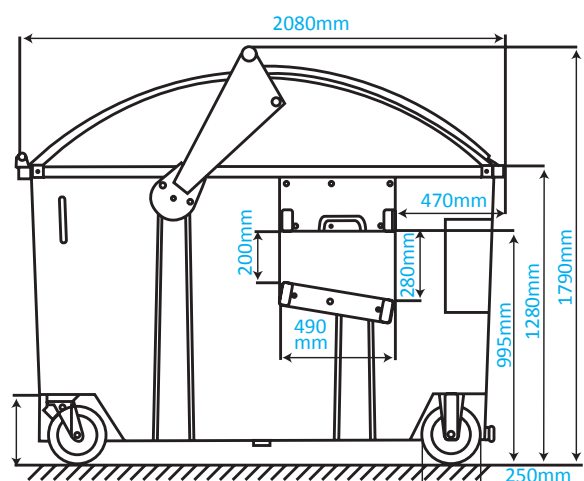
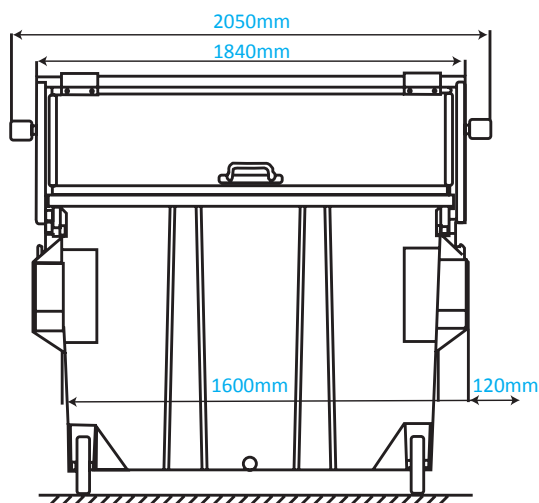
Galvanized steel

Specifications:

- Hot dip galvanized body
- Formstability through box-profile frameworks
- Strengthening ribs at container body, bottom reinforced and stable wheel cases
- 2 fixed wheels at the front 250 mm diameter
- 2x360° swivel wheels at the back with single wheel stop 250mm diameter
- Galvanized sliding lid
- Lateral and rear slide grips with steering handles

Options:

- Skids instead of wheels
- 4x360° swivel wheels instead of 2 fixed wheels at the front, with direction fixing device at the front wheels
- Interlocking device on the rear steering wheel
- Towing gear with heavy-duty
- Wheels for collective-transportation
- Reflex warning-foil at the receptacle-corners
- Owner-stamping in the lid
- Slot-opening in the fore lid
- Locking device of the fore lid
- Locking device of rear lid for controlled collection with rear lifts
- Horizontal sliding grip at the rear
- RAL color painting on zinc coating primer



TYPE MGC

Capacity:

1.53m

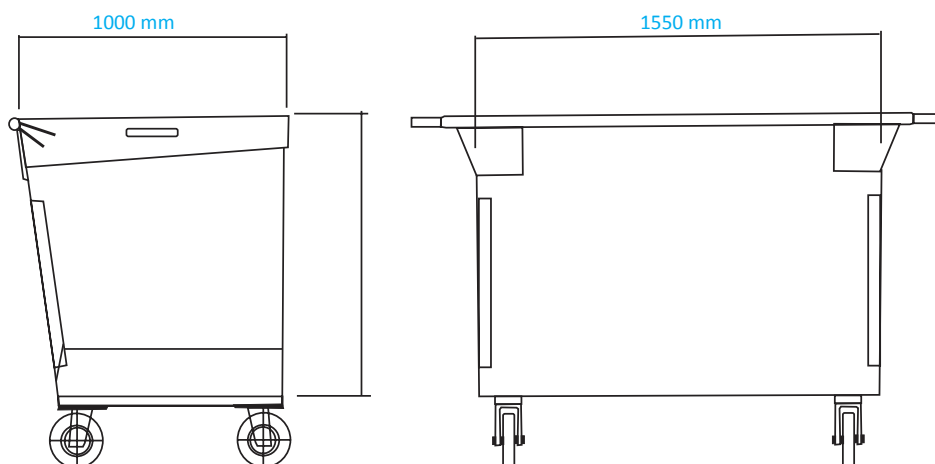
Material:

Powder coated

Specifications:

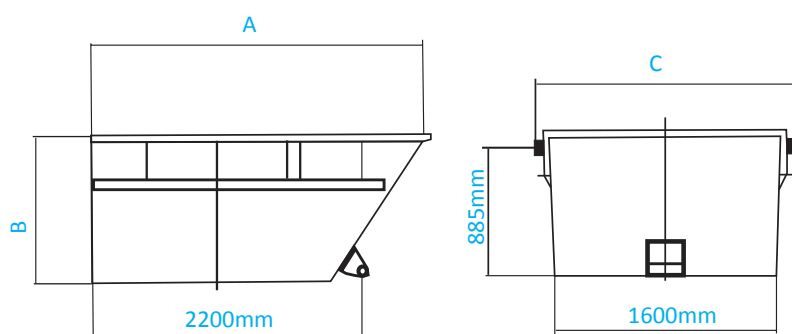
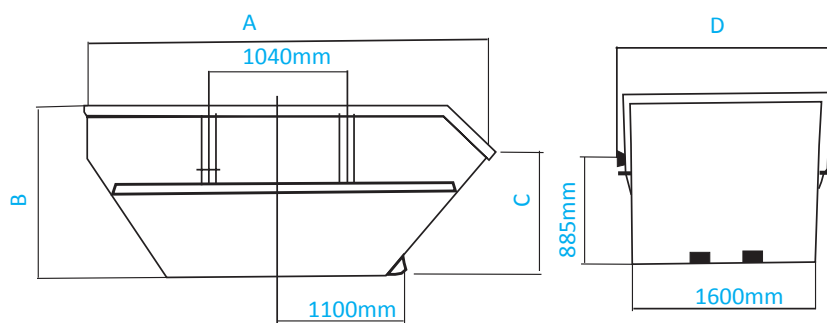
Refuse container capacity 1.53 m3.

- All made of high tensile steel ST52-3, 2mm thick, reinforced at front top edge by 30mm diameter round bar.
- Top edges surrounded by U shaped channels (3mm thick).
- Four heavy duty swivel caster wheels of 8" diameter two with brake and two without brake.
- Continuous inside welding.
- Two coats of epoxy primer and two coats of final color on request.
- Container without cover.
- Made to be lifted by the refuse compactor.



TIPPING TRUCK CONTAINER SKIPS

TYPE HM

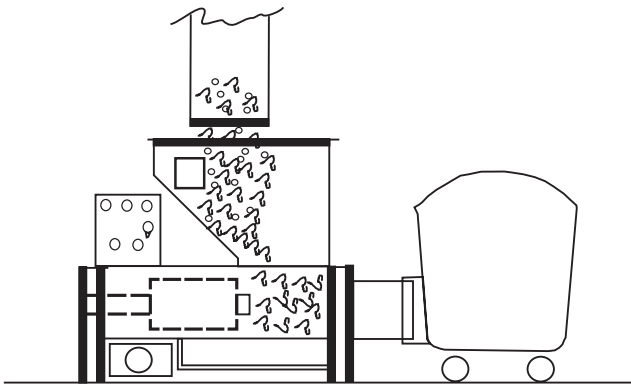


Type	HM 1	HM 2	HM 3	HM 4	HM 5
Capacity	4m ³	7m ³	10m ³	12m ³	4.4m ³
Dimensions	HM 1	HM 2	HM 3	HM 4	HM 5
A	2950	3370	4100	4100	2950
B	1100	1500	1700	2000	1300
C	800	840	1100	1100	1880
D	1870	1850	1850	1840	

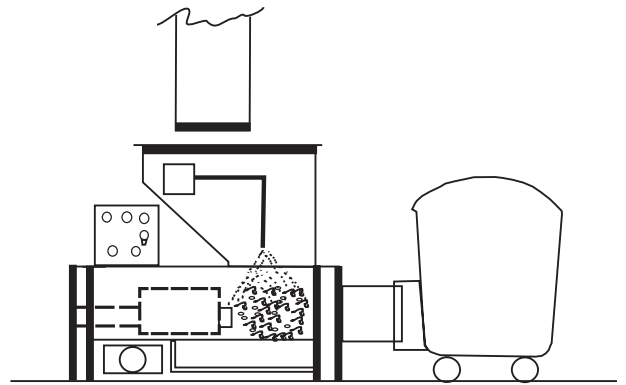
TYPE H 150

1. Operation: Automatic hydraulically operated.
2. Operating Pressure: 40, 000 lbs.
3. Compaction: Compacts refuse 15-20% of original volume.
4. Packaging: Packages refuse directly into heavy gauge plastic sacks or containers.
5. Capacity: 750kg/hr.
6. Compaction Chamber: 0.20 m³ with a machine cycle time of 40 seconds giving a theoretical compaction volume of 8 m³/hr.
7. Construction Compactor: Strengthened 10mm steel plate.
8. Compacting Ram: The compacting ram is made from 6mm plate with the face of the ram increased to 25mm plate to effectively handle the 18 ton pressure.
9. Compaction chamber: Shall have hardened steel shearing blades.
10. Hydraulic Power Pack: Pre-packed fully connected integrally mounted system to develop over 3000 PSI. Normal operating pressure 1000 PSI (Approximately).
11. Motor: 40 Second cycle. Time 4 kw-1450 RPM.
12. Pump: Pressure balanced, external oval gear type.
13. Electrical control: Housed in a keyed access cabinet.
14. Other Feature: Repeat hammer action and automatic attendant alarm.

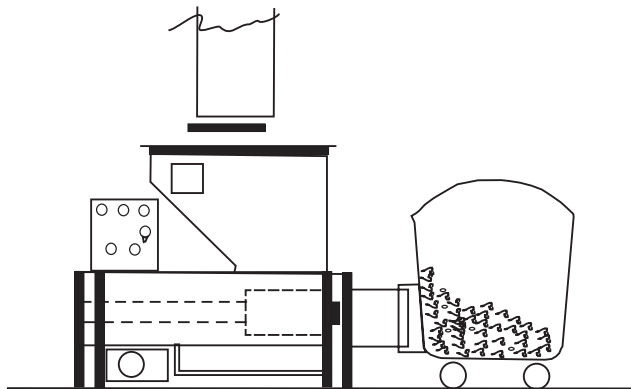




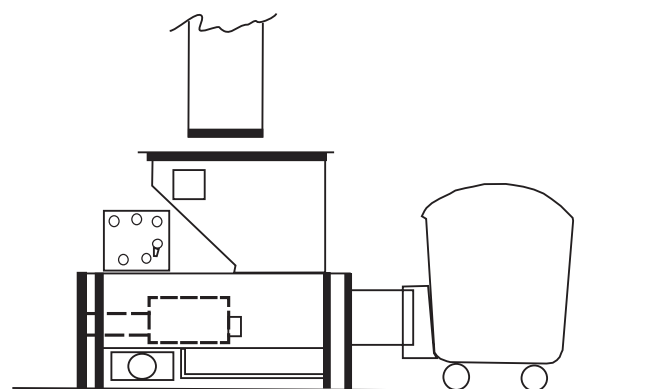
Refuse fed manually or falling down the chute directly into the compactor trips the photo electric cell. The compaction cycle commences



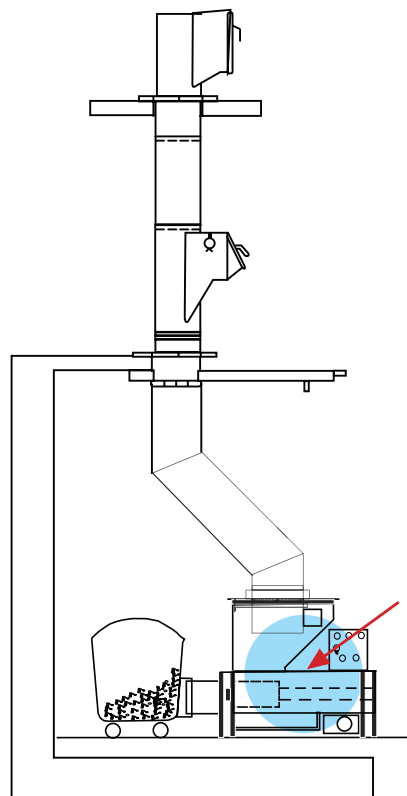
Refuse is automatically sprayed for with strong disinfectant to protect against insects and reduce any airborne smells.



Compactor ram pushes refuse through shearing teeth and then through compaction chamber into heavy guage container.



When the compactor is full the attendant unlashes container from compactor and wheels the container away. Fits empty container.







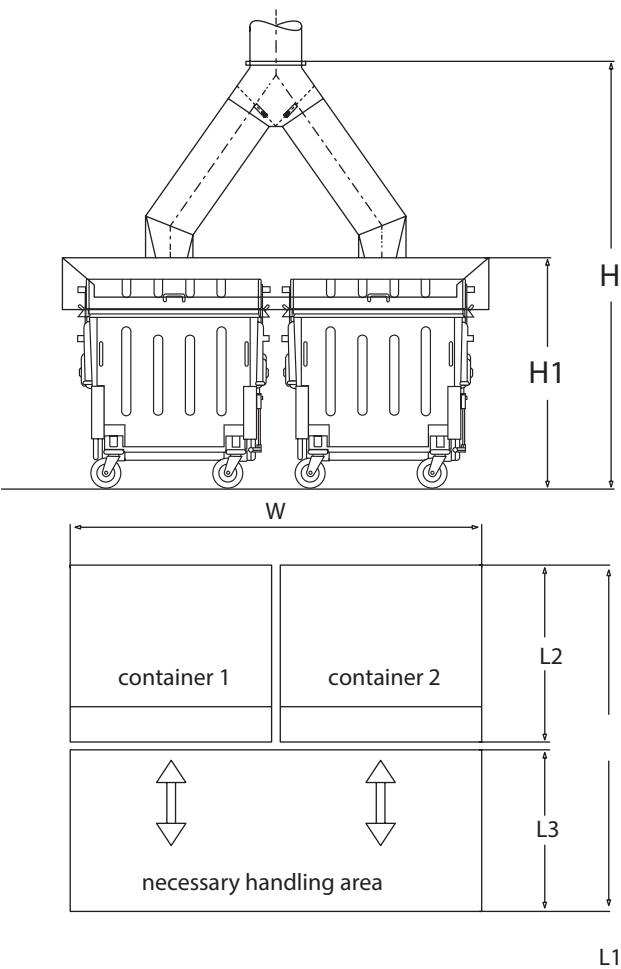
GARBAGE CHUTES SORTERS

DUO-SORTER

OPTION A

CONTAINER SIZE:
1.100 ltr

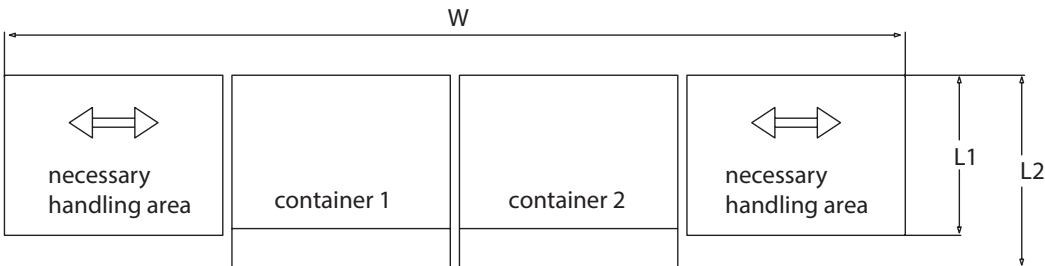
TOP-VIEW A1
container handling area
in front of the system



TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3
Standard	min. 2.500mm	2.800mm	1.500mm	2.300mm	1.200mm	1.100mm

TOP-VIEW A2
container handling area either left or right side of the system (or even both sides)



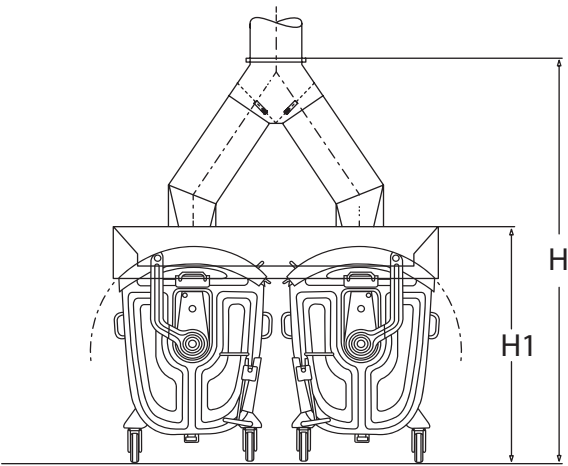
TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3
Standard	min. 2.500mm	4.200mm	1.500mm	1.100mm	1.200mm	1.400mm

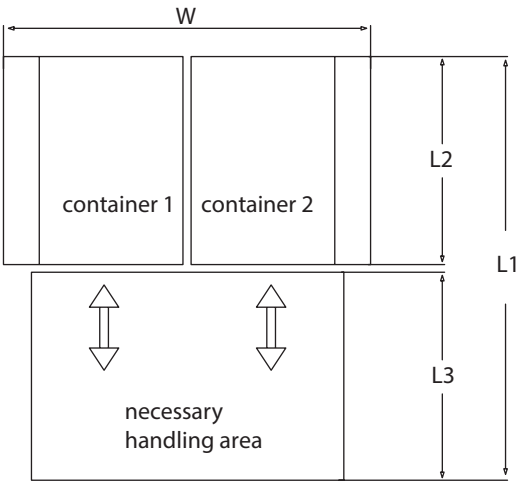
DUO-SORTER

OPTION B

CONTAINER SIZE:
1.100 ltr



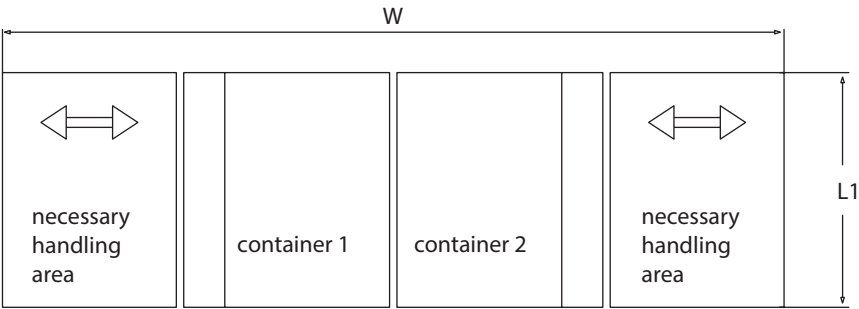
TOP-VIEW B1
container handling area
in front of the system



TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3
Standard	min. 2.500mm	2.400mm	1.500mm	2.800mm	2.400mm	2.400mm

TOP-VIEW B2
container handling area either left or right side of the system (or even both sides)



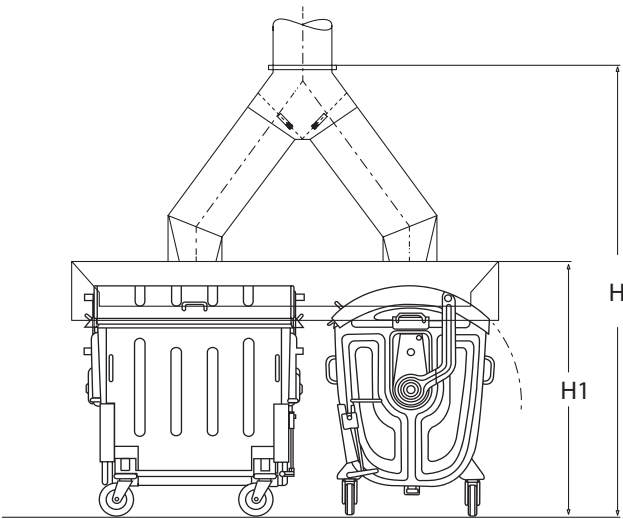
TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3
Standard	min. 2.500mm	3.500mm	1.500mm	1.400mm		1.100mm

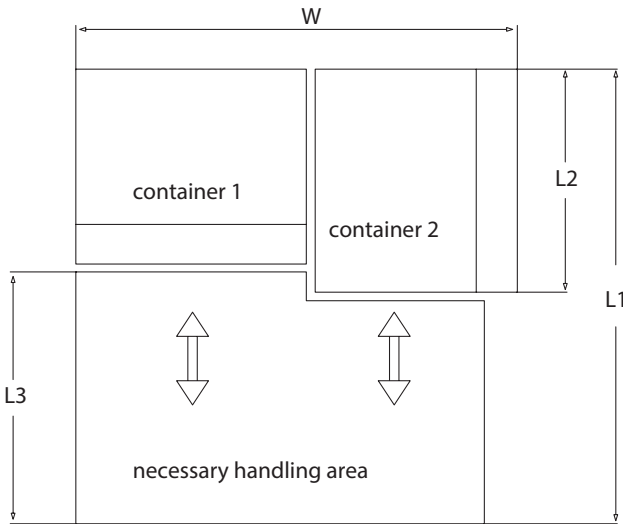
DUO-SORTER

OPTION C1

CONTAINER SIZE:
1.100 ltr



TOP-VIEW C1
container handling area
in front of the system



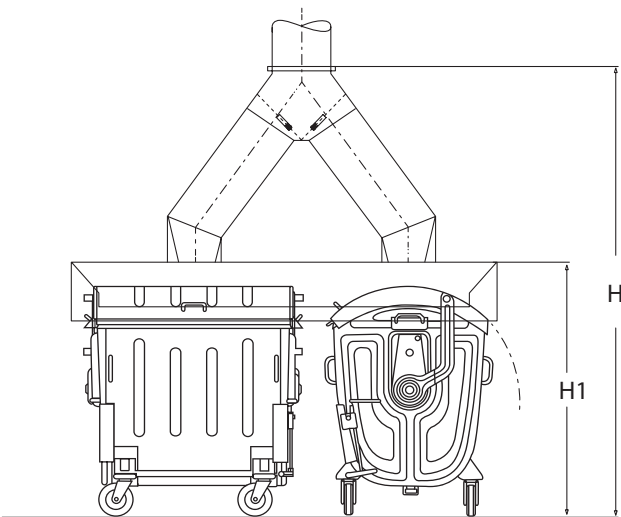
TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3
Standard	min. 2.500mm	3.600mm	1.500mm	2.800mm	1.400mm	1.400mm

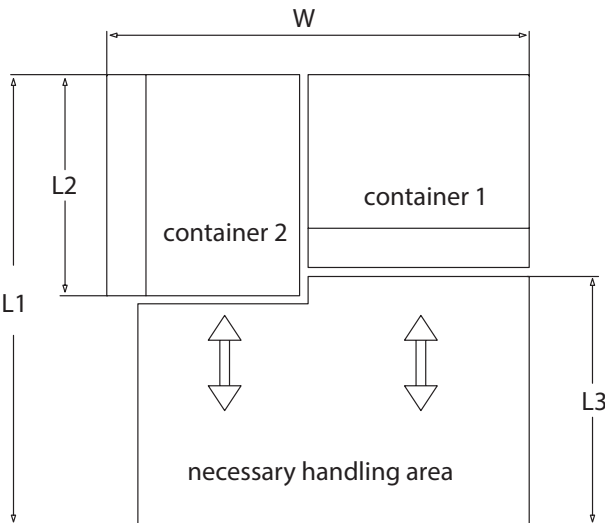
DUO-SORTER

OPTION C2

CONTAINER SIZE:
1.100 ltr



TOP-VIEW C2
container handling area
in front of the system



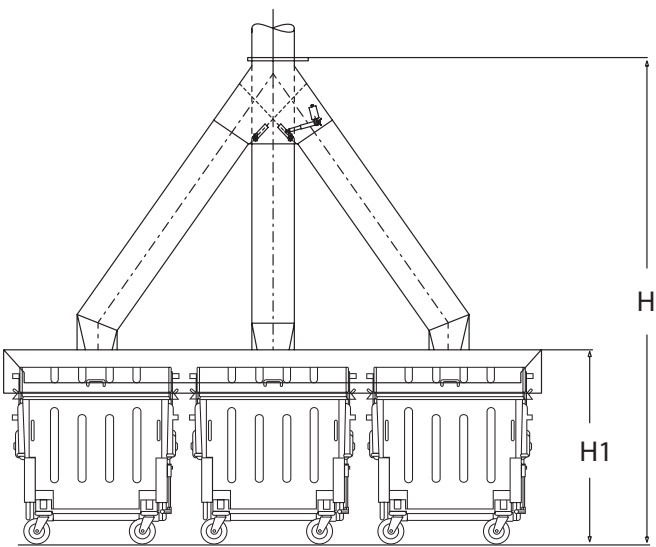
TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3	
Standard	min. 2.500mm	2.600mm	1.500mm	2.800mm	1.400mm	1.400mm	

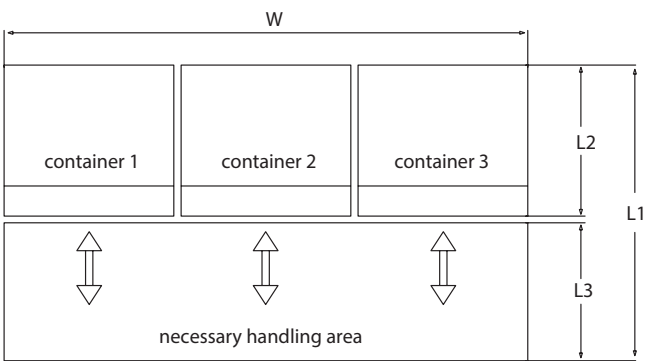
TRI-SORTER

OPTION A

CONTAINER SIZE:
1.100 ltr



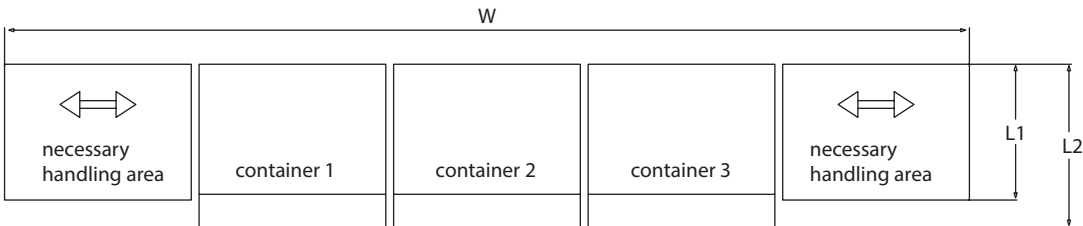
TOP-VIEW A1
container handling area
in front of the system



TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3	
Standard	min. 3.300mm	4.200mm	1.600mm	2.300mm	1.200mm	1.100mm	

TOP-VIEW A2
container handling area left or right side of the system
(or even both sides)



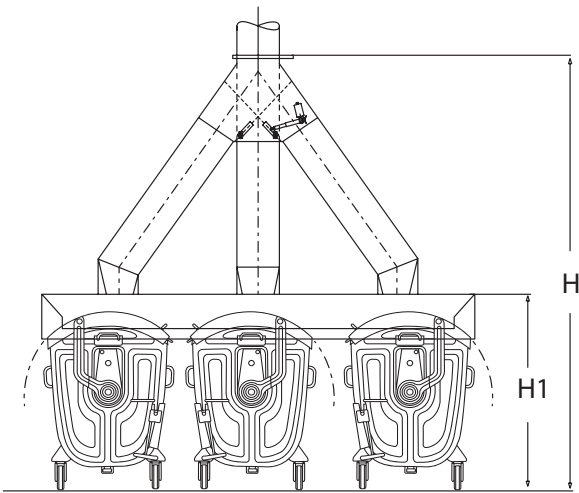
TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3	
Standard	min. 3.300mm	5.600mm	1.500mm	1.100mm	1.200mm	1.400mm	

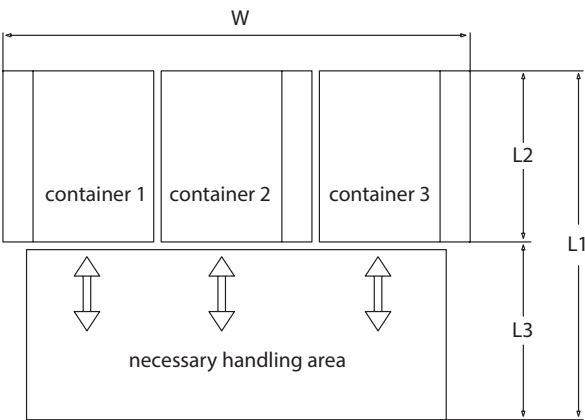
TRI-SORTER

OPTION B

CONTAINER SIZE:
1.100 ltr



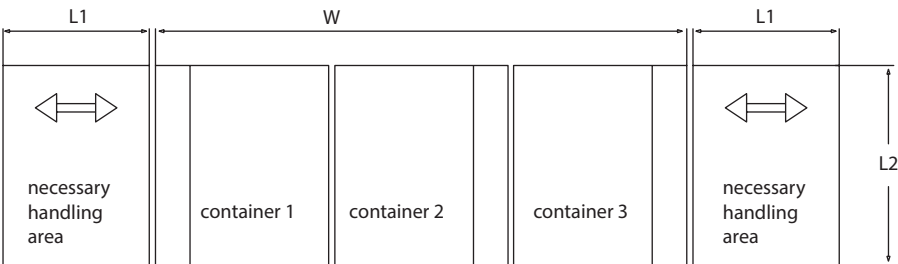
TOP-VIEW B1
container handling area
in front of the system



TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3	
Standard	min. 3.150mm	4.100mm	1.600mm	2.400mm	1.200mm	1.200mm	

TOP-VIEW B2
container handling area left or right side of the system
(or even both sides)



TECHNICAL DATA:

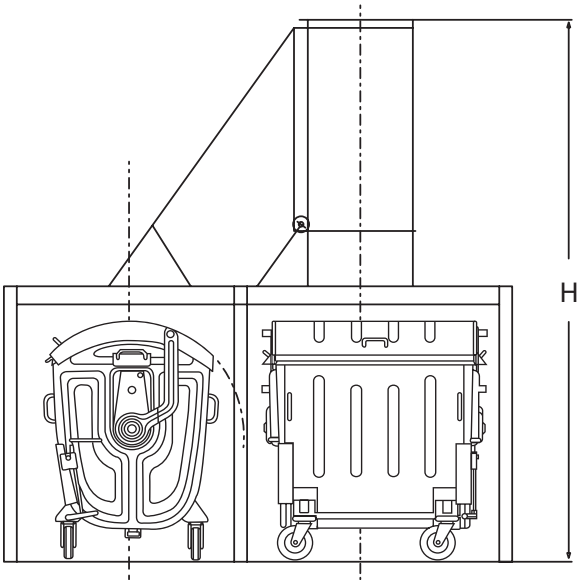
Dimensions	H	W	h1	L1	L2	L3	
Standard	min. 3.300mm	4.100mm	1.500mm	1.100mm	1.400mm		

TRI-SORTER

OPTION C1

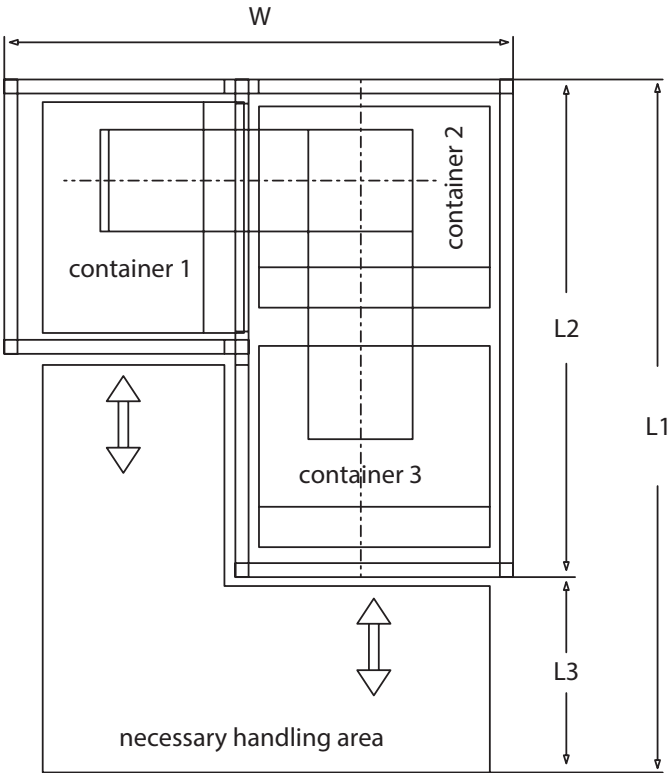
CONTAINER SIZE

1.100 ltr



TOP-VIEW C1

container handling area
in front of the system



TECHNICAL DATA:

Dimensions	H	W	h1	L1	L2	L3
Standard	min. 3.100mm	2.700mm	1.600mm	3.700mm	2.500mm	1.200mm



LINEN CHUTES



www.sfsp-ikk.com

TECHNICAL INFORMATION

Introduction

SFSP linen chutes are the most efficient method of quickly and economically disposing of soiled linen in multi storey buildings.

The dirty linen is usually bagged before loading into the chute. Side hung doors with large openings are therefore the normal standard on linen chutes. Hospitals generate about 3.0 kgs. of soiled linen per bed per day and a similar figure can be used for hotels. The increasing cost of using lifts and maintaining labour in hotels and hospitals reinforces the decision to install a linen chute.

Application

Original equipment installed in hospitals and hotels for the vertical movement of loose and bagged soiled linen.

Technical Information

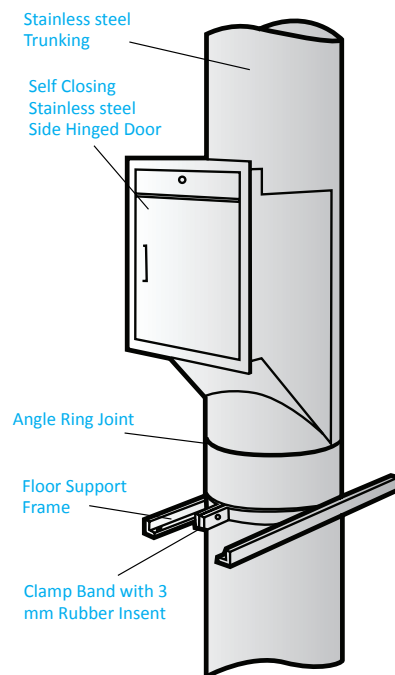
SFSP linen or laundry chutes have the same basic specification as refuse chutes. For details on the construction, material specification and choice please see previous pages. A full specification for SFSP linen chutes can be found in this section.

Linen Chute Sizes

Available in either 600 mm or 800 mm diameters though in practice the 600mm diameter is adequate for most purposes.

Linen Chute Doors

SFSP normally recommends the use of a 450 x 450 mm door for use with linen chutes and would also recommend the use of electric interlocks. Linen chute doors are side hung on stainless steel hinges, with either separate or master keyed locks. The doors are fully self closing on an efficient hydraulic self closer. Labels can be attached bearing the message 'LINEN ONLY' in english and/or the local language.



N.B. we can use side hinge door also for linen chute

Fire Safety

To meet British Standards of fire safety an automatic fusible linked fire shutter door with a 1 1/2 hour fire rating should be fitted to the bottom of the linen chute, in the linen collection room. Fire sprinklers are also recommended to be fitted at every second floor. The sprinklers are fitted inside the chute entry section and do not interfere with the loading or fall of the soiled linen.

Electric Interlocks

To give increased operator safety we strongly recommend the use of "time delay" interlocks inside hung door linen chutes.

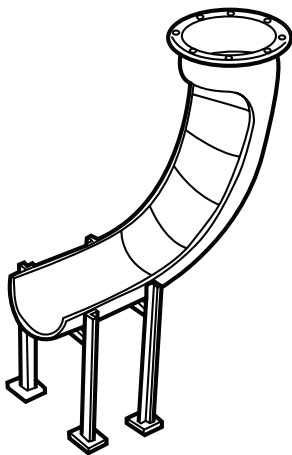
Accessories

The majority of accessories are available with linen chutes as are deceleration tracks, trolleys and containers for carrying bagged or loose linen-the range can be seen in the containers section.

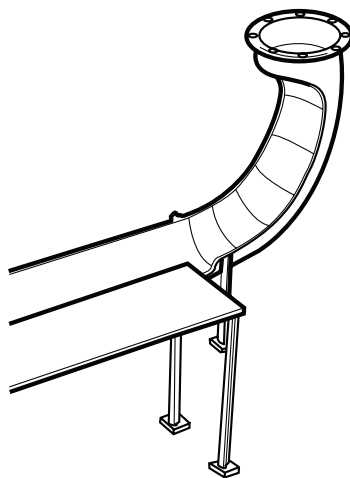
Deceleration Tracks

Soiled linen bags, when fully loaded, can weigh between 25 to 50kgs, dependent on size and the manner in which they are packed. A 50kgs solidly packed bag of soiled linen achieves a reasonably high terminal velocity and it is in this type of situation that SFSP recommends the use of deceleration tracks. For buildings of up to 5 storeys, a short deceleration track should suffice. Obviously, the higher the building the longer the length of deceleration track. Appreciating that floor space is always at a premium, SFSP offers, curved and helical deceleration tracks, to achieve the same result in less space. Deceleration tracks can also be used to bring the bagged linen directly onto a sorting table. Made from stainless steel and jointed by R.S. angle rings. Support stands are made from R.S. angle, painted ready for bolting to floor or wall. Illustrated are standard types. Other lengths and models are available to customer specification to match height and width of the linen chute.

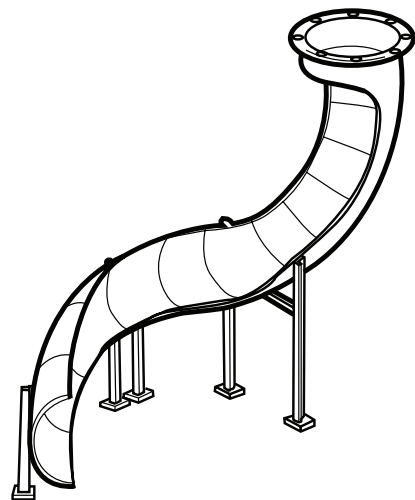
N.B. Drawings show deceleration tracks with cut-out



Straight Short Deceleration Track

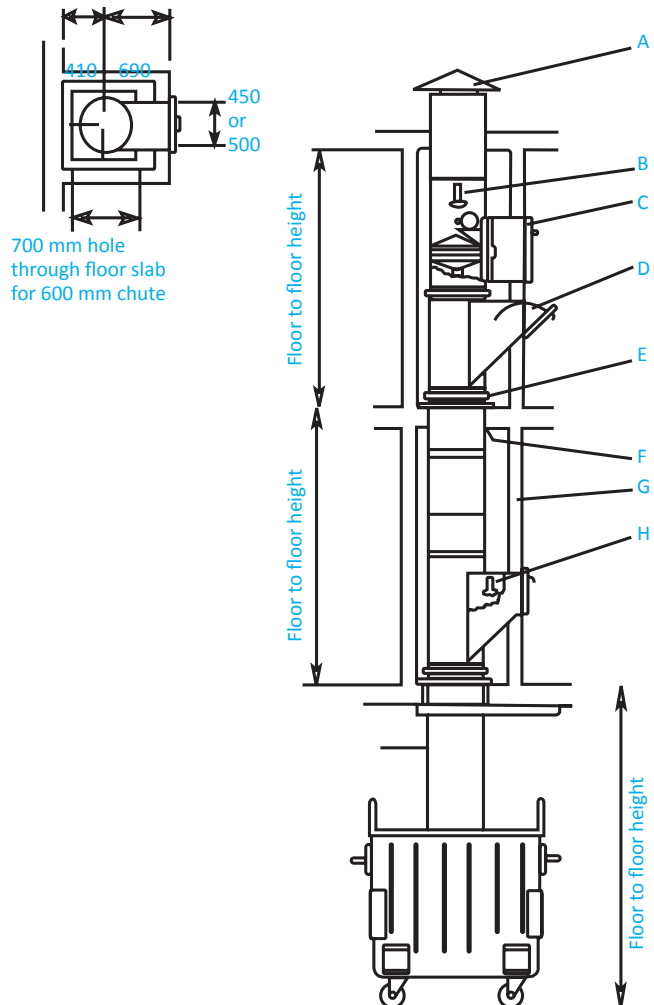
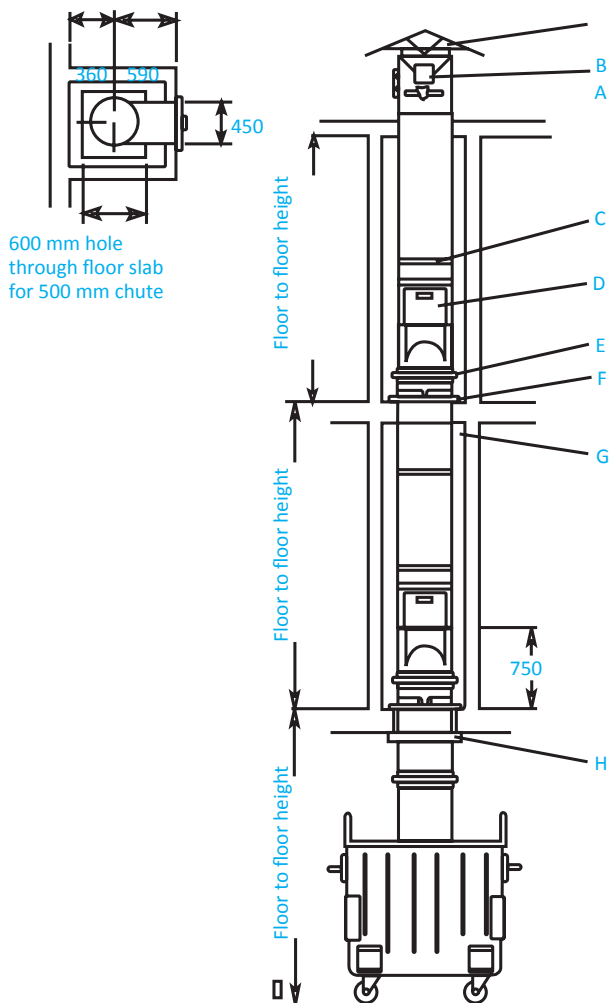


Deceleration Track Delivering Bagged Linen to Sorting Table



Curved Deceleration Track

REFUSE CHUTES EXAMPLES



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.

ALL DIMENSIONS IN MM

- 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

COMPLETE STANDARD REFUSE CHUTE SPECIFICATION FOR A STOREY BUILDING

Part 1: General

*1.01 Included. Supply and installation of refuse chute system, with certain accessories and ancillary equipment as specified.

*1.02 Not Included. The provision of floor drains, water taps, electrical isolator boxes, infill floor slabs and erection of enclosing walls or the connection of electric or water supply to any equipment in this section.

1.03 Authority. The provided equipment shall meet the requirements of BS 1703: 1977 and BS5906: 2005. Design and components currently used in SFSP refuse chutes shall be considered the standard for quality, performance and appearance.

*1.04 Service and Parts. The manufacturer shall maintain the ability to supply spare parts and components, for a period of three years from the date of manufacture.

*1.05 Manufacturer. Products for use in this section shall be provided by:

Specialized Factor for Steel products (SFSP)
Jeddah, Kingdom of Saudi Arabia.
Tel. + 966 2 6374482 Fax. +966 2 6361963
(or other equal and approved).

*1.06 Submittals. Following receipt of order the manufacturer shall provide fully dimensioned shop drawings for approval prior to manufacture.

Part 2: Products

*2.01 Supply. As detailed on drawing a mm internal diameter refuse chute system as manufactured by Specialized Factory for Steel Products (SFSP)

*2.02 Material Trunking. All vertical chute trunking, chute entry sections and vent pipes shall be manufactured from mm stainless steel. Stainless steel used in this section shall be type 304 stainless steel to BS 1449 or as specified.

*2.03 Hoppers. Shall be provided to storeys of the refuse chute and manufactured as follows:
The hopper door face will have maximum size of x mm and be designed to ensure that refuse inserted into the hopper cannot cause a blockage in the chute. The hopper shall be self closing and sealing, have a 1 1/2 hour fire rating.

*2.04 Floor Support Frames. The manufacturer shall provide No 35 x 35 x 3mm R.S.A. frames with welded clamp bands. All fixing nuts and bolts to be rust proofed after manufacture.

*2.05 Discharge. The manufacturer shall provide a stainless steel discharge to be connected to the underside of a fire shutter door. Fire shutter shall be automatic in operation and be capable of cutting off the chute and its shaft from the refuse room.

*2.06 Chute Cleaning. The manufacturer shall provide a factory fitted electrically powered automatic chute cleaning system.

The chute cleaning system, to be fitted above the topmost entry section, shall have its own separate housing and side hung, Stainless Steel faced lockable access door. The cleaning system shall consist of a cylindrical housing, with two bands of stiff nylon brushes firmly attached, a geared electric motor, cable, stabilizing weight, flushing head spray and the manufactures standard electric logic control installed to ensure efficient cleaning of the internal surfaces of the chutes.

*2.07 Disinfectant and Sanitizing Unit. A factory fitted disinfectant and sanitizing unit shall be provided. The unit shall be automatic in operation capable of injecting odour counteractant into the supply of the automatic brush cleaning system.

YES	NO
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*2.08 Ventilation. The chute shall extend through the roof, terminating 1.2m above roof level complete with a weathering terminal or as specified.

*2.081 Exhaust Fan. The manufacturer shall provide a Factory fitted foul air exhaust fan, the fan to be fitted internally in the refuse chute above roof level. An access door will be provided for servicing the fan. The fan shall be protected above and below by lightweight Mesh screens, which are to be removable for cleaning. The fan motor shall be 1/6 HP, Class H continuously rated, capable of a 200m³/hour air displacement. Electric supply 220/240v, or 110/120v, 50/60 Hz, 0.8A.

YES	NO
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*2.09 Sound Damping. The total vertical length of all exterior surfaces of the refuse chute shall have a factory applied coating of Sound Damping Compound. The coating shall be applied at the rate of 1.8kgs/m², or to give a coating of not less than the thickness of the substrate.

YES	NO
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*2.10 Chute Construction. The chute shall be fully factory assembled and all joints except those required to separate the sections for shipment and installation, shall be lock seamed or welded. The hopper door shall be bolted in place on the entry sections and checked to ensure proper alignment with the inner baffle plate. Sections shall fit inside the section below and there shall be no bolts, rivets or other projections inside the chute, to impede the free flow of falling refuse. The manufacturer shall provide sealant to ensure all joints are watertight and further provide all other equipment necessary to execute the contract.

*2.11 Automatic off/ on sprinkler, fully automatic currentless

Part 3: Execution

*3.01 Equipment. Shall be protected at all times from physical damage. Immediately upon delivery on site the equipment shall be stored in a safe and weatherproof location.

*3.02 Construction waste. Under no circumstances shall the chute be used for construction waste.

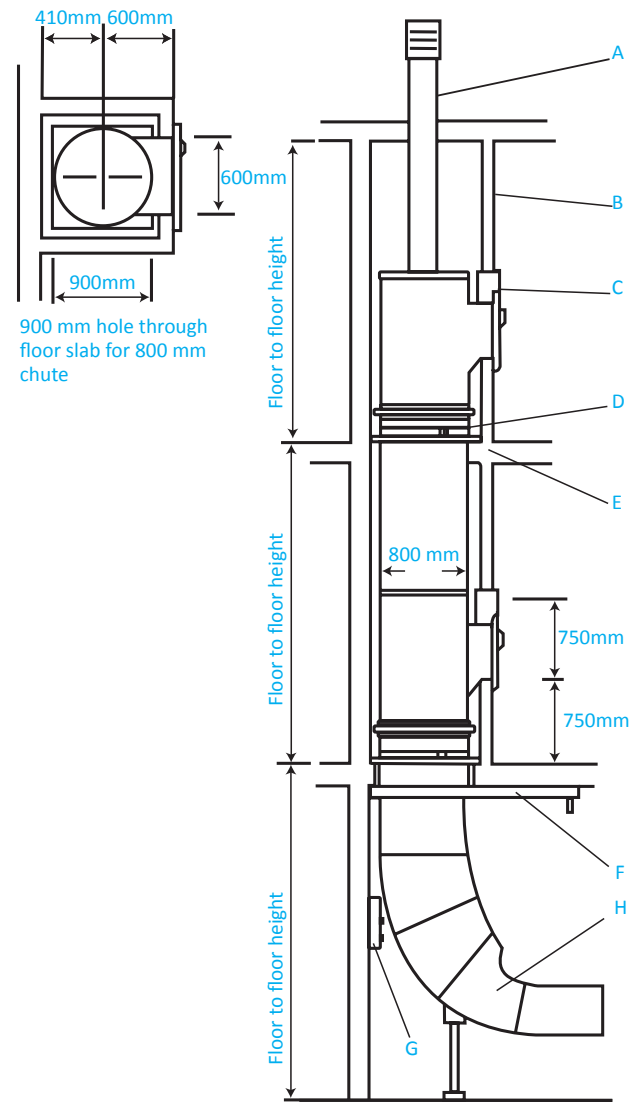
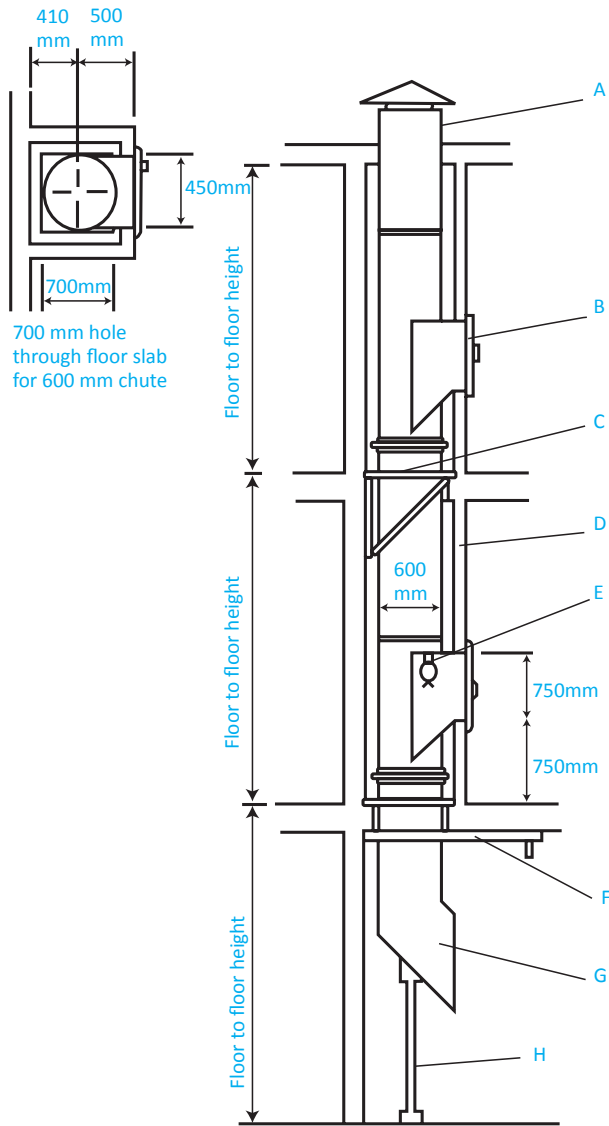
*3.03 Inspection prior to installation. The manufacturer shall inspect the area of installation, verify any dimensions and advise of conditions detrimental to proper and timely completion of the work.

*3.04 Installation. The manufacturer shall where instructed, provide experienced technicians to install the chute. The chute shall be installed in compliance with the manufacturer's standard instruction and shop drawings.

*3.05 Testing and Commissioning. The manufacturer's technician shall test and commission the refuse chute system after repairing or replacing any damaged parts.

*3.06 Acceptance. The manufacturer's certificate of acceptance shall be signed by the main contractor or client, on successful completion of this work.

*Optional Items-Please Specify Where Required



ALL DIMENSIONS IN MM

- A. Full diameter stainless steel vent (or as specified).
- B. 2 hour fire rated side hung door entry.
- C. Support fixed to shaft wall by special gallows bracket.
- D. Enclosing walls built after erection of chute.
- E. 1/2" sprinkler head to be fitted every other entry.
- F. Fire shutter door fixed to underside of floor slab.
- G. Reinforced angle discharge.
- H. Tubular Support

ALL DIMENSIONS IN MM

- A. 150 mm diameter vent (or as specified).
- B. Face wall built after erection of chute.
- C. Electrically interlocked side hung doors.
- D. Chute support mounted on structural floor.
- E. Floor opening to be infilled by builder.
- F. Fire shutter door fixed to underside of floor slab.
- G. Master control panel for interlocks (1500 mm off floor level).
- H. Short deceleration track.

COMPLETE STANDARD LINEN CHUTE SPECIFICATION FOR A STOREY BUILDING

Part 1: General

*1.01 Supply as detailed on drawings a mm internal diameter linen chute as provided by SFSP.

*1.02 Not Supplied or included in this section, the provision of floor drains, water taps, electrical isolators, infill of floor slabs and erection of any enclosing walls or the connection of electric or water supply to any equipment in this section.

*1.03 Manufacturer. Specialized Factory for Steel Products SFSP, Kingdom of Saudi Arabia.
Tel. + 9662 6374482 Fax. 9662 6361963 . (or other equal and approved)

*1.04 Submittals. The manufacturer shall supply detailed shop drawings for approval prior to manufacture (following receipt of order).

Part 2: Product

*2.01 Material. All vertical chute trunking entry sections and vent pipes shall be manufactured from mm stainless steel Type 304 BSI449 or as specified.

*2.02 Doors. The manufacturer shall provide No.600mm x 600mm stainless steel, fully opening, automatically closing side hung doors. the doors shall be self sealing, with a lockable handle, key to pass and have a 2 hour fire rating.

*2.03 Ventilation. The manufacture shall provide, from the top entry section on the the storey, a top cover plate with sufficient vent pipe of mm diameter to pass through the roof space terminating 1.2 meters above the roof with a terminal and weathering cravat, or as specified.

*2.04 Discharge. The manufacturer shall provide a 2mm stainless steel angled discharge, with a tubular leg for additional support or a deceleration track. The discharge section shall pass through a 1 or 2 hour fire rated, fire shutter door complete with 165°F fusible link. (As specified)

*2.05 Sprinkler. As a fire precaution the Manufacturer shall fit a 15mm sprinkler to the top cover plate, above the entry section on the top floor and/or at every other floor. (Optional)

*2.06 Electric Interlock. The manufacturer shall provide with each side hung door, an electro-magnetic solenoid bolt. The electric interlock system should be mounted in the panel above the entry section. Operation shall be push button, with one indicator lamp, green indicating ready for operation and Red indicating system in use.

The master control box for the interlock system shall be mounted in the laundry room, close to the linen chute discharge point. The interlock system shall operate off a 120/240v electric supply reduced to 24v for safety and shall have a manufacturer's factory fitted preset timer. The timer shall be preset to allow single use of the chute at any given time. (Optional)

*2.07 Construction. The linen chute shall be fully factory fabricated and all joints except those required to separate the sections for shipment and installation, shall be welded or lock seamed tight.

The side hung doors and electric interlocks shall be factory fitted and tested. All chute sections shall fit inside the section below and there shall be no bolts, rivets or other projections inside the chute to impede the fall of the linen. The manufacturer shall provide sealant and all other necessary equipment to successfully execute his contract.

Part 3: Execution

*3.01 Equipment shall be protected at all times from physical damage. Immediately upon delivery on site the equipment shall be stored in a safe and weather proof location.

*3.02 Construction waste. Under no circumstances shall the chute be used for construction waste.

*3.03 Installation. The manufacturer shall, where required, provide experienced technicians to install the linen chute. The chute shall be installed to the manufacturer's standard instructions and shop drawings. The manufacturer's technicians shall test and commission the linen chute system, after repairing or replacing any damaged or non functioning parts.

*3.04 Acceptance. The manufacturer's certificate of acceptance shall be signed by the main contractor or client, on successful completion of this work.

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