HOPO Lift Sliding System

- Specification & Fabrication Manual

Version: 201309

Company Introduction

HOPO

- **History**: Established in early 2000's by a group of hardware experts including experts from Germany. Through starting business of OEM for European companies, HOPO has undertaken strict quality control, and thus ensured the product quality.
- **Product Range**: HOPO is the first Chinese company to produce MA lock in China. Complete solution for sliding doors (MA lock, locking pin and places, roller carriages) had launched in Chinese market, and are leading brand for the product in the market.

  The designs of HOPO lift-sliding and sliding-folding systems had completed from thorough study of all systems of top-brands in Europe, achieving the final optimized solutions with features of stable usage, easy adjustment and operation, maintenance-free. HOPO sliding-folding system for PVC and aluminium doors has become the leading brand in south-east Asia, even better than European products.

  HOPO tilt-turn fittings made of SS304 will be launched this year, the upmost anti-rust feature made it specially suitable for window in the most humid environments like buildings on sea beaches, can give 20 years' quality guarantee for its functional parts.
- **Advantages**: HOPO technical department is one of the key factors for its reliable function fitting, as well as its up-to-date decoration hardwares (like handles). Investments in high-machines and a modern painting production line are other factors to ensure quality of HOPO products.

  Computerized management for stock of parts and finished products and sales record made the production more efficient than traditional management system, and more fast delivery as a result.
- **International Cooperation**: HOPO international cooperation is developed from merely exporting HOPO products overseas, to cooperating with famous foreign company for Chinese customers. Wehag, the oldest manufacturer of window and door hardware in Germany, will start to enter China soon.

Contents

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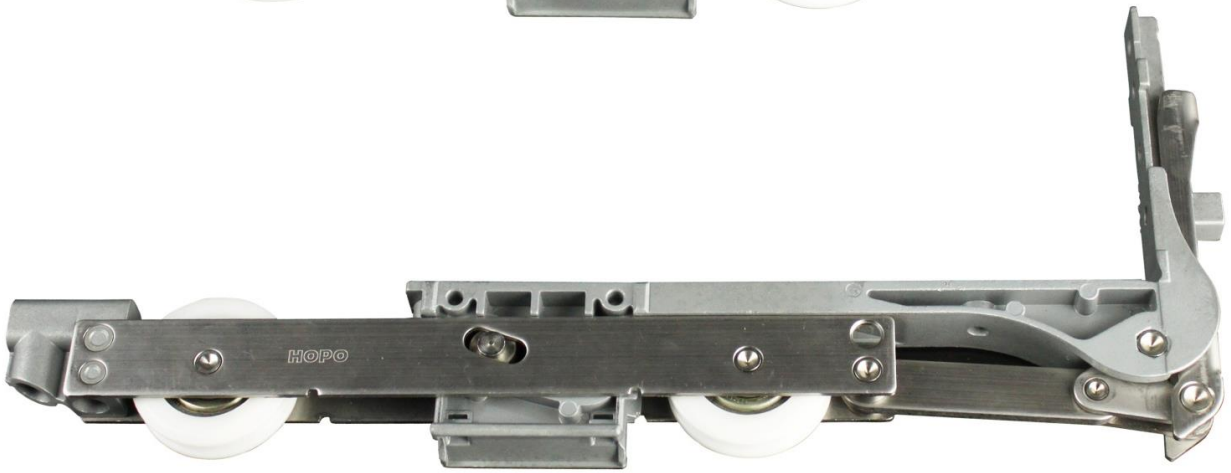
- System Description
- Profiles
- Installation
- Application
- Order inform



System Description

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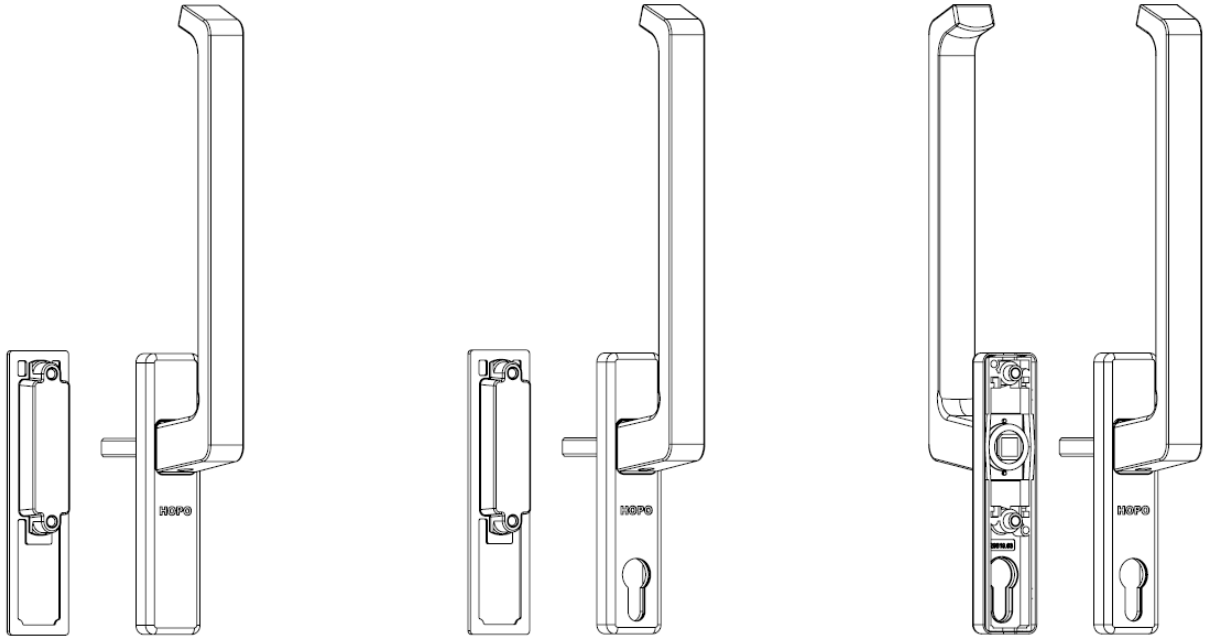
The operation of lift-sliding system is to move the door leaf when it is lifted with hand, and to stop the door leaf at any position along the running rail when it is locked on the down position. The operation is undertaken through a handle with great ease.

Advantages:

- Better sealing
- High security
- Great convenience
- Long-time maintenance fre



System Description: Advantages 1

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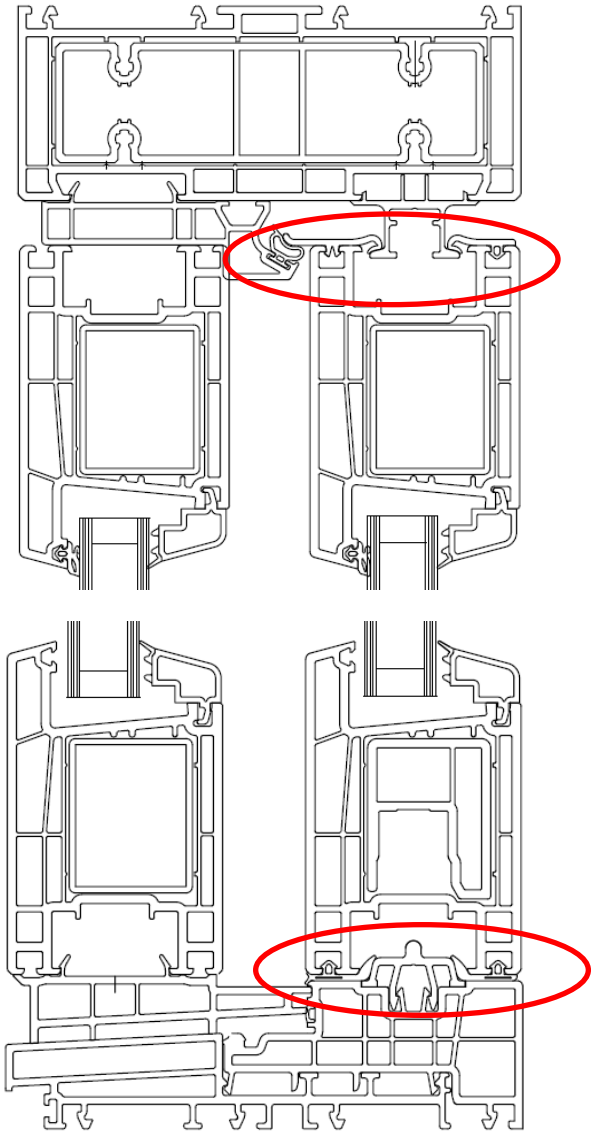
- **Better sealing**
  - Because of the 7mm lifting distance, sealing rubbers can be arranged to achieve better airtight effect, and sound insulation as well.



System Description: Advantages 2

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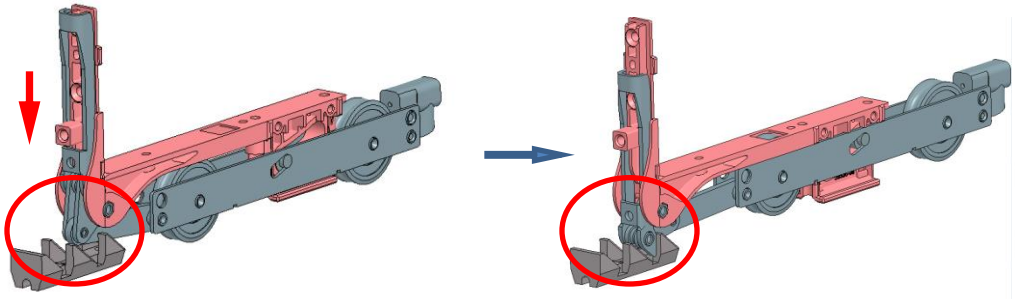
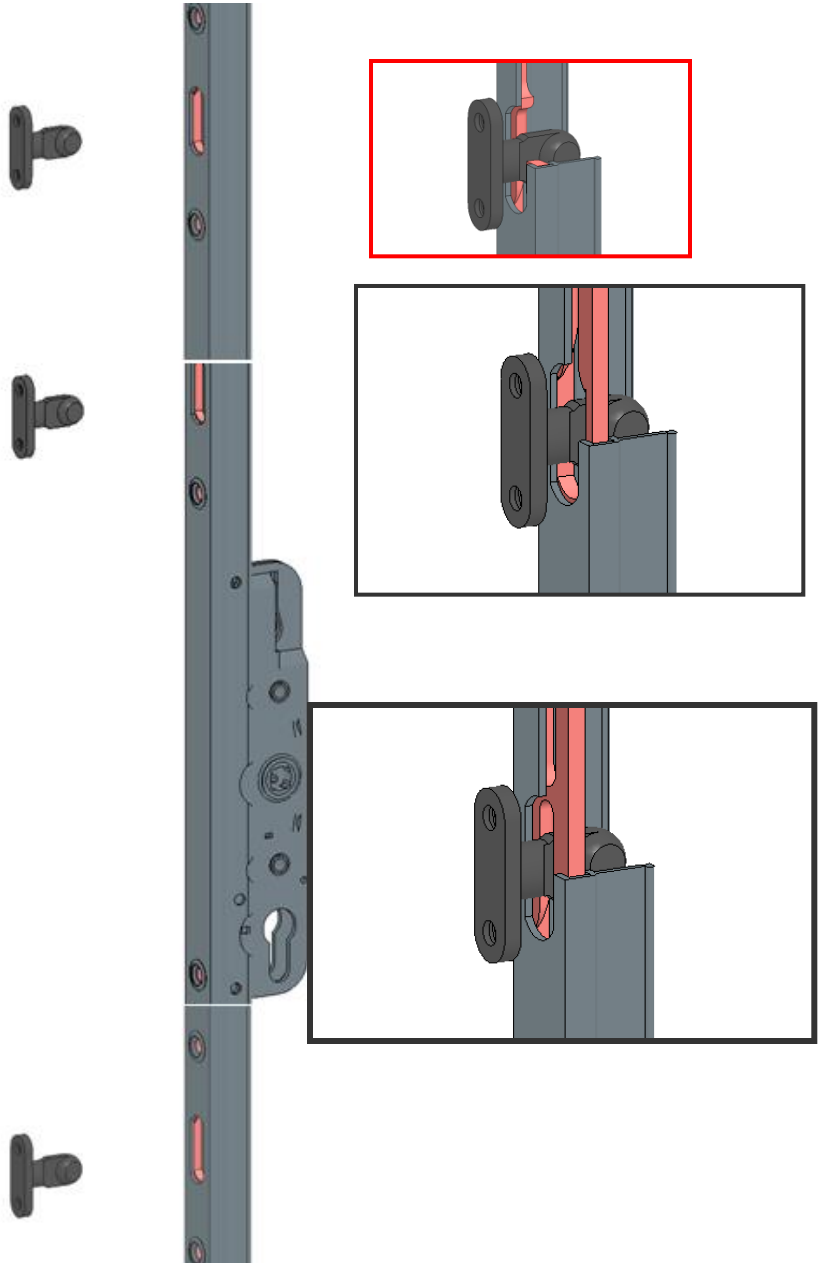
- **High security**
  - The lock body on the gear transmission can be equipped with a cylinder to achieve certai level of security depending on the security level of cylinder (cylinder is an option).
  - A third locking point (within the standard packing) can be mounted, locking to a standby hole on the gear transmission near the lock body.
  - The bottom keeper ensures the security when locked with cylinder on the position for ventilation.





System Description: Advantages 3

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- **Great convenience**
  - Installation of the lift sliding system is extremely easy.
  - Wide range of materials for door leafs: wood, PVC, aluminum, and steel.

  - It is very easy to open and close a big door of weight up to 250kg, height up to 2800mm and width up to 3300mm with merely a handle.

    Note: The max. ratio of leaf height to width is 2.5:1, as a principle, for sake of stability.

Door weight	Up to 250kg
Door width	700-3300mm
Door height	1600-2800mm

System Description: Advantages 4

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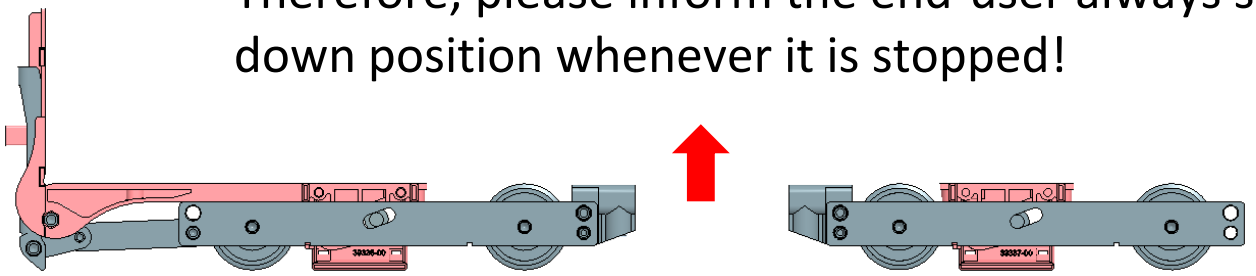
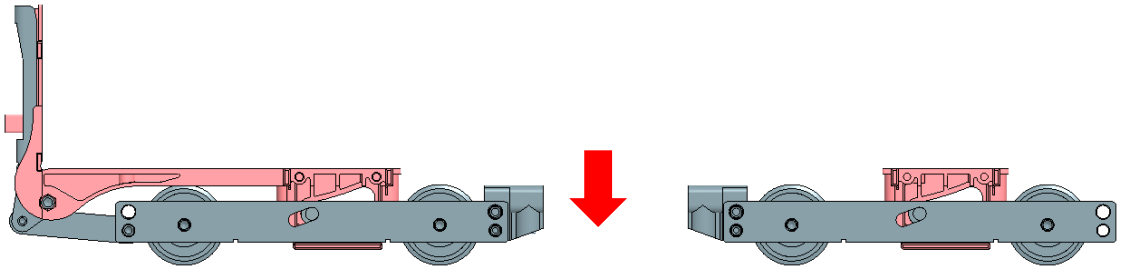
- **Long-time maintenance free**
  - Because the rollers will not bear the weight of the door leaf in the down position when it is closed, the rollers will not be wear-down easily. Some oldest lift-sliding doors in Europe, installed in 1950’ s are still in use just because of this mechanism.

Therefore, please inform the end-user always set the door leaf in the down position whenever it is stopped!



Door leaf in the down position: **stop**



Door leaf in the up position: **sliding**

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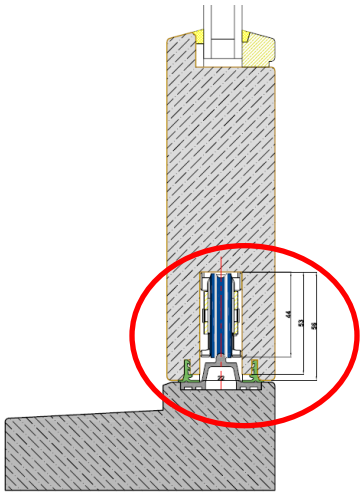
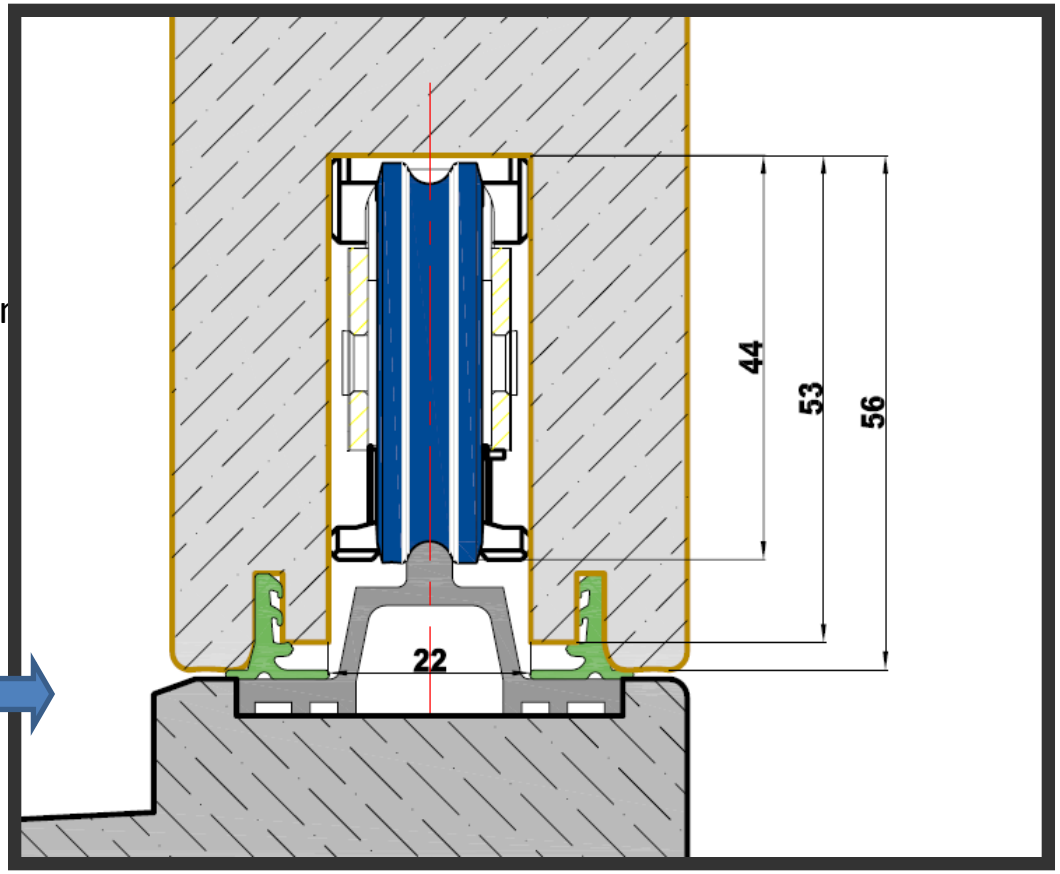
- **Profile for Roller carriages**
  - Basic requirement for profiles to install HOPO lift slider is the size of groove for roller carriages.
  - 44mm X 22mm is the dimension for the groove to install roller carriages. The design of other dimension depends upon the shape of the running rail and the sealing structure of the profile. The drawing on the right side is ar example of wood profile.





Profiles

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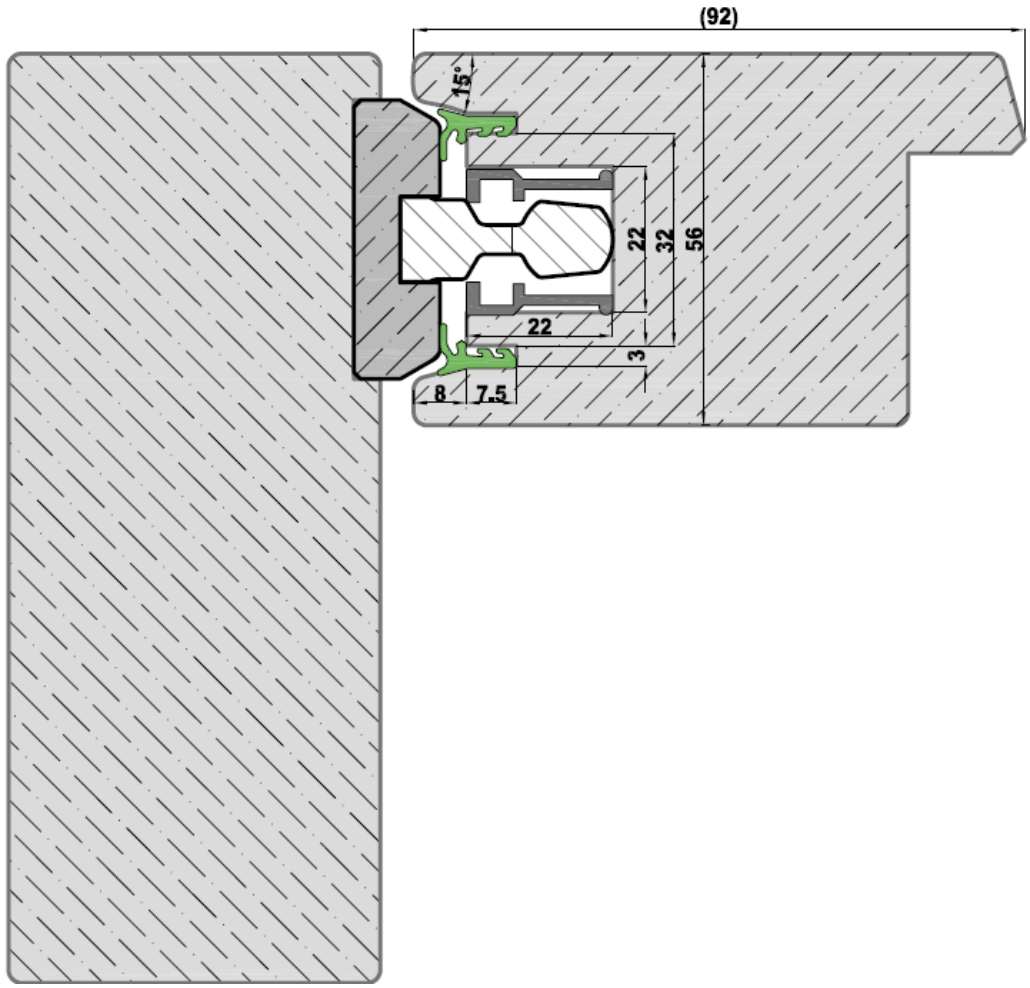
- **Profile for Gear Transmission**
  - Requirement for profile groove to install gear transmission of HOPO lift slider is just 22mm X 22mm.
  - For PVC or Aluminum profiles, it is not possible to combine bottom profile with groove size of 44mm X 22mm with a different vertical profile (groove size: 22mm X 22mm). Therefore, a relative spacer must be attached to the gear at the fixing points of screws. 6 spacers (including 1 bigger one for the corner transmission) has been supplied within the standard package of accessories bag.
- **There is no requirement for other profiles!**



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- **Design and Fabrication of Door frame and leaf**
  - Sealing structures on top and bottom profiles should be considered to make use of the 7mm up-down movement of leaf, achieving perfect sealing effect. Dimensions of vertical profiles should be accurately designed and followed in the process of cutting profiles.
  - Bottom rail and top guide rail in connection with profiles of door leaf should designed to avoid authorized lifting attempt in the locking position, as the locking mechanism can only lock the gear transmission. Otherwise, some kind of anti-lifting device should arranged in the close-locking position.

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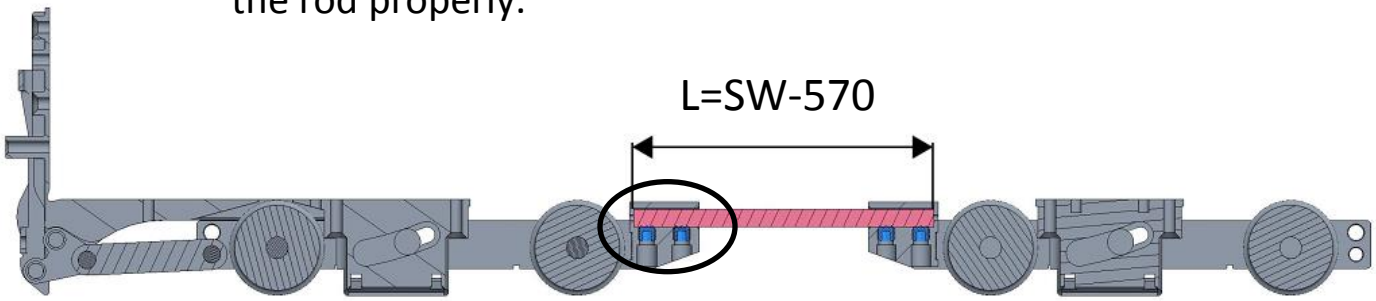
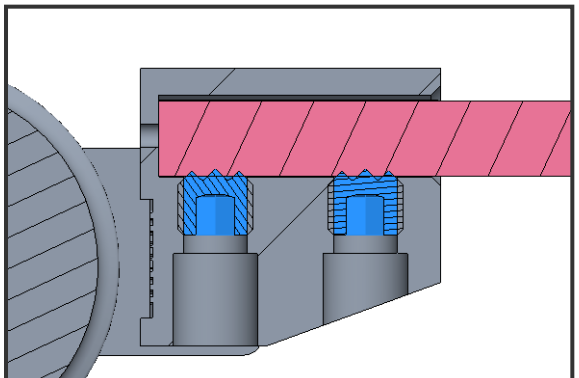
- **Mounting the roller carriages**

1. Cutting the connecting rod(Φ8): L = SW(sash width) – 570
   - Length of standard supply is 1100mm. Other length should be ordered separately.
2. Connecting the two roller carriages with the rod, fixing the rod with screws on carriages
   - Drill in and out screws several times, to ensure that the screws connecting the rod properly.





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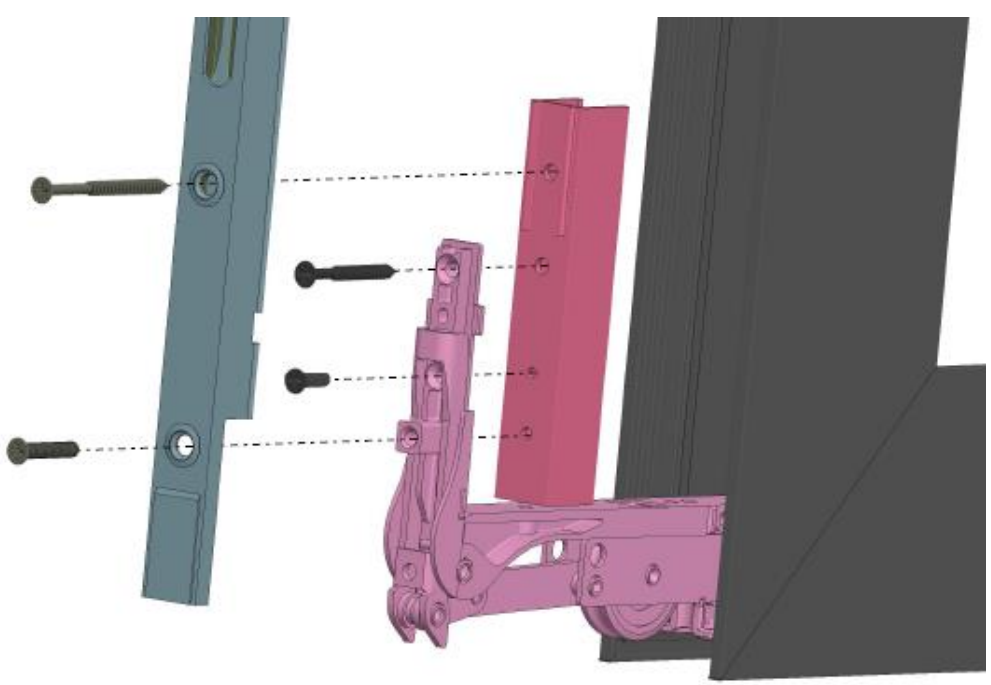
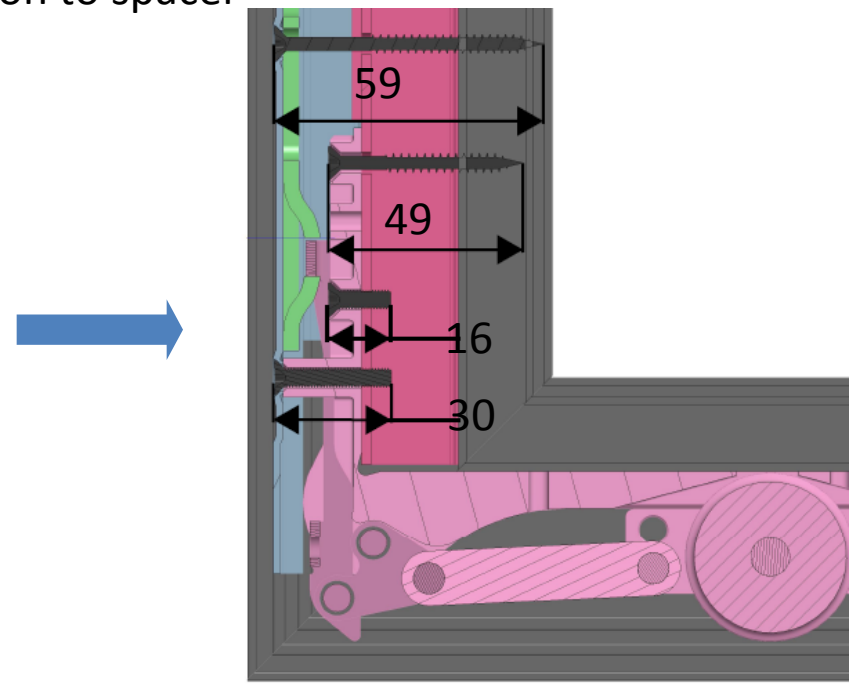
3. Fix the long spacer with the roller carriage

- the long spacer has 4 holes used for (from top to bottom):
  - ① Fixing gear transmission through spacer to door leaf profile
  - ② Fixing roller carriage to door leaf profile
  - ③ Fixing roller carriage to spacer
  - ④ Fixing gear transmission through gear transmission to spacer





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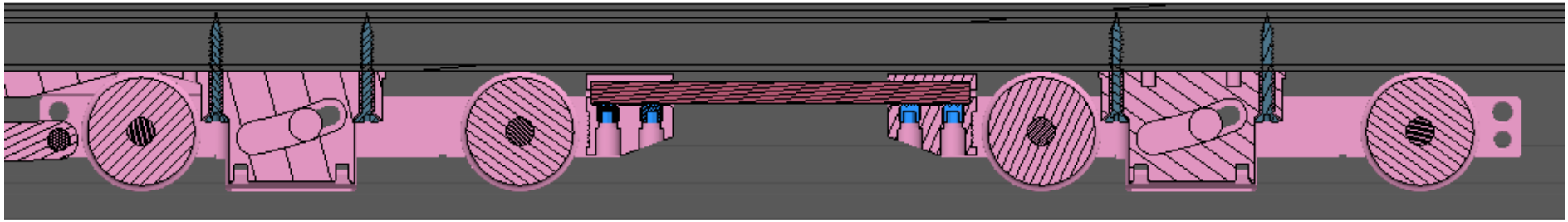
4 Fixing the roller carriages to the door sash



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- **Fixing gear transmission through Spacers**
  - There are 5 short and 1 long spacers in the accessory package, used for vertical profile with the same groove structure as that of roller carriages, for aluminum, steel or PVC profiles.
  - The 5 short spacers used for fixing gear transmission to the profile of door leaf.
  - The small plastic cover will be used for purpose of decoration when no cylinder is used.

Always checking gear position before fixing gear transmission (see the following page)!

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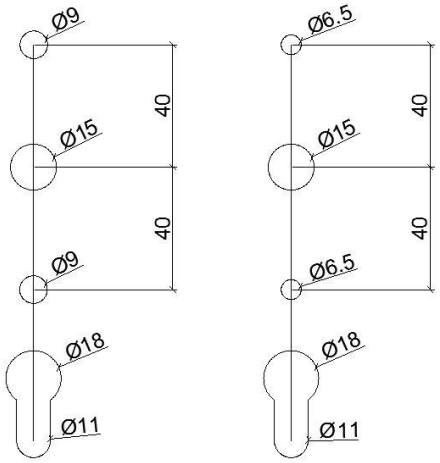
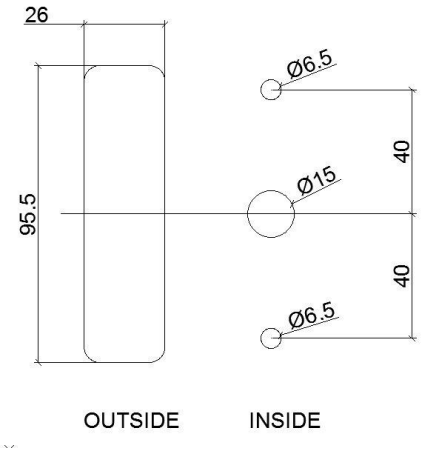
- **Milling diagram**
  1. Different handle solutions are available.
  2. The following schedules show diagrams of milling holes for handles (with/without cylinder) and flush pull.
  3. Distance from centers of handle and flush pull to the mounting surface of the roller carriage is 954.5mm.

Dubble-side handle with cylinder



Handle + flush pull without cylinder



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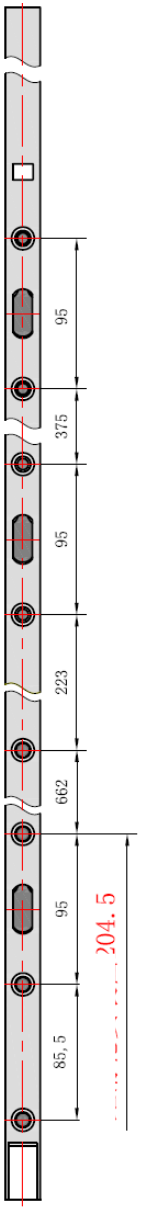
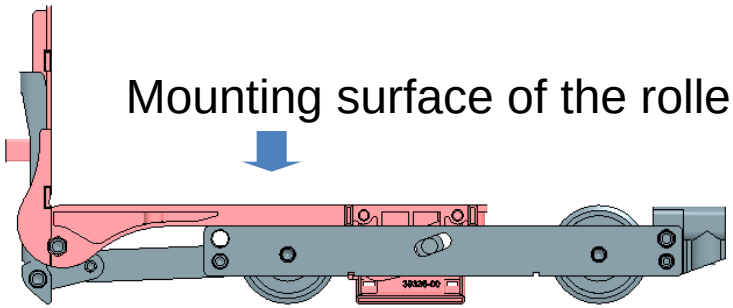
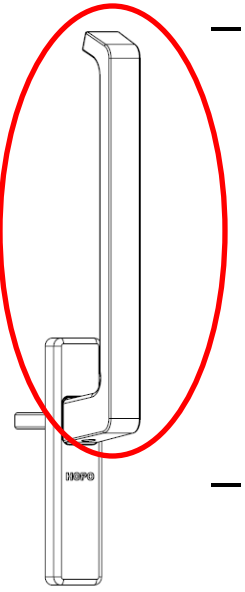


- **Fixing position**
  1. Fixing position is calculated from the mounting surface of the roller carriage.
  2. The distance from the mounting surface of the roller carriage to the third screw hole from the bottom is 204.5mm.
  3. Left drawing shows the position of screws to fix the gear transmission

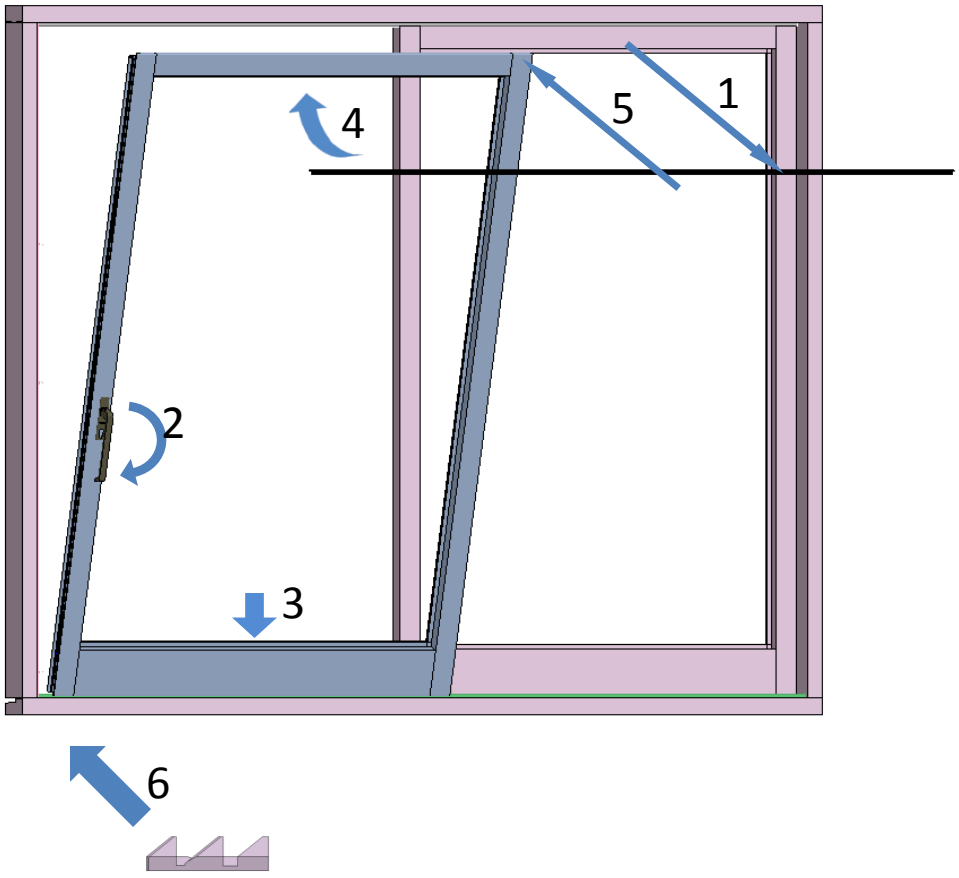


- **Initiation of the lift sliding system**
  - Preset positions
    - Preset position of gear transmission is the “LOCKING” position, that means the handle should be in the upper position and can only be turn downwards to lift the door leaf. *Before fixing gear transmission, checking the gear position with handle*.
    - Preset position of roller carriages is the “LOCKING” position as well. The preset locking position is fixed by a weak device that can be broken during the initial turn of the handle. This preset locking position is designed for convenience of precise installation.
  - Installation of handle
    1. Before installation, make sure that the handle is in the upper position (locking position). Put the spindle inside the gear, and fix the down-side screw.
    2. Turn the handle down to initiate the lift sliding system. The lift sliding system is initiated now!
    3. Fixing the upper screw to the handle.
    4. Turn up the handle again, and fix the cover of the handle.
  - Fixing the Locking plates finally



Locking position

Installation 9



- **Mounting the door leaf (1):**
  - The ideal way to mount a large/heavy door is to start from the bottom
  - Remove the top guiding rail at first
  - Move the handle to the sliding position (towards bottom)
  - Place the sash with rollers on the bottom guiding rail
  - Put the top guiding rail inside the top groove of the sash
  - Move the sash to the vertical position and fixing the top guiding rail finally.

  Note: The sash leaf have to be mounted strictly vertical. Otherwise, it will cause severe damage to person and to roller carriage as well!
  - Fixing the ventilation bottom keeper

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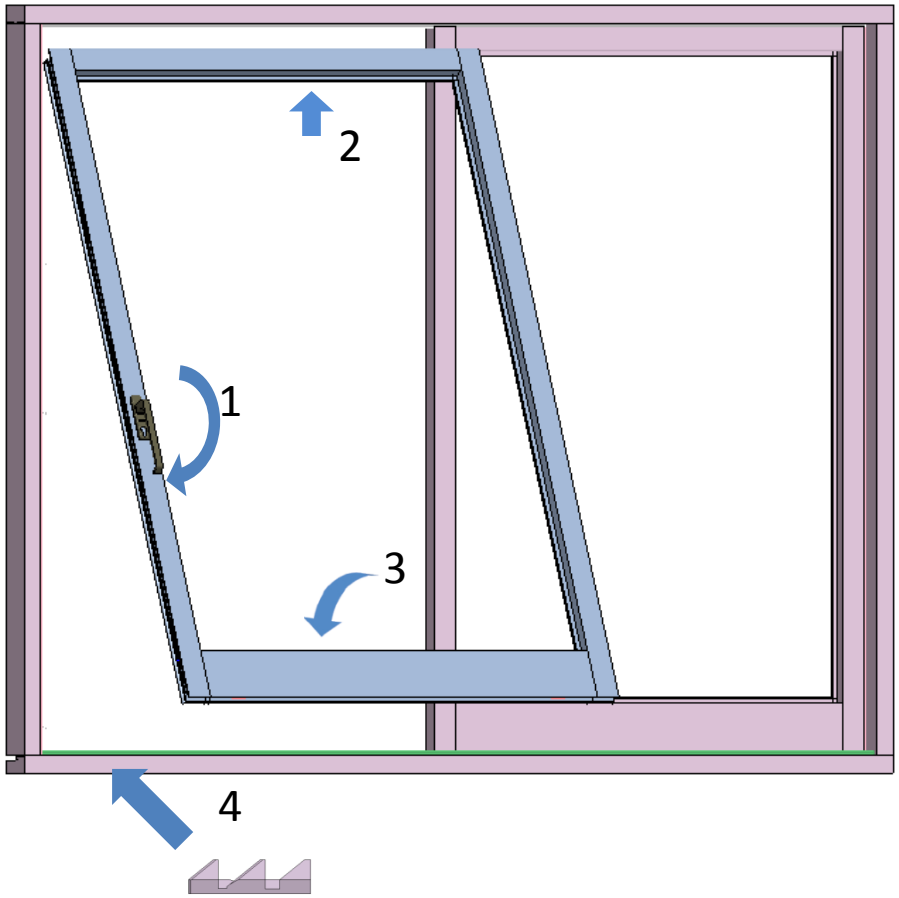
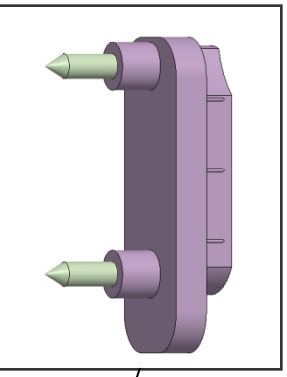


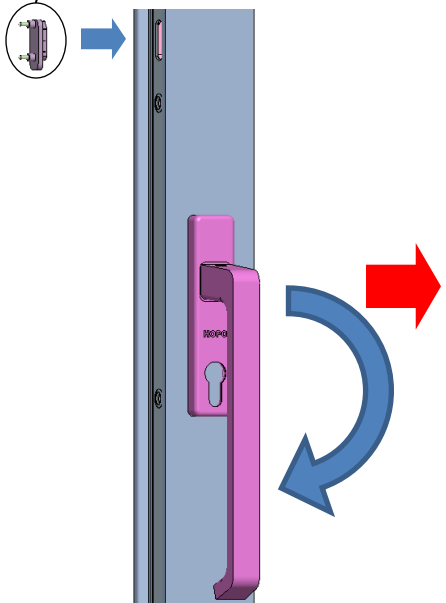
- **Mounting the door leaf (2):**
  - The other way to mount a door is to start from the top
  - Turn the handle to the sliding position (towards bottom)
  - Place the sash top into the top guiding rail
  - Move the sash to the vertical position and place the sash onto the bottom guide rail.

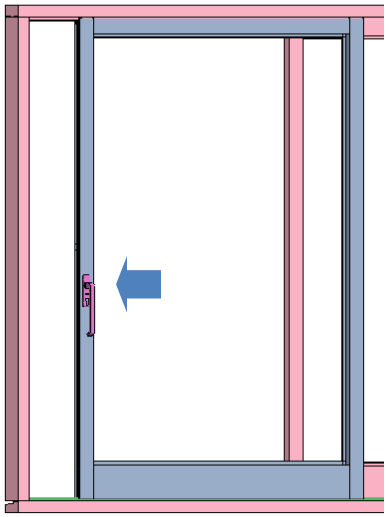
Note: The sash leaf have to be mounted strictly vertical. Otherwise, it will cause severe damage to person and to roller carriage as well!

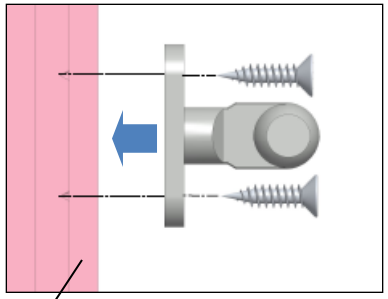
  - Fixing the ventilation bottom keeper

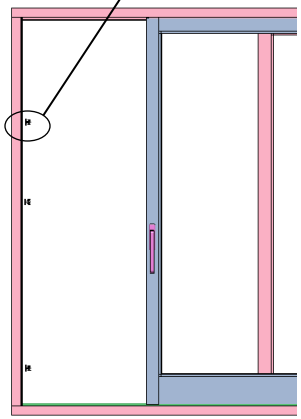
- **Initiation of the locking plates**
  - Turn the handle to the sliding position (towards bottom).
  - Mounting the positioning plate on a locking hole on the transmission gear.
  - Pull the moving door leaf to the closing position against the door frame to mark the fixing position for the locking plate. Repeat the procedure for the other 2/3 locking plates.
  - Fixing the locking plates on the marking places.











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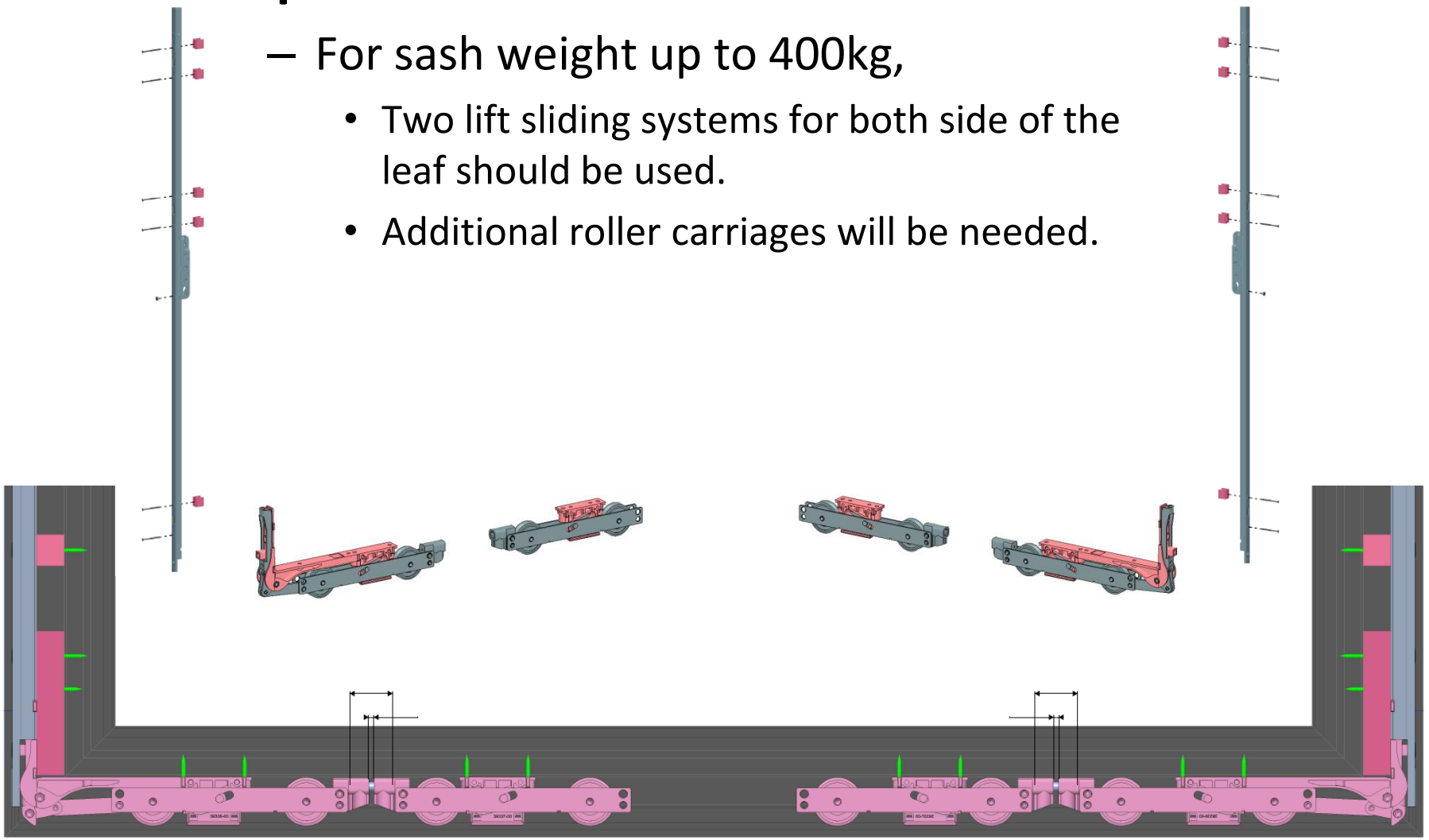
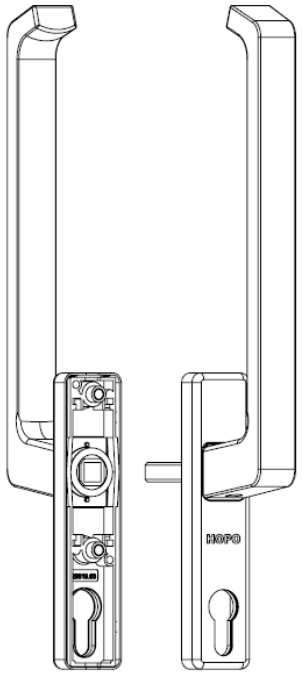
- **Special version**:
  - For sash weight up to 400kg,
    - Two lift sliding systems for both side of the leaf should be used.
    - Additional roller carriages will be needed.



- Security arrangement:
  - You can choose the following handle solutions for different level of security:
    - Double side handles without cylinder
    - Double side handles with cylinder
    - Double side handles with half cylinder
    - Single side handle without cylinder
    - Single side handle with cylinder
- Locking position
  - Please always lock the door, turning handle downwards, when it stop to ensure long life time of the rollers!



Order information

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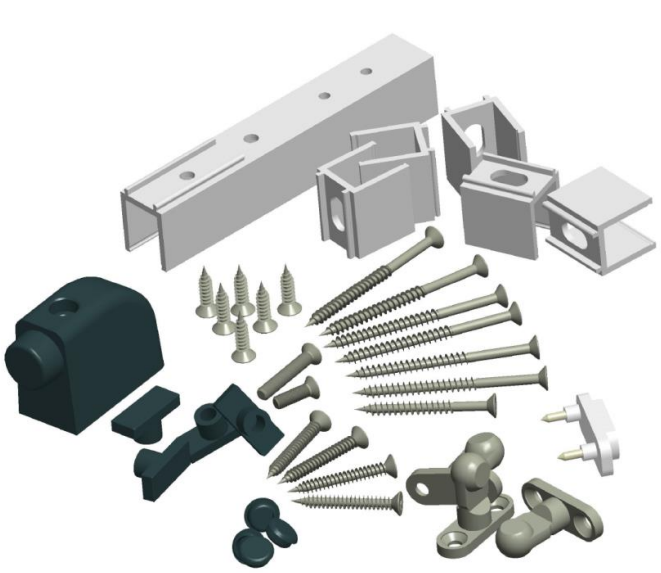
Items	Description	Id No.	Q'ty in Package
1	Bag of roller carriages (250kg)	LSDR725.00.015	10
2	Gear Transmission of lift-sliding	LSG725.01.011	8
3	Accessory bag[1]	LSAB70.00	10
4	Connecting rod	LSS70.11C38	10
5	Double side handles with cylinder hole	SLSH71010150	10
6	Single side handle set with cylinder hole[2]	SLSH70.01.011	10

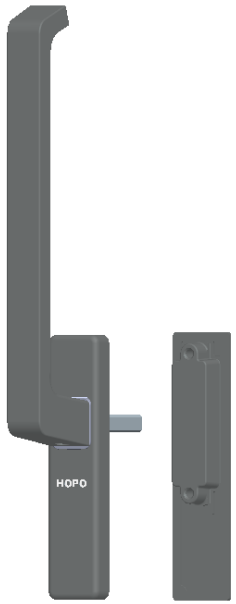
Notes:

[1]: Accessory bag contains

- a. Short spacers: 5pcs
- b. Long spacers: 1pc
- c. Locking pins: 3pcs
- d. Plastic cover: 2pcs
- e. Short stoppers: 4pcs
- f. Long stopper: 1pc
- • Screws in various sizes: 19pcs
- • positioning plate: 1pc

[2]: Single side handle set has a flush pull.





Wish you great success!