INSTALLATION MANUAL
FOR HES3D-160 CONCEALED HINGE
(3-DIMENSIONAL ADJUSTABLE HINGE)

Read all instructions carefully for proper use.

**WARNINGS**
Do not install hinge in exposed location; i.e., exposed to rain or snow.
Before installing hinges in conjunction with an automatic door closer, check that door specifications suit both the automatic door closer and hinges.
Opening/closing with excessive force may cause malfunction.
After completed installation, occasionally check that screws remain fixed tightly.

**COMPONENT PARTS**
- CONCEALED HINGE 2 pcs
- Flat Head Screw (M4.8 × 25) 8 pcs × 2 sets
- Hex Key (Nominal M4) 1 pc
- Template 1 pc
- INSTALLATION MANUAL

**ITEM NO. / FINISH**

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>FINISH</th>
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<tbody>
<tr>
<td>HES3D-160SL</td>
<td>Silver</td>
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<tr>
<td>HES3D-160GL</td>
<td>Gold</td>
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**DOOR SPECIFICATIONS**
Recommended door dimensions (2 hinges per door):
- Maximum Door Weight: 45kg (99lbs)
- Minimum Door Thickness: 35mm (1-3/8”)
- Maximum Door Width: 900mm (36”)

**ADJUSTMENTS**
- Vertical adjustment ±3mm
- Horizontal adjustment ±1mm
- Backward / forward adjustment ±3mm, -2mm

**INSTALLATION DRAWING**

**Caution**
Round sharp edges of door and frame by applying cuts with “C1 and over” or “R1 and over.” (Refer to “k” in the drawing.)

**Bore Dimensions**
Door side

Frame side
a. PARTS BREAKDOWN

![Diagram of parts breakdown]

b. DOOR INSTALLATION

![Diagram of door installation]

**INSTALLATION PROCESS**

Remove screw cover and vertical adjustment screw from hinge body. Separate door side leaf and base frame. Repeat process for remaining hinge.

Install door side leaf into the bored hole of the door with installation screws (Flat head M4.8 X 25). Then, with screws, install the base frame into the bored hole of the door frame. Repeat process for remaining hinge.

Refer to Figure B. Temporarily hang the door by inserting both upper and lower main hinge bodies into the upper and lower base frames at the same time. The door will be temporarily held in place by the easy installation function.

Insert vertical adjustment screws (removed in Step 1) into vertical adjustment holes. With a hex key (M4), loosely fasten screws to temporarily hold frame side leaf in place.

⚠️ **Caution**

Make sure the base frame will be set firmly in the proper direction before installing into the bored hole of the frame.

Do not open/close door with excessive force, or door may fall.

**ADJUSTMENTS**

Make adjustments in each (vertical and backward/forward) direction.

**Vertical adjustment**

Using hex key (M4), loosen vertical adjustment screw just one turn. Temporarily hold door in place during adjustment of door height by inserting a piece of wood in gap between floor and bottom of door. Then tighten screws. Fastening torque is 4.9N·m (50kgf-cm).

**Backward/forward adjustment**

Loosen backward/forward adjustment screw just one turn using hex key (M4). Adjust the door. Then tighten screws. Fastening torque is 4.9N·m (50kgf-cm).

⚠️ **Caution**

To prevent door from falling, do not remove backward/forward adjustment screw.

**Horizontal adjustment**

To widen the gap between door and door frame (on the hinged side of door), turn the horizontal adjustment screw in clockwise direction. (Maximum adjustment is 3 mm). To narrow the gap, turn the screw in counter clockwise direction.

⚠️ **Caution**

Gently turn adjustment screws, alternating from one screw to the other and back again. Do not force turning of screws.

Do not loosen adjustment screw (Maximum adjustment is 3mm) in clockwise direction, or door may fall.

Finally, replace screw cover.

⚠️ **Caution**

Do not handle the covers with excessive force, or covers may be broken.