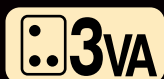
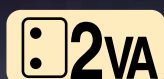


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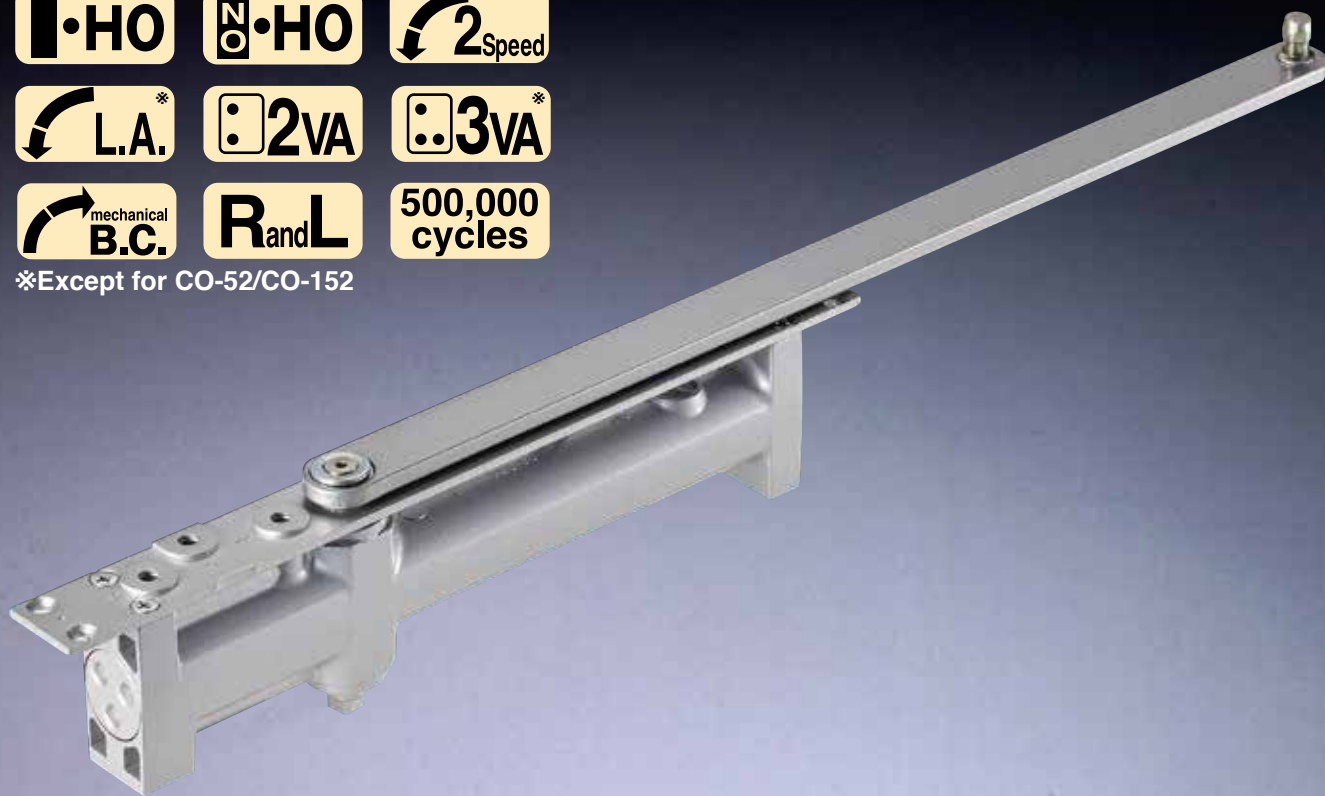
COU SERIES



CO SERIES



*Except for CO-52/CO-152



RYOBI

CONCEALED DOOR CLOSERS

CONCEALED DOOR CLOSERS

Model chart

COU SERIES(Thinner body type)

| Model No. | | | | Applicable door size | | Applicable door thickness (mm) | | Page |
|-------------------|----------------|----------------|--|----------------------|-------------|--------------------------------|-------------|------|
| Without hold-open | With hold-open | With backcheck | For Hotel Door (Thinner guide rail) | Width (mm) | Weight (kg) | Steel door | Wooden door | |
| COU-52 | COU-152 | COU-52BC | COU-52H | 900 | 45 or less | 36 or more | 40 or more | 6 |
| COU-53 | COU-153 | COU-53BC | COU-53H | 950 | 65 or less | | | |

CO SERIES

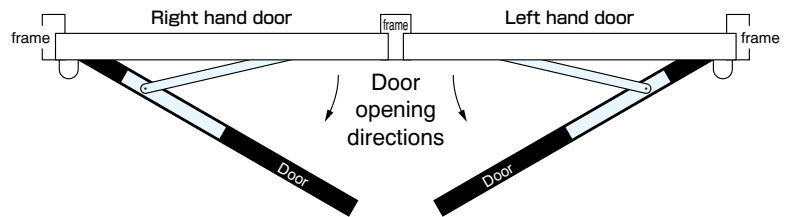
| Model No. | | | Applicable door size | | Applicable door thickness (mm) | | Page |
|-------------------|----------------|----------------|----------------------|-------------|--------------------------------|-------------|------|
| Without hold-open | With hold-open | With backcheck | Width (mm) | Weight (kg) | Steel door | Wooden door | |
| CO-52 | CO-152 | CO-52BC | 900 | 45 or less | 40 or more | 45 or more | 6 |
| CO-53 | CO-153 | CO-53BC | 950 | 65 or less | 45 or more | 50 or more | 7 |
| CO-54 | CO-154 | CO-54BC | 1050 | 85 or less | | | |
| CO-55 | CO-155 | | 1200 | 120 or less | 60 or more | 65 or more | 7 |
| CO-56 | | | 1500 | 180 or less | | | |

ES Stopper Model(Optional)

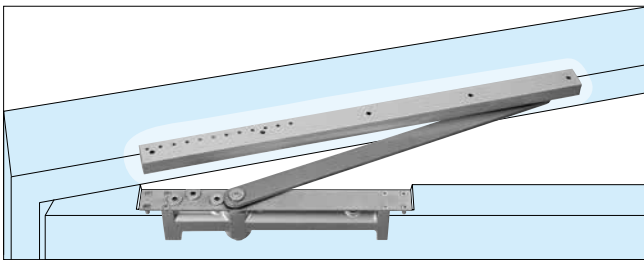
| Model No. | | | Applicable door size | | Applicable door thickness (mm) | | Page |
|-------------------|----------------|----------------|----------------------|-------------|--------------------------------|-------------|------|
| Without hold-open | With hold-open | With backcheck | Width (mm) | Weight (kg) | Steel door | Wooden door | |
| | CO-155ES | | 1200 | 120 or less | 60 or more | 65 or more | |
| | CO-156ES | | 1500 | 180 or less | | | |

No.CO-153R

- Right hand or Left hand has to be specified for COU-52, 53, 152, 153, 52BC
- ES : ES Stopper Model(option)
- H : For Hotel Door(Thinner guide rail)
- 2 to 6 : Size
- No number : Without hold-open
- 1 : With hold-open
- U : Thinner body type

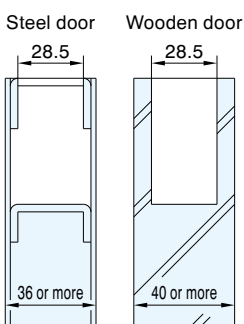


Installation

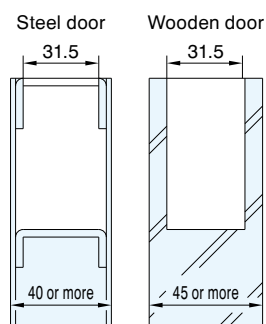


Door Cut dimension

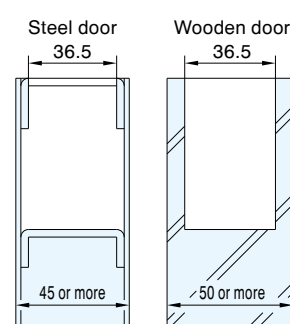
●COU-52,53 (Thinner body type) (Body thickness 28mm)



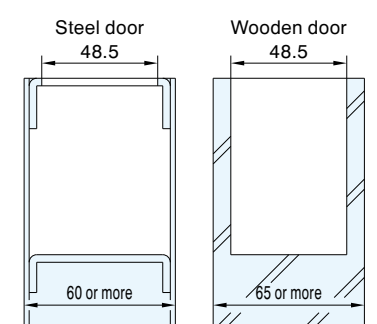
●CO-52 (Body thickness 31mm)



●CO-53, 54 (Body thickness 36mm)



●CO-55, 56 (Body thickness 48mm)



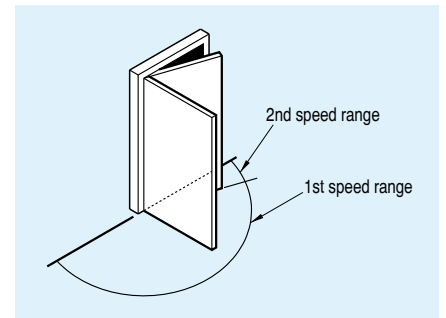
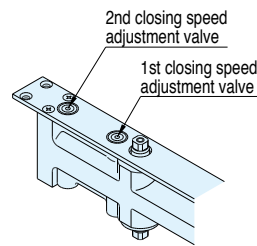
CONCEALED DOOR CLOSERS

Specification and adjustment

Speed adjustment range (CO-52/CO-152)

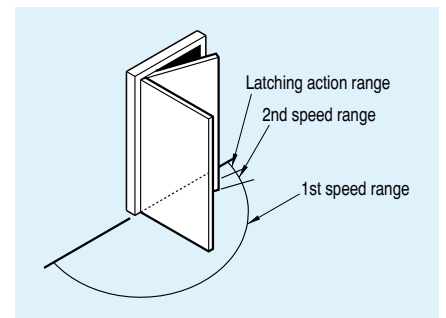
- There are two speed ranges for door closing speed.
- Those ranges are classified into two stages of the 1st speed range which controls general door closing speed and the 2nd speed range.
- Those speeds can be adjusted independently.
- Closing time from the door opened at 90 degrees is appropriately 5 to 8 seconds. (Set the 2nd speed slightly slower than the 1st speed.)

● CO-52/CO-152



Speed adjustment range (Except for CO-52/CO-152)

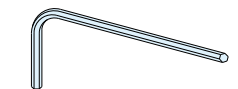
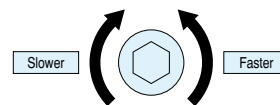
- There are two speed ranges for door closing speed.
- Those ranges are classified into three stages, 1st speed range which controls general door closing speed, 2nd speed range, and latching action range.
- Those speeds can be adjusted independently.
- Closing time from the door opened at 90 degrees is appropriately 5 to 8 seconds. (Set the 2nd speed slightly slower than the 1st speed.)



Latching action function (Except for CO-52/CO-152)

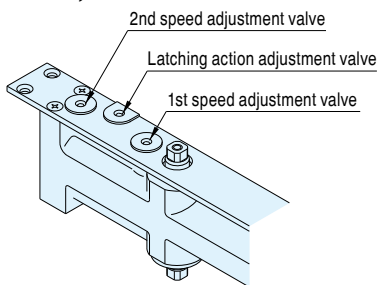
- Door can be closed by the latching action function to quickly close in 2 degrees before closing position.
- The latching action does not move slower than the 2nd speed.

Speed adjustment valve

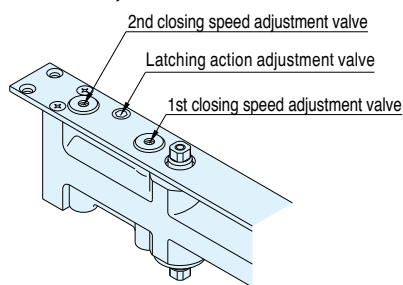


Hexagon socket wrench for adjustment (3mm)

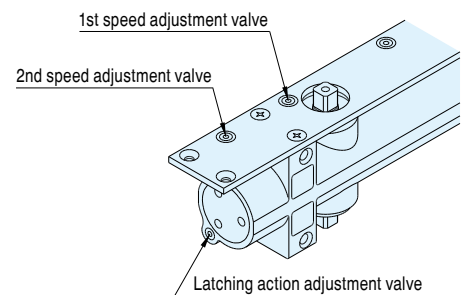
● COU-52,53



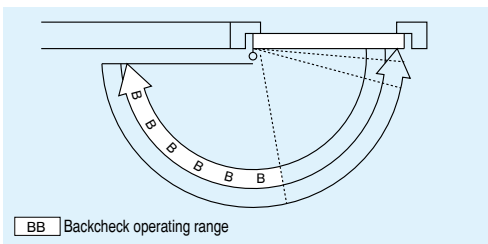
● CO-53,54



● CO-55,56

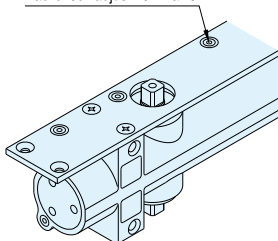


Hydraulic backcheck function (CO-55,56)

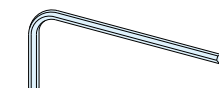
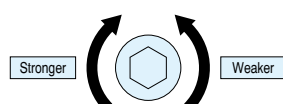


- This function prevents accidents and injuries and door damage which occurs due to a door suddenly opening by a strong wind or rough handling before it happens.
- The door becomes heavier when it operates, however, this is all by design. The door opens smoothly if it is slowly pushed.
- When installing the door closer equipped with the backcheck function, sufficiently reinforce the hanging hardware and supporting plate.
- Mechanical backcheck is available on models COU-52, 53, CO-52, 53, 54.

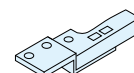
Backcheck adjustment valve



Backcheck adjustment valve



Hexagon socket wrench for adjustment (3mm)



Back check device (for "Mechanical backcheck")

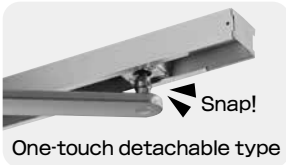
CONCEALED DOOR CLOSERS

Specification and how to adjust

Optional Specification

One Touch Joint Function

Arm and Slider can be joined by hand without tool. This shortens the installation time.



Silent slider



ES Stopper

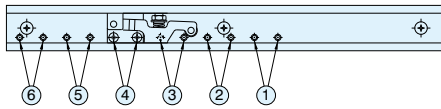


Stopper with stop setting up to size 6 torque

Hold-open device

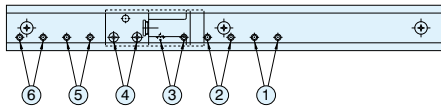
● Adjustment of hold-open angle

- Hold-open angle can be adjusted by changing the installation position of the hold-open device.
- The hold-open angle is a maximum opening angle in the case of a stopper device (non hold-open).



Hold-open device, stopper device installation position

ES Stopper (option)

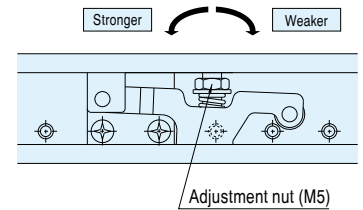


Hold-open device, stopper device installation position

● Adjustment of hold-open force

- Hold-open force can be adjusted by turning the adjustment screw.
- Reference for adjustment

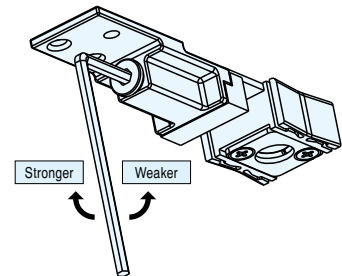
| Model No. | Adjustment range |
|----------------|----------------------|
| COU-152 | 0~3.6kgf·m (0~36N·m) |
| CO-152 | |
| COU-153 | 0~3.1kgf·m (0~31N·m) |
| CO-153 | |
| CO-154 | 0~2.7kgf·m (0~27N·m) |
| CO-155 | 0~3.7kgf·m (0~37N·m) |



ES Stopper (option)

- Hold-open force can be adjusted by turning the adjustment screw.
- Reference for adjustment

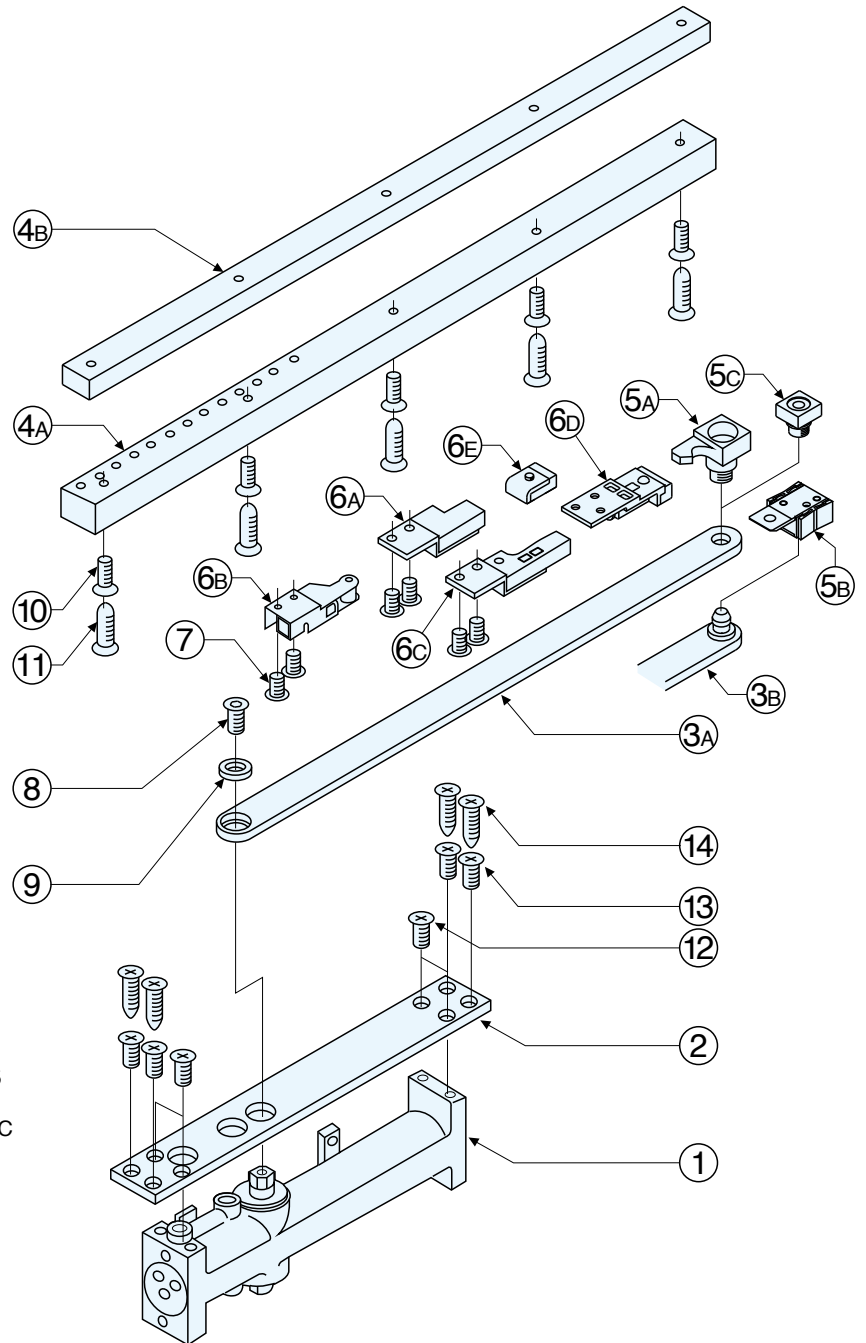
| Model No. | Adjustment range |
|-----------------|-----------------------|
| CO-155ES | 3~15kgf·m (30~150N·m) |
| CO-156ES | 2~14kgf·m (20~140N·m) |



Parts and accessories

| No. | Name of Parts and Accessories | | | | |
|-----|--|--|---|------------------------|--------------------|
| 1 | Body | | | | |
| 2 | Mounting plate | | | | |
| 3 | 3-A | | 3-B | | |
| | Arm | | Arm for ES-Stopper | | |
| 4 | 4-A | | 4-B | | |
| | Guide rail | | Guide rail for H type | | |
| 5 | 5-A | | 5-B | 5-C | |
| | Slider | | Slider for ES-Stopper | Slider for H type | |
| | 6-A | 6-B | 6-C | 6-D | 6-E |
| 6 | Stopper (for "Without hold-open") | Stop metal fitting (for "With hold-open") | Backcheck device (for "Mechanical backcheck") | Stopper for ES-Stopper | Stopper for H type |
| 7 | ⊕ Flat head machine screw (With M3 head) (M4, L=6-2pcs) | | | | |
| 8 | Hexagon socket Flat head screw (M5, L=16) | | | | |
| 9 | Washer | | | | |
| 10 | ⊕ Flat head machine screw (With M4 head) (M5, L=12-5pcs) | | | | |
| 11 | ⊕ Flat head tapping screw (φ 4, L=25-5pcs) | | | | |
| 12 | COU-52,53 | CO-52,53,54 | CO-55,56 | | |
| | ⊕ Flat head machine screw (with M4 head) (M5, L=12-4pcs) | ⊕ Flat head machine screw (M5, L=12-4pcs) | ⊕ Flat head machine screw (M6, L=12-4pcs) | | |
| | ⊕ Flat head machine screw (with M4 head) (M5, L=12-4pcs) | ⊕ Flat head machine screw (M5, L=12-4pcs) | ⊕ Flat head machine screw (M6, L=16-4pcs) | | |
| 13 | ⊕ Flat head tapping screw (φ 4, L=25-4pcs) | ⊕ Flat head tapping screw (φ 5, L=30-4pcs) | - | | |
| 14 | ⊕ Flat head tapping screw (φ 4, L=25-4pcs) | ⊕ Flat head tapping screw (φ 5, L=30-4pcs) | - | | |

- Stopper 6-A is equipped for "without hold-open type". COU-52,53,CO-52,53,54,55,56
- Stop metal fitting 6-B (hold open device) is equipped for "with hold open type". COU-152,153,CO-152,153,154,155
- Backcheck device 6-C is equipped for "with mechanical backcheck type". COU-52BC,53BC,CO-52BC,53BC,54BC



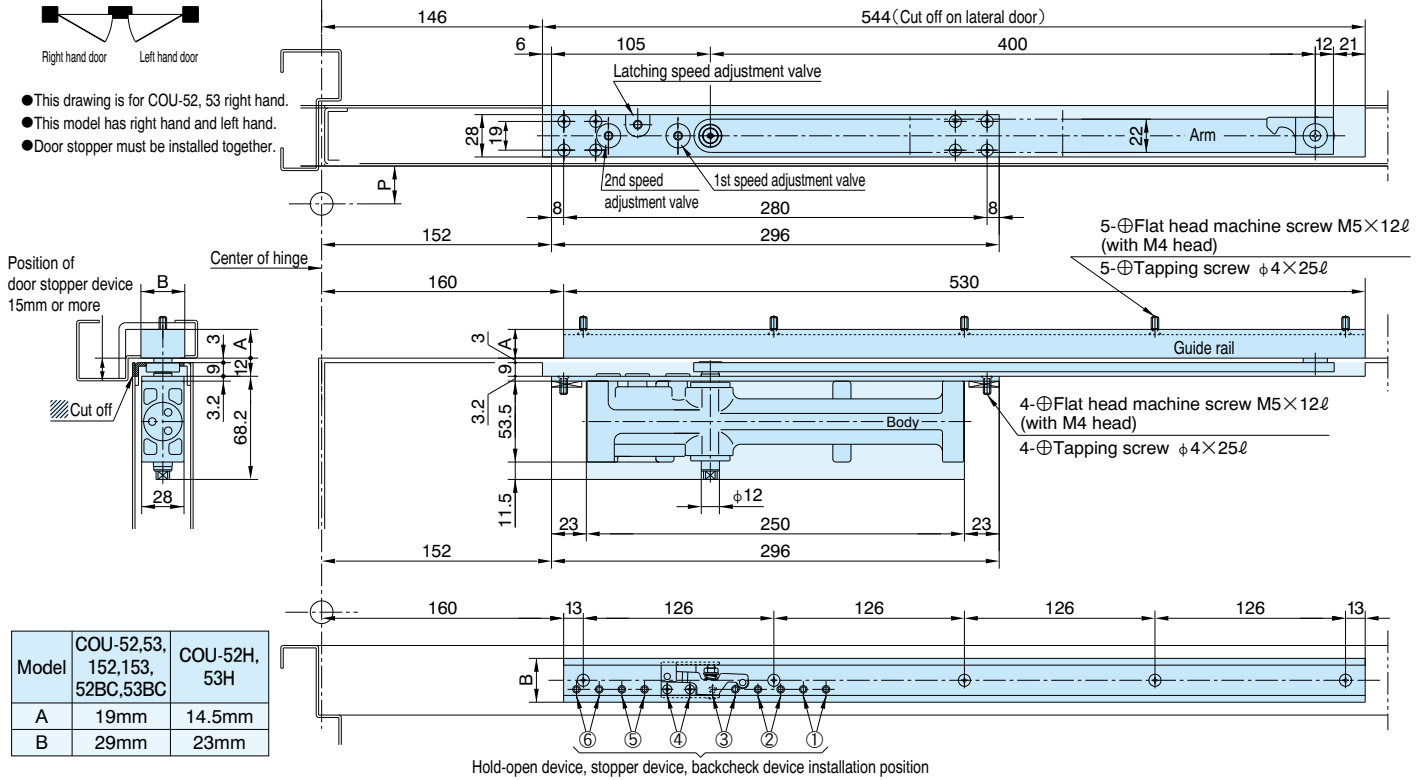
CONCEALED DOOR CLOSERS

DRAWING

Size 2, 3 (Thinner body type)

| Model | | | | Applicable door size | | Applicable door thickness (mm) | | Type | "P" dimension (offset dimension) | Hold-open, stopper, backcheck device installation position | | | | | |
|-------------------|----------------|----------------|-------------------------------------|----------------------|-------------|--------------------------------|-------------|------------------------|----------------------------------|--|-----|-----|-----|-----|------|
| Without hold-open | With hold-open | With backcheck | For Hotel Door (Thinner guide rail) | Width (mm) | Weight (kg) | Steel door | Wooden door | | | ① | ② | ③ | ④ | ⑤ | ⑥ |
| COU-52 | COU-152 | COU-52BC | COU-52H | 900 | 45 or less | 36 or more | 40 or more | Maximum. Opening angle | 20 | 75° | 80° | 86° | 91° | 97° | 104° |
| COU-53 | COU-153 | COU-53BC | COU-53H | 950 | 65 or less | 36 or more | 40 or more | | | | | | | | |

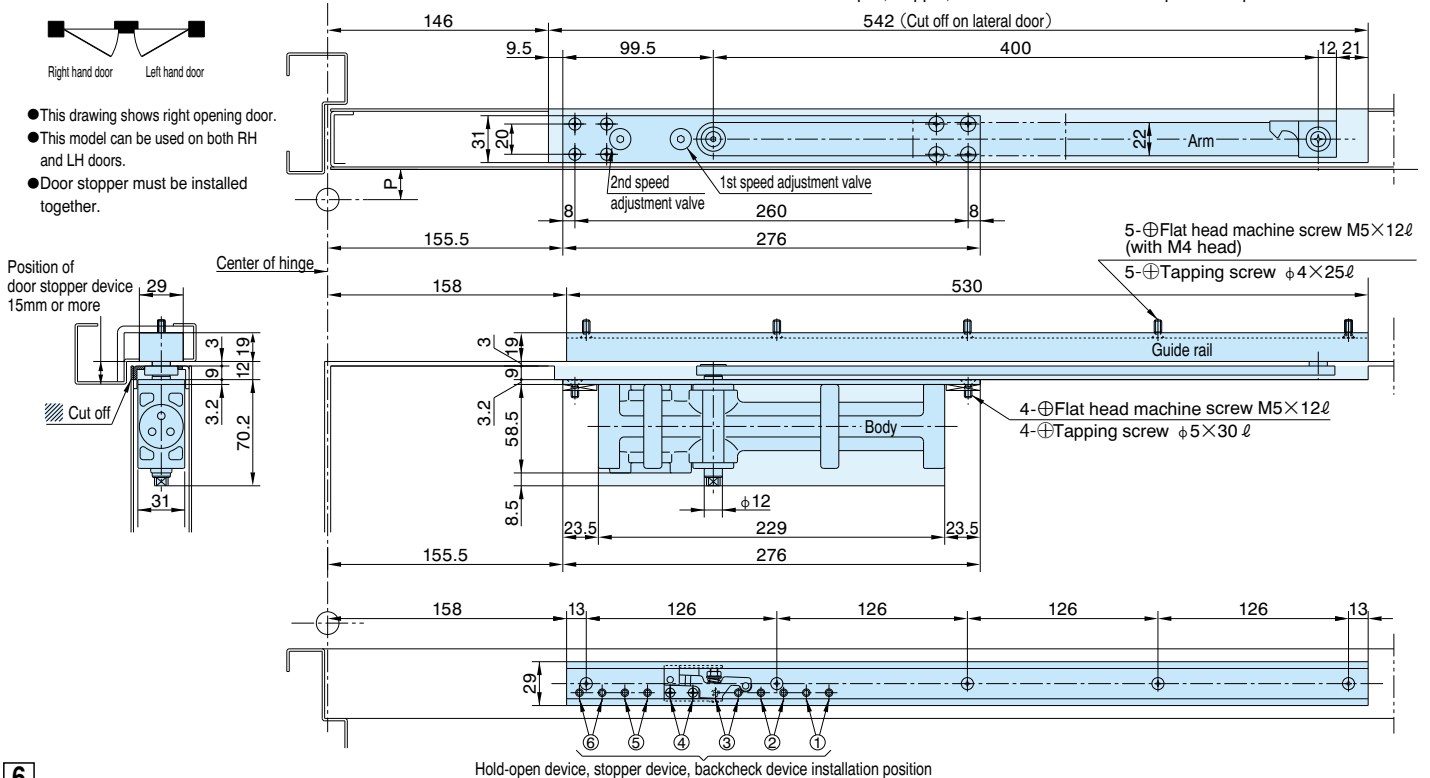
Hold-open, stopper, backcheck device installation position depends on "P" dimension.



Size 2

| Model | | | Applicable door size | | Applicable door thickness (mm) | | Type | "P" dimension (offset dimension) | Hold-open, stopper, backcheck device installation position | | | | | |
|-------------------|----------------|----------------|----------------------|-------------|--------------------------------|-------------|------------------------|----------------------------------|--|-----|-----|-----|-----|------|
| Without hold-open | With hold-open | With backcheck | Width (mm) | Weight (kg) | Steel door | Wooden door | | | ① | ② | ③ | ④ | ⑤ | ⑥ |
| CO-52 | CO-152 | CO-52BC | 900 | 45 or less | 40 or more | 45 or more | Maximum. Opening angle | 20 | 76° | 81° | 86° | 92° | 98° | 105° |

Hold-open, stopper, backcheck device installation position depends on "P" dimension.



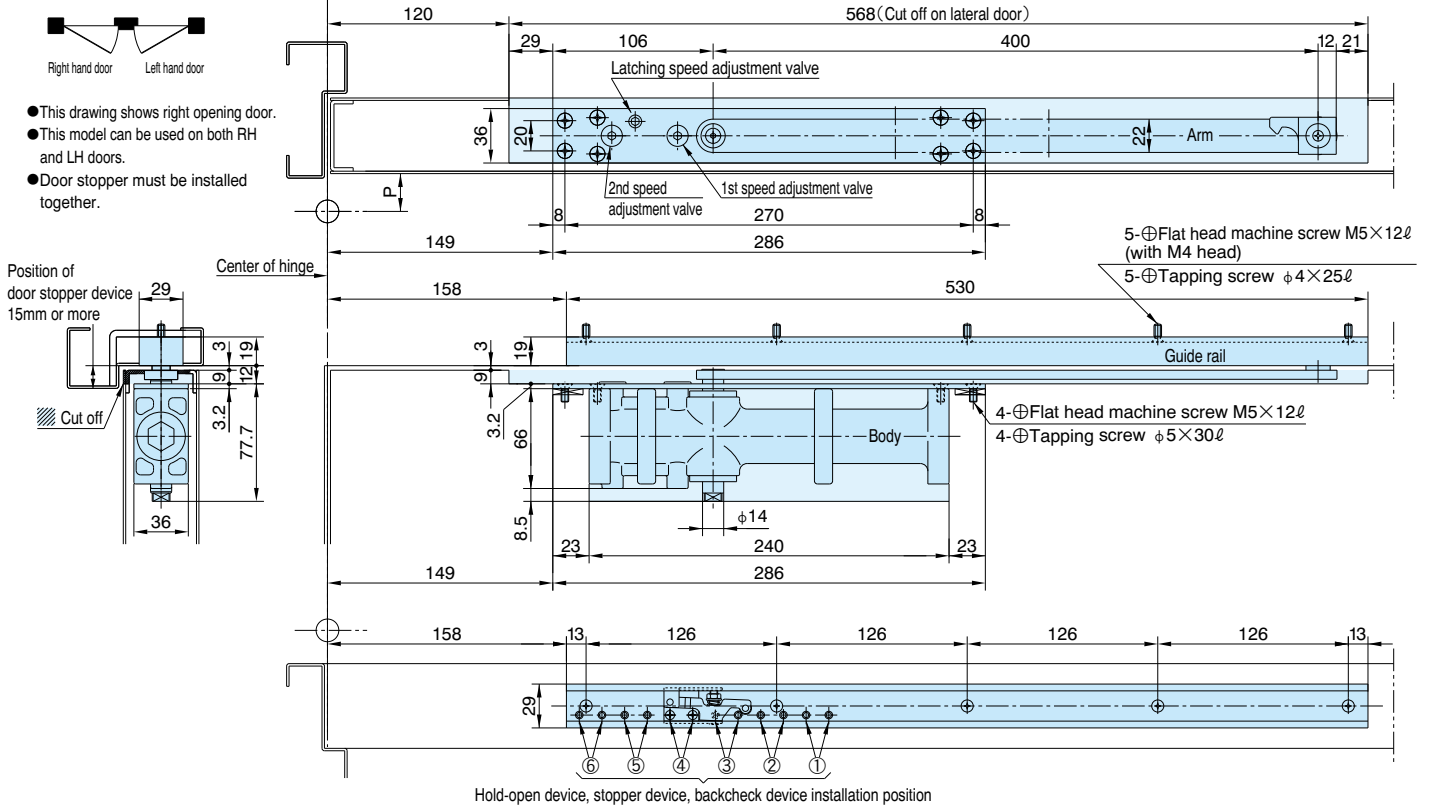
CONCEALED DOOR CLOSERS

DRAWING

Size 3, 4

| Model | | | Applicable door size | | Applicable door thickness (mm) | | Type | "P" dimension (offset dimension) | Hold-open, stopper, backcheck device installation position | | | | | |
|-------------------|----------------|----------------|----------------------|-------------|--------------------------------|-------------|------------------------|----------------------------------|--|-----|-----|-----|-----|------|
| Without hold-open | With hold-open | With backcheck | Width (mm) | Weight (kg) | Steel door | Wooden door | | | ① | ② | ③ | ④ | ⑤ | ⑥ |
| CO-53 | CO-153 | CO-53BC | 950 | 65 or less | 45 or more | 50 or more | Maximum. Opening angle | 20 | 76° | 81° | 86° | 92° | 98° | 105° |
| CO-54 | CO-154 | CO-54BC | 1050 | 85 or less | 45 or more | 50 or more | | | | | | | | |

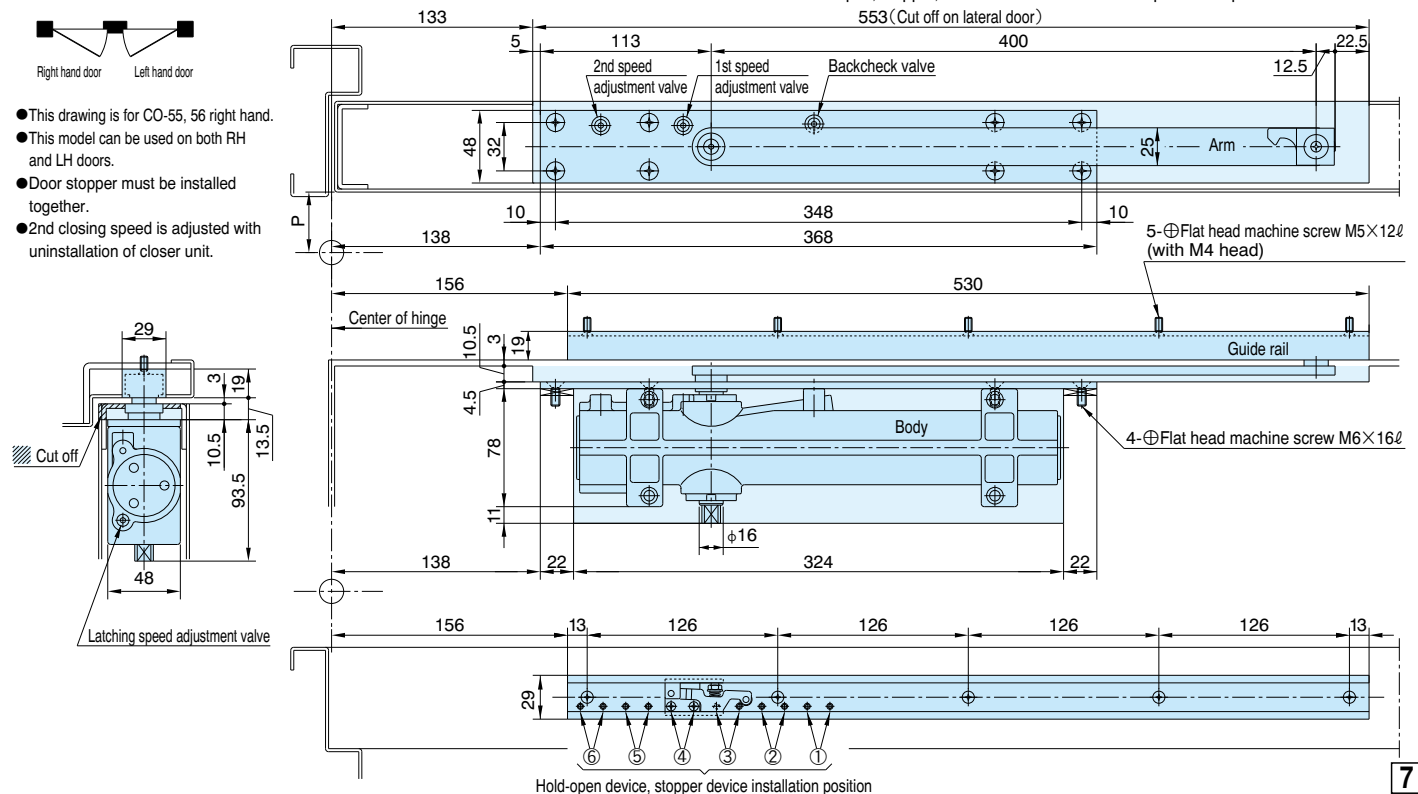
Hold-open, stopper, backcheck device installation position depends on "P" dimension.



Size 5, 6

| Model | | Applicable door size | | Applicable door thickness (mm) | | Type | "P" dimension (offset dimension) | Hold-open device, stopper device installation position | | | | | |
|-------------------|----------------|----------------------|-------------|--------------------------------|-------------|------------------------|----------------------------------|--|-----|-----|-----|-----|------|
| Without hold-open | With hold-open | Width (mm) | Weight (kg) | Steel door | Wooden door | | | ① | ② | ③ | ④ | ⑤ | ⑥ |
| CO-55 | CO-155 | 1200 | 120 or less | 60 or more | 65 or more | Maximum. Opening angle | 20 | 77° | 82° | 87° | 93° | 99° | 106° |
| CO-56 | | 1500 | 180 or less | 60 or more | 65 or more | | | | | | | | |

Hold-open, stopper, backcheck device installation position depends on "P" dimension.



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