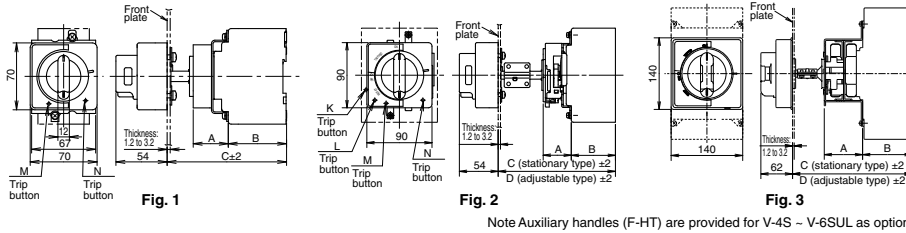


## 2. V-Type Operating Handle

### ● Appearance (Color: Munsell N1.5)

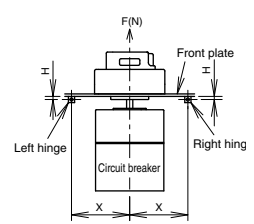


### ● Outline drawings



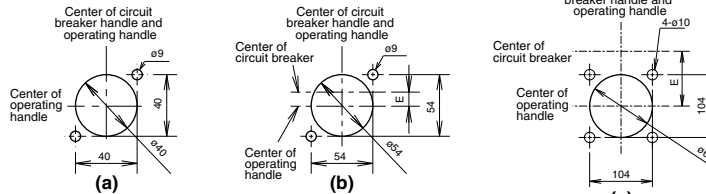
Note Auxiliary handles (F-HT) are provided for V-4S - V-6SUL as option.

### ● Center of hinge and breaker



Relationship between hinges and circuit breaker viewed from load side of circuit breaker

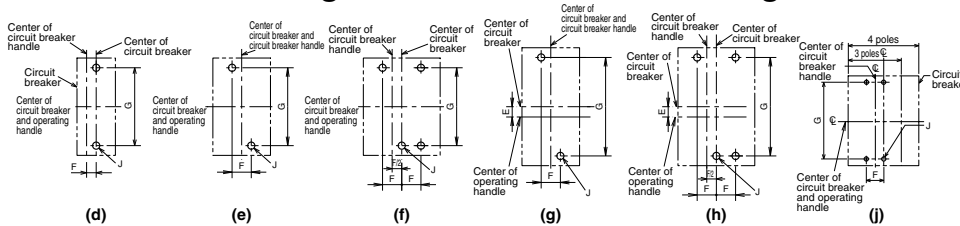
### ● Dimensional drawings for front plate drilling



|                        | H         | X              |
|------------------------|-----------|----------------|
| For 30 to 250A frames  | 0 or more | 5H+100 or more |
| For 400 to 800A frames |           | 8H+150 or more |

\* The above figure shows the relationship viewed from the load side.

### ● Dimensional drawings of circuit breaker mounting holes



### ● Door lock withstand load

|                   | F(N) |
|-------------------|------|
| 30 to 800A frames | 200  |

Table 6-25 Summary of dimension

| Type name       |  | Applicable model                                     |   |                              |  | Reference drawing   |               | Dimensions (mm) |     |                   |                            |         |      |     |                |      |                           |                |   |     |                |     |                |   |
|-----------------|--|--|---|------------------------------|--|---------------------|---------------|-----------------|-----|-------------------|----------------------------|---------|------|-----|----------------|------|---------------------------|----------------|---|-----|----------------|-----|----------------|---|
| Stationary type | Adjustable type                                      | MCCB   |   | ELCB                         |  | Dimensional drawing | Drilling plan | A               | B   | Stationary type C | Adjustable type(2) D (min) | D (max) | E    | F   | G              | J    | Trip button position (*5) |                |   |     |                |     |                |   |
|                 |  |  | Number of poles   |                              | Number of poles  |                     |               |                 |     |                   |                            |         |      |     |                |      |                           |                |   |     |                |     |                |   |
| V-05SV2         | Adjusting unit V-AD3S is mounted on stationary type. | NF32-SV  | 2P  | -                            | -  | Fig. 2              | d             | 61              | 125 | -                 | -                          | -       | 12.5 | 111 | M4 screw or #5 | N    |                           |                |   |     |                |     |                |   |
| V-05SVE2        |  | NF63-CV, NF63-SV, NF63-HV                            | 4P  | -                            | -  |                     | e             |                 |     | 162               | 300                        | -       | 25   |     |                |      | L                         |                |   |     |                |     |                |   |
| V-05SV          |  | NF32-SV  | 3P  | NV32-SV                      | 2P, 3P   |                     | d             |                 |     | -                 | -                          | 15      | N    |     |                |      |                           |                |   |     |                |     |                |   |
| V-05SVE         |  | NF63-CV, NF63-SV, NF63-HV                            | 4P  | NV63-SV, NV63-HV             | 2P, 3P   |                     | e             |                 |     | -                 | -                          | 30      |      |     |                |      | L                         |                |   |     |                |     |                |   |
| V-1SV2, V-1SVE2 |  | NF125-CV, NF125-SV                                   | 2P  | -                            | -  |                     | f             |                 |     | -                 | -                          | 30.5    | 172  |     |                |      |                           |                |   |     |                |     |                |   |
| V-1SV           |  | NF125-CV, NF125-SV                                   | 3P  | NV125-CV, NV125-SV, NV125-HV | 3P   |                     | e             |                 |     | -                 | -                          | 35      |      |     |                |      | 126                       |                |   |     |                |     |                |   |
| V-1SVE          |  | NF125-HV   | 2P, 3P  | -                            | -  |                     | f             |                 |     | -                 | -                          | 37.5    | 201  |     |                |      |                           |                |   |     |                |     |                |   |
| V-1UV           |  | NF125-UV   | 2P, 3P  | -                            | -  |                     | g             |                 |     | -                 | -                          | -       |      |     |                |      | K                         |                |   |     |                |     |                |   |
| V-1UVE          |  | NF125-UV   | 4P  | -                            | -  |                     | h             |                 |     | -                 | -                          | -       | K    |     |                |      |                           |                |   |     |                |     |                |   |
| V-2SV           |  | Adjusting unit V-AD3S is mounted on stationary type. | NF125-SEV, NF125-HEV, NF125-SGV, NF125-LGV, NF125-HGV, NF125-RGV, NF160-SGV, NF160-LGV, NF160-HGV, NF250-CV, NF250-SV, NF250-HV, NF250-SGV, NF250-LGV, NF250-HGV, NF250-SEV, NF250-HEV, NF250-RGV | 2P, 3P                       | NV125-SEV, NV125-HEV, NV250-CV, NV250-SV, NV250-HV, NV250-SEV, NV250-HEV |                     | 3P            |                 |     | e                 | 61                         | 125     |      |     |                |      | 162                       | 300            | - | -   | 35             | 126 | M4 screw or #5 | K |
| V-2SVE          | NF250-UV   |  | 2P, 3P  | -                            | -  | f                   | -             | -               | -   | -                 |                            |         | 37.5 | 201 |                |      |                           |                |   |     |                |     |                |   |
| V-2UV           | NF250-UV   |  | 4P  | -                            | -  | g                   | -             | -               | -   | -                 |                            |         | -    |     | K              |      |                           |                |   |     |                |     |                |   |
| V-2UVE          | NF250-UV   |  | 4P  | -                            | -  | h                   | -             | -               | -   | -                 |                            |         | -    | K   |                |      |                           |                |   |     |                |     |                |   |
| V-03SVUL2       | Adjusting unit V-AD3S is mounted on stationary type. |  | NF50-SVFU   | 2P                           | NV50-SVFU  | 2P                  | a             | 61              | 125 | -                 |                            |         | -    |     | -              | 9    | 111                       | M4 screw or #5 | M |     |                |     |                |   |
| V-03SVUL        |  |  | NF100-CV  | 3P                           | -  | -                   | d             |                 |     | 18                |                            |         | 125  | -   | -              | 12.5 |                           |                |   | 111 | L              |     |                |   |
| V-05SVUL2       |  |  | NF100-CV  | 2P                           | -  | -                   | e             |                 |     | 18                |                            |         |      | -   | -              | 25   |                           |                |   |     |                |     |                |   |
| V-05SVUL        |  |  | NF100-CV  | 3P                           | NV100-CV   | 3P                  | d             |                 |     | 162               |                            |         | 300  | -   | 25             | 126  |                           |                |   |     |                |     |                |   |
| V-1SVUL         |  |  | NF125-SVU, NF125-HVU  | 3P                           | NV125-SVU, NV125-HVU   | 3P                  | e             |                 |     | 6                 |                            |         | 30   | 123 | 126            |      |                           |                |   |     |                |     |                |   |
| V-2SVUL         |  |  | NF250-CVU/SVU/HVU   | 3P                           | NV250-CVU/SVU/HVU  | 3P                  | f             |                 |     | -                 |                            |         | -    | 35  |                | 126  |                           |                |   |     |                |     |                |   |
| V-05SRUL2       |  | NF100-SRU  | 2P  | NV100-SRU                    | 2P   | d                   | 61            |                 |     | 130               | -                          | -       | 0    | 92  | M4 screw or #5 |      |                           |                |   | -   |                |     |                |   |
| V-05SRUL        |  | NF100-SRU  | 3P  | NV100-SRU                    | 3P   | e                   | 67            |                 |     | 136               | -                          | -       | 25   |     |                |      |                           |                |   |     |                |     |                |   |
| V-4S            |  | Adjusting unit V-AD3L is mounted on stationary type. | NF400-CW/SW/SEW/HEW/REW, NF630-CW/SW/SEW/HEW/REW  | 2P, 3P, 4P                   | NV400-CW/SW/SEW/HEW, NV630-CW/SW/SEW/HEW                                 | 3P, 4P              | j             |                 |     | 76                | -                          | 97      | 191  | 233 | 300            | -    |                           |                |   | 44  | M6 screw or #7 | -   |                |   |
| V-4SE           |  |  | NF400-UEW   | 3P                           | -  | -                   | h             |                 |     |                   |                            | 194     | 288  | 330 | 397            | 20   |                           |                |   | 234 |                |     |                |   |
| V-4U            | NF400-UEW  |  | 3P  | -                            | -  | h                   | 70            | 243             | -   |                   |                            | -       | -    | -   |                |      |                           |                |   |     |                |     |                |   |
| V-4UE           | NF800-CW/SW/SEW/HEW/REW                              |  | 2P, 3P, 4P  | NV800-SEW/HEW                | 3P   | j                   | 97            | 191             |     |                   |                            |         |      |     | 233            | 300  | 44                        | 194            |   |     |                |     |                |   |
| V-8S            | NF800-CW/SW/SEW/HEW/REW                              |  | 2P, 3P, 4P  | NV800-SEW/HEW                | 3P   | j                   | 70            | 243             | -   |                   |                            | -       | -    | -   |                |      |                           |                |   |     |                |     |                |   |
| V-8SE           | NF400-SWU/HWU  |  | 3P  | -                            | -  | j                   | 44            | 194             |     |                   |                            |         |      |     | -              | -    | -                         | -              |   |     |                |     |                |   |
| V-4SUL          | NF400-SWU/HWU  |  | 3P  | -                            | -  | j                   | 44            | 194             | -   |                   |                            | -       | -    | -   |                |      |                           |                |   |     |                |     |                |   |
| V-6SUL          | NF630-SWU/HWU  |  | 3P  | -                            | -  | j                   | 70            | 243             |     |                   |                            |         |      |     | -              | -    | -                         | -              |   |     |                |     |                |   |

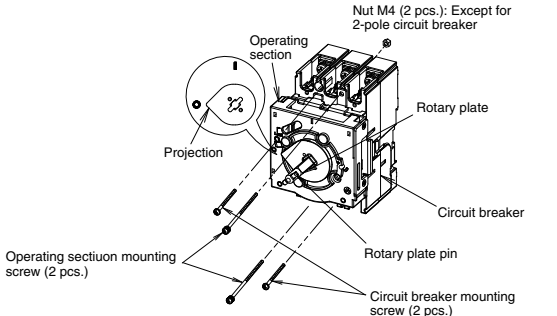
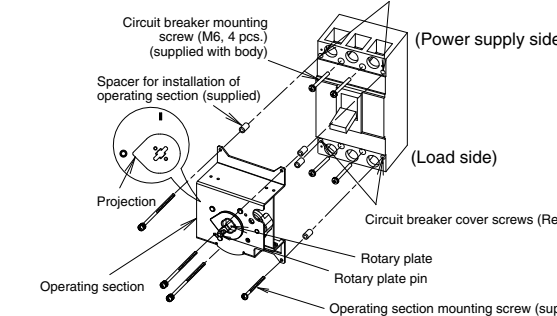
Notes <sup>1</sup> For the adjustable type, purchase the optional adjusting unit V-AD3S or V-AD3L.  
<sup>2</sup> The dimensions of the adjustable type models provided with the adjusting unit V-AD3S or V-AD3L are shown.  
<sup>3</sup> When using the operating handle for a plug-in type model with a frame size of 250A or below, specify so.  
<sup>4</sup> The dimensions on the front connection type are shown. For the rear connection and plug-in types, separately consult us.  
<sup>5</sup> The circuit breaker can be tripped by operating the trip button while the door is open. (The trip button position varies depending on the model.)  
<sup>6</sup> The handle cannot be used when the circuit breaker is installed on IEC 35mm rails.

Remarks 1. The products whose model names contain E are designed for emergency stop.  
2. When the operating handle is fitted to NV, the test button cannot be pressed easily. If necessary, use a circuit breaker with TBL or TBM. When using an Earth Leakage Alarm Breaker, use the externally resetting type (ECA-SLT) or automatically resetting type (ARS).

# 6 Accessories 2 External Accessories

● **Installation procedure** For details, please refer to Operating Handle Installation Manual supplied with the product.

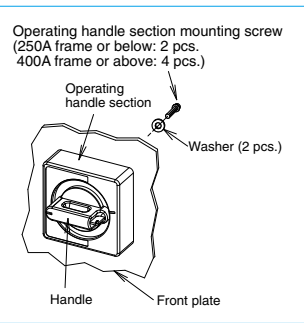
① **Installation to a breaker** Install the operating handle to the circuit breaker in accordance with the following procedure.

|                        | 250A frame and below   | 400 to 800A frames  |
|------------------------|--|---|
| Installation procedure | <p><b>(Installation procedure)</b></p> <p>① Operating handle for 3- or 4-pole circuit breaker<br/>Set the rotary plate of the operating section to the OFF (symbol O) position, and fit the plate to the circuit breaker with the supplied operating section mounting screws and nuts. Install the circuit breaker to the panel with the circuit breaker mounting screws (2 pcs.).</p> <p>② Operating handle for 2-pole circuit breaker<br/>Install the operating section together with the circuit breaker to the panel with the supplied operating section mounting screws (2 pcs.).</p>  | <p><b>(Installation procedure)</b></p> <p>① Remove the circuit breaker cover screws (4 pcs.) in the same positions as the operating handle mounting holes.</p> <p>② Install the circuit breaker with the circuit breaker mounting screws (4 pcs.).</p> <p>③ Fit the supplied operating section mounting spacers (4 pcs.) between the circuit breaker and operating handle.</p> <p>④ Set the rotary plate to the OFF (symbol O) position, and install the operating section to the circuit breaker with the supplied operating section mounting screws.</p>  |

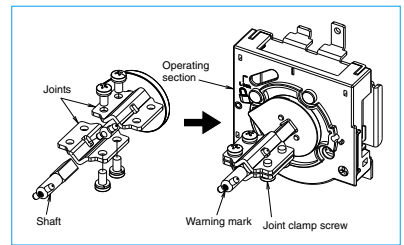
② **Installation of operating handle section**

Drill a hole in the door according to the dimensional drawing for front plate drilling given on the previous page, and install the operating handle section in accordance with the following procedure.

- Tighten the operating handle section from the back of the front plate. Temporarily tighten the screws to center the section in the hole.
- Set the handle of the operating handle section to the OFF state, tighten the front plate, and make sure that the handle can be smoothly turned to the ON and OFF positions. Turn the handle to the right and left in the OFF state, and make sure that OFF is displayed. If OFF is not displayed, move the operating handle section up and down and to the right and left for adjustment. (Take care that the operating handle section is in parallel with the circuit breaker.) Then, open the front plate, and finally tighten the screws.

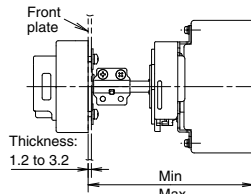


**Note** The adjusting unit is not applicable to 2-pole external type circuit breakers. If it is used on a 2-pole external type circuit breaker, the positions may not be correctly displayed.

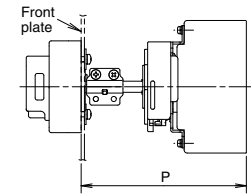


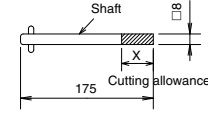
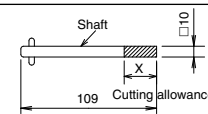
Make adjustments with the adjusting unit as stated below.

① **External dimension drawing**



② **Calculation of shaft cutting allowance**



| Type name          | Dimensions (mm) |     | Cutting allowance  | Calculation  |
|--------------------|-----------------|-----|--|--|
|                    | Min             | Max |  |  |
| V-05SV<br>V-05SVUL | 162             | 300 |  | (Cutting allowance)(P max)(panel size)<br>$X = 300 \text{ mm} - P$ |
| V-1SV<br>V-1SVUL   |                 |     |  |  |
| V-2SV<br>V-2SVUL   |                 |     |  |  |
| V-2SGUL            |                 |     |  |  |
| V-4S               | 233             | 300 |  |  |
| V-8S               |                 |     |  |  |
| V-4SUL<br>V-6SUL   |                 |     |  |  |

Note The unit is applicable to operating handles for emergency stop (E).

● **Padlocks**

The user must prepare padlocks.

The dimensions of the padlocks are the same as those shown on page 134.

● **How to order**

Specify the model name of the operating handle. For adjustable type, place an order for the adjustment unit. (One lot includes 1 pc.)

250A frame or below: V-AD3S

400 to 800A frames: V-AD3L

● **Interpretation of model name**

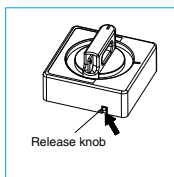
(1) For 800A frame or below

$$\frac{V}{1) - \frac{1}{2) - \frac{S}{3) - \frac{UL}{4) - \frac{E}{5) - \frac{2}{6)}}$$

- 1) V: Operating handle type name
- 2) 1: Circuit breaker group (0.5, 1, 2, 4, 6 or 8)
- 3) S: Classification of circuit breaker (S, SV, H, U, UV)
- 4) UL: Blank...General product UL...UL 489 listed product
- 5) E: Blank...Standard E...For emergency stop
- 6) 2: Blank...3P or 4P 2...2P

● **Door locking mechanism**

The operating handle is provided with an interlock mechanism to prevent the door opening in the ON and TRIP positions. In the OFF position, the door can be opened. However, the door can be opened in the ON or TRIP position by pressing the release knob in the arrow direction with a tool (3mm wide and 1.8mm thick).



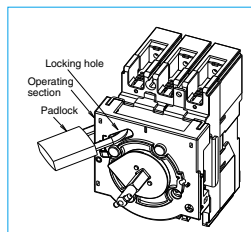
● **Operation locking mechanism**

① **Operating handle section**

Operation lock can be set only in the OFF Position. Up to three commercially available padlocks (A = 35 or 40mm) can be fitted. Lockout hasps (scissors locks) can be used. When the operating handle section is locked with padlocks, also the door is locked.

② **Operating section**

The operating section can be locked so that the circuit breaker will not be turned on carelessly when the inside of the panel is inspected with the panel door open. Fit a padlock through the hole in the operating section of the operating handle.



● **Adjusting unit**

The height from the circuit breaker mounting surface to the panel door can be adjusted by fitting the optional adjusting unit V-AD3S or V-AD3L. Cut the shaft of the adjusting unit according to the height.