

## Heatsink Protrusion Attachment

### **<FR-A8CN01 to 09>**

Thank you for choosing this Mitsubishi Electric inverter option unit.

This Instruction Manual provides handling information and precautions for use of the equipment. Incorrect handling might cause an unexpected fault. Before using this product, always read this Instruction Manual carefully to use this product correctly.

Please forward this Instruction Manual to the end user.

#### **SAFETY INSTRUCTIONS**

- ⚠ While power is ON or for some time after power-OFF, do not touch the inverter and attachment since they will be extremely hot. Touching these devices may cause a burn.
- ⚠ The product must be transported in correct method that corresponds to the weight. Failure to do so may lead to injuries. Special attention must be paid to the edges of the product.
- ⚠ Foreign conductive objects must be prevented from entering the inverter. That includes screws and metal fragments or other flammable substance such as oil.

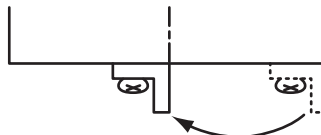
This attachment allows approximately 70% of the heat generated by the inverter to be radiated outside the enclosure by protruding the inverter heatsink section out from the rear side of the enclosure.

# 1 ENCLOSED ITEMS

Check the attachment model, and check that the following items are enclosed with the indicated quantity.

Symbol	Enclosed items	Attachment model								
		FR-A8CN01	FR-A8CN02	FR-A8CN03	FR-A8CN04	FR-A8CN05	FR-A8CN06	FR-A8CN07	FR-A8CN08	FR-A8CN09
a	Upper installation frame	1	1	1	1	1	1	1	1	1
b	Upper cover	1	1	1	1	1	1	1	1	1
c	Lower installation frame	1	1	1	1	1	*1	*1	*1	*1
d	Upper/lower frame installation screw	4 (M5-12)	4 (M5-12)	4 (M5-12)	4 (M8-16)	*2	*2	*2	*2	*2
e	Cover installation screw	2 (M4-10)	3 (M4-10)	3 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)
f	Right installation frame	—	—	—	—	1	1	1	1	1
g	Left installation frame	—	—	—	—	1	1	1	1	1
h	Left/right frame installation screw	—	—	—	—	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)	4 (M4-10)

\*1 For the FR-A8CN06 to 09, the lower installation frame (c) is not enclosed. Use the inverter's lower installation frame by changing its installation position.



\*2 Use the fixing screws for the standard installation feet of the inverter.

## 2 APPLICABLE MODELS

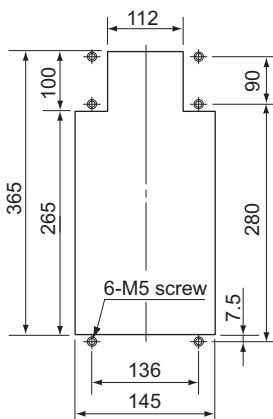
Model	Applicable attachment								
	FR-A8CN01	FR-A8CN02	FR-A8CN03	FR-A8CN04	FR-A8CN05	FR-A8CN06	FR-A8CN07	FR-A8CN08	FR-A8CN09
FR-A820	00105(1.5K) 00167(2.2K) 00250(3.7K)	00340(5.5K) 00490(7.5K)	00630(11K)	00770(15K) 00930(18.5K) 01250(22K)	01540(30K)	01870(37K) 02330(45K)	03160(55K)	03800(75K) 04750(90K)	—
FR-A840	00023(0.4K) 00038(0.75K) 00052(1.5K) 00083(2.2K) 00126(3.7K)	00170(5.5K) 00250(7.5K)	00310(11K) 00380(15K)	00470(18.5K) 00620(22K)	00770(30K)	00930(37K) 01160(45K) 01800(55K)	—	03250(110K) 03610(132K)	02160(75K) 02600(90K)
FR-F820	00105(2.2K) 00167(3.7K) 00250(5.5K)	00340(7.5K) 00490(11K)	00630(15K)	00770(18.5K) 00930(22K) 01250(30K)	01540(37K)	01870(45K) 02330(55K)	03160(75K) *1	03800(90K) 04750(110K)	—
FR-F840	00023(0.75K) 00038(1.5K) 00052(2.2K) 00083(3.7K) 00126(5.5K)	00170(7.5K) 00250(11K)	00310(15K) 00380(18.5K)	00470(22K) 00620(30K)	00770(37K)	00930(45K) 01160(55K) 01800(75K)	—	03250(132K) 03610(160K)	02160(90K) 02600(110K)

\*1 For replacement from the FR-F720(P)-75K, the enclosure cut dimensions are not compatible with those of the heatsink protrusion attachment (FR-A7CN10) of the FR-F720(P)-75K.

## 3 ENCLOSURE CUT DIMENSIONS

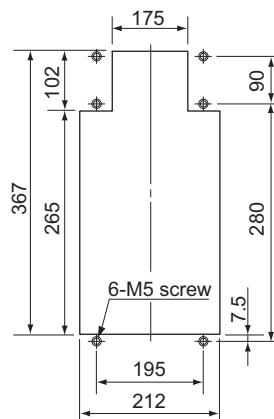
(1) Cut an enclosure to the following dimensions according to the inverter capacity.

FR-A8CN01



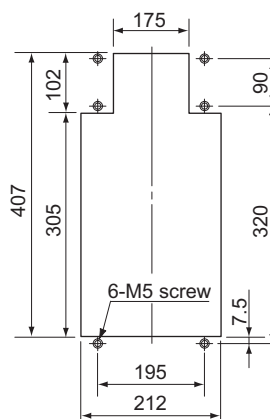
(Unit:mm)

FR-A8CN02



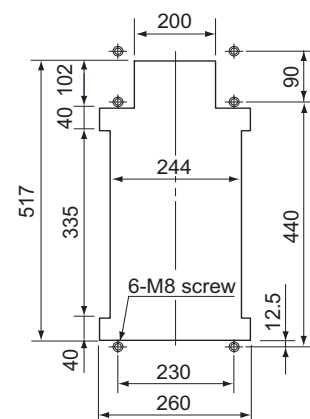
(Unit:mm)

FR-A8CN03



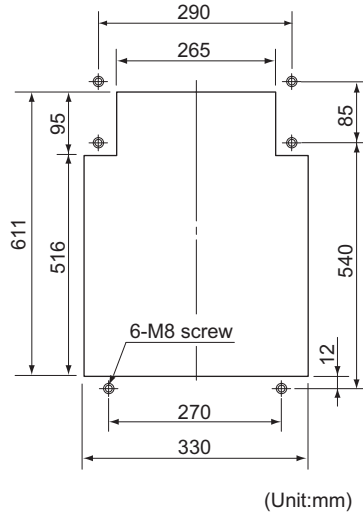
(Unit:mm)

FR-A8CN04

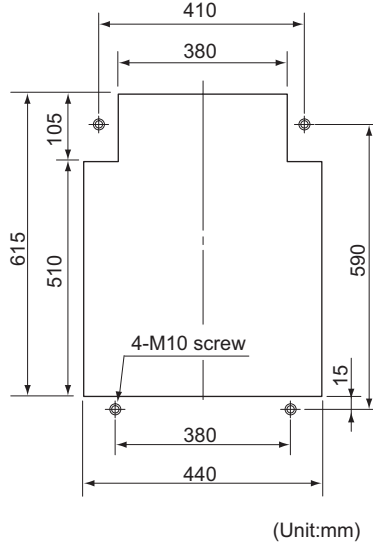


(Unit:mm)

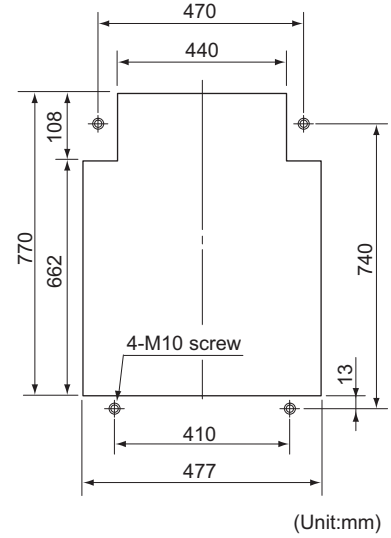
FR-A8CN05



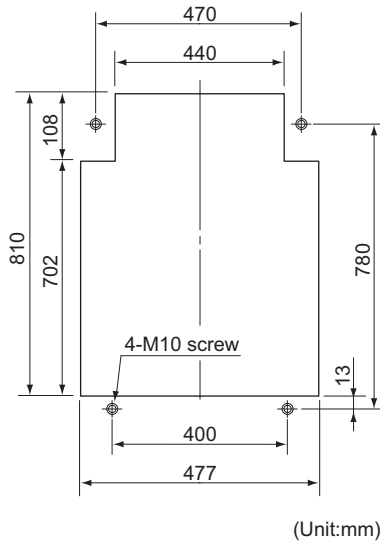
FR-A8CN06



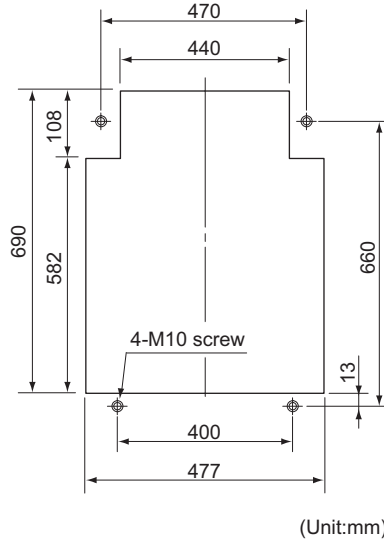
FR-A8CN07



FR-A8CN08



FR-A8CN09



(2) Refer to "INSTALLATION PROCEDURE" on [page 5](#) to assemble the attachment to the inverter. After assembly, install the inverter in the enclosure.

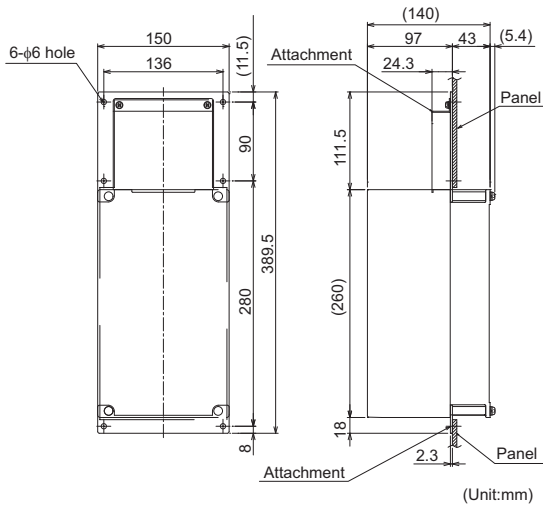
**NOTE**

- Since the cooling section, which comes out of the enclosure, has a cooling fan, avoid environment with water drops, oil mist, dust, etc.
- Be careful not to drop screws, dust, etc. into the inverter and cooling fan section.
- A gap of approximately 1 mm is left between the FR-A8CN and the inverter. (The inverter is not in an enclosed condition.)

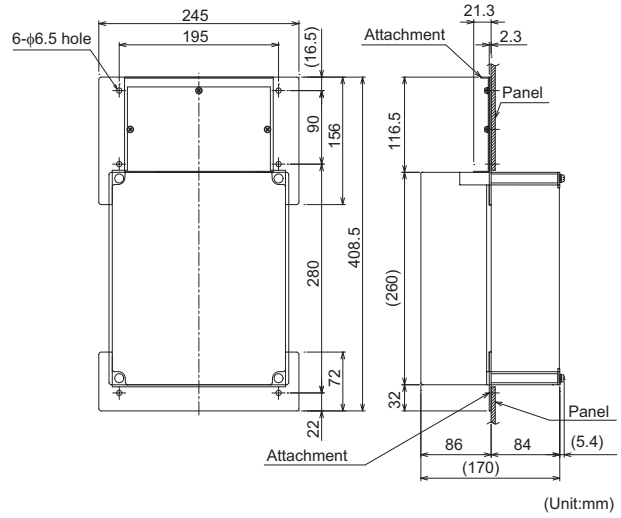
# 4 OUTLINE DIMENSION DRAWINGS

(-----: Enclosure cut dimensions)

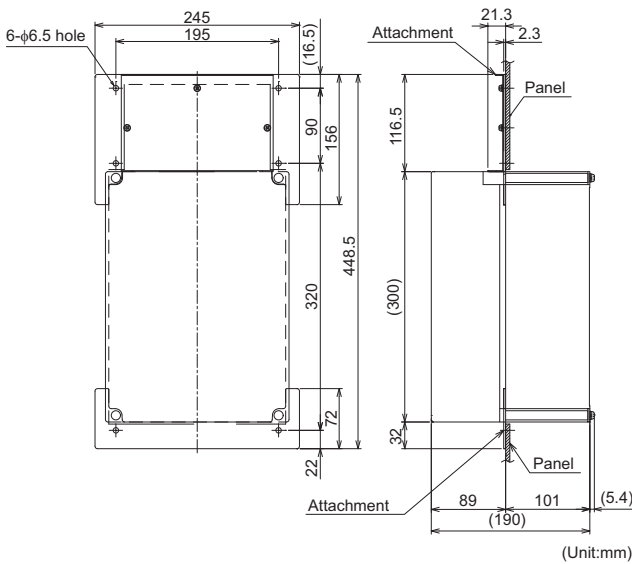
FR-A8CN01



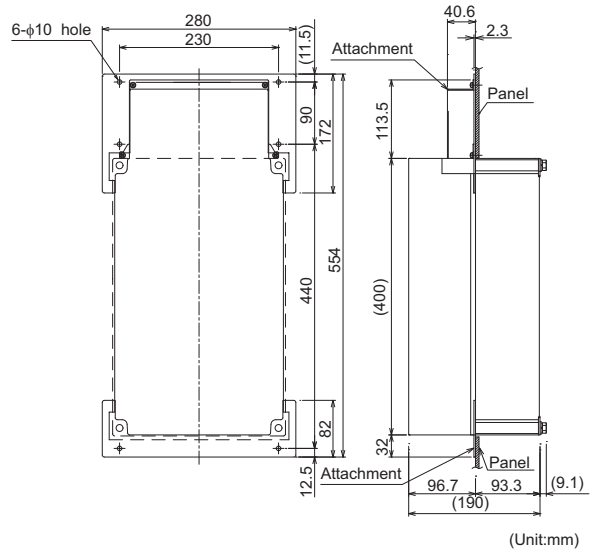
FR-A8CN02



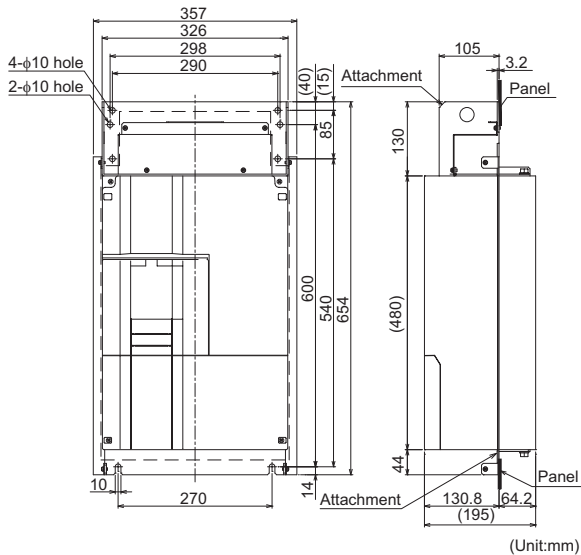
FR-A8CN03



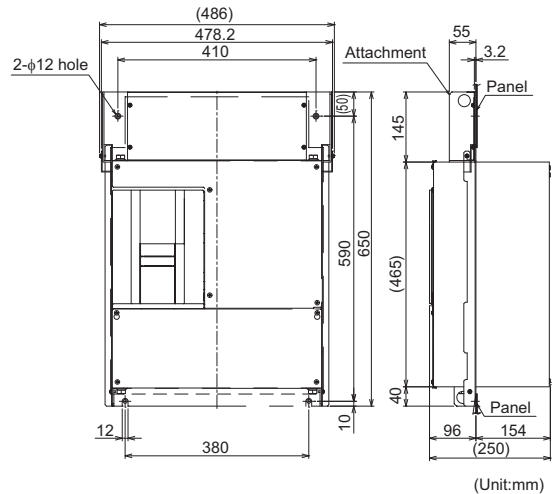
FR-A8CN04



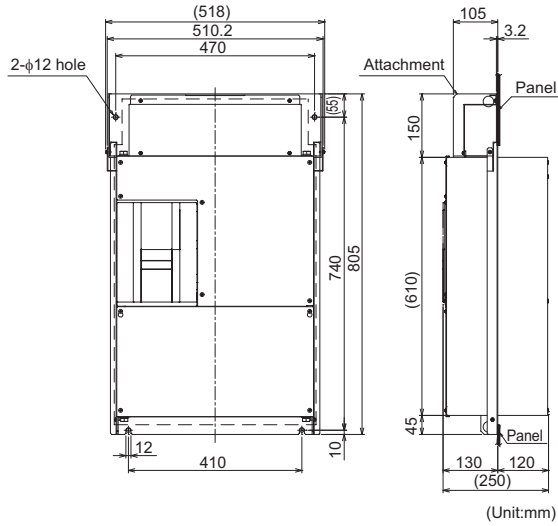
FR-A8CN05



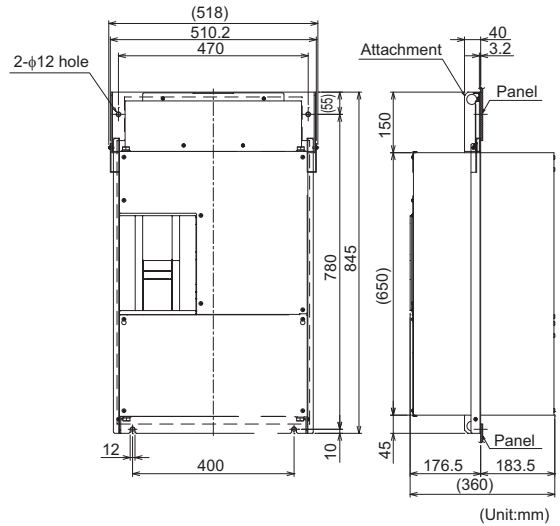
FR-A8CN06



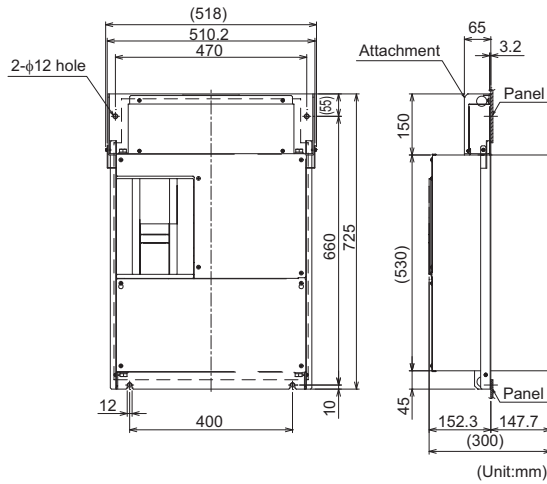
FR-A8CN07



FR-A8CN08

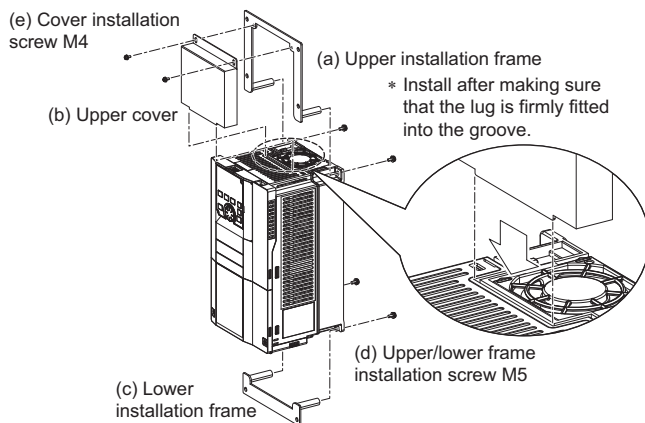


FR-A8CN09

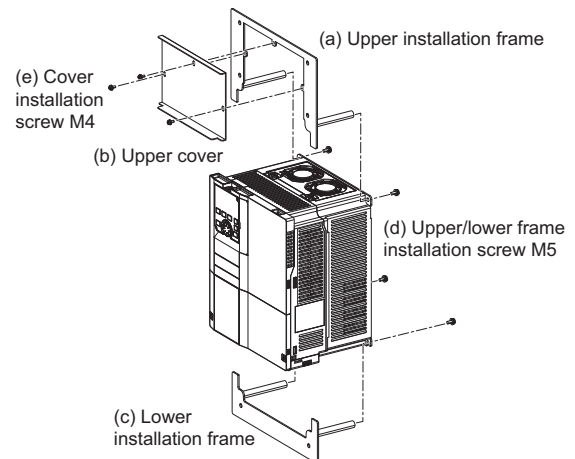


# 5 INSTALLATION PROCEDURE

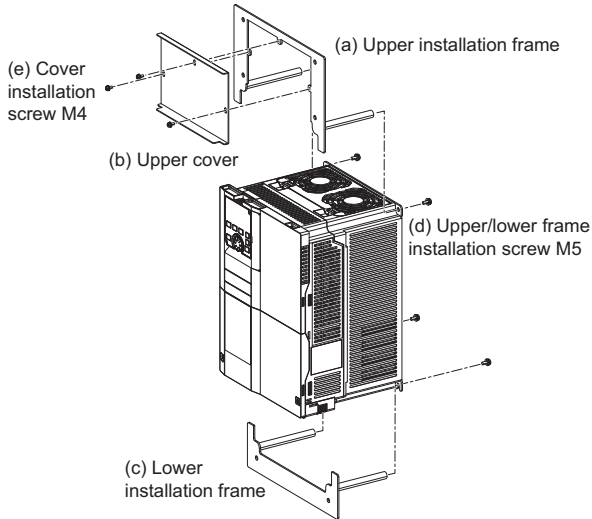
FR-A8CN01



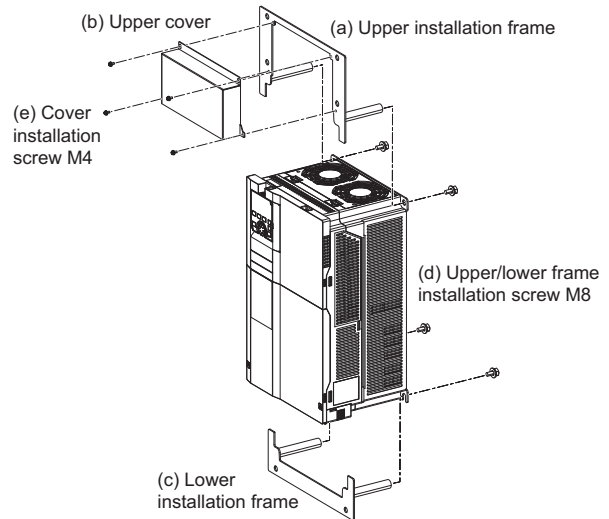
FR-A8CN02



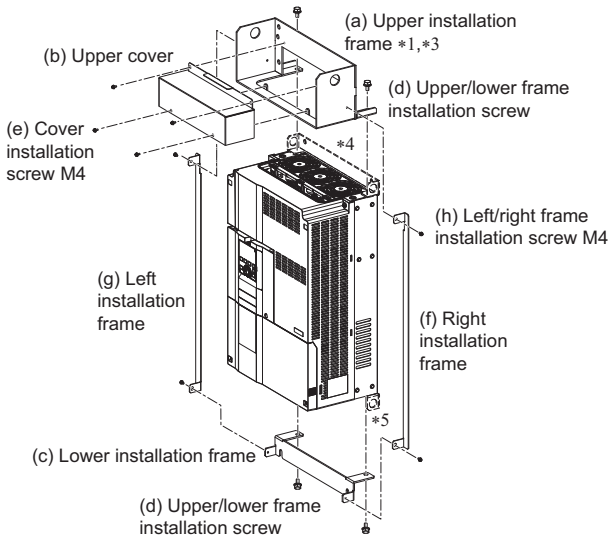
**FR-A8CN03**



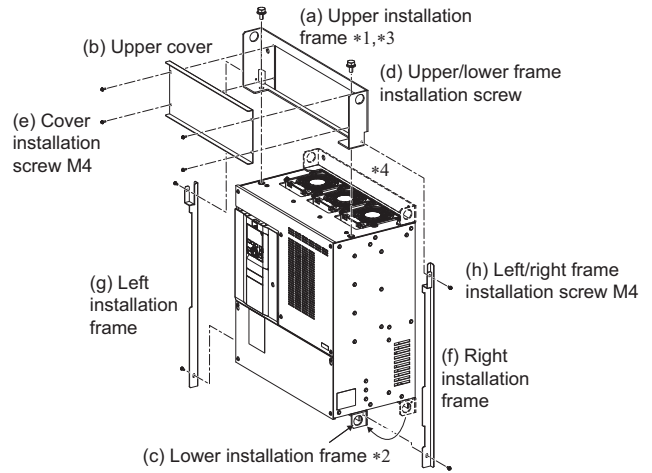
**FR-A8CN04**



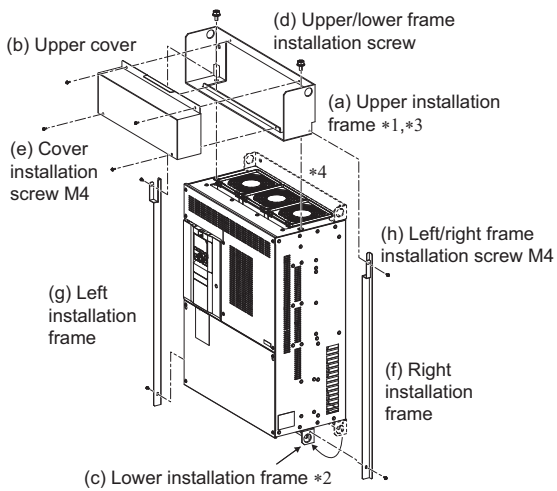
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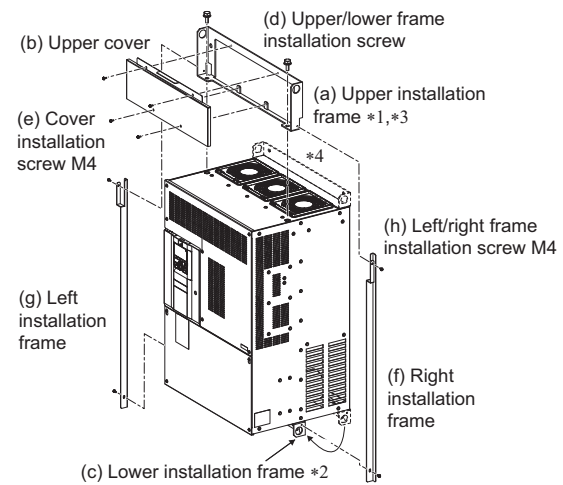
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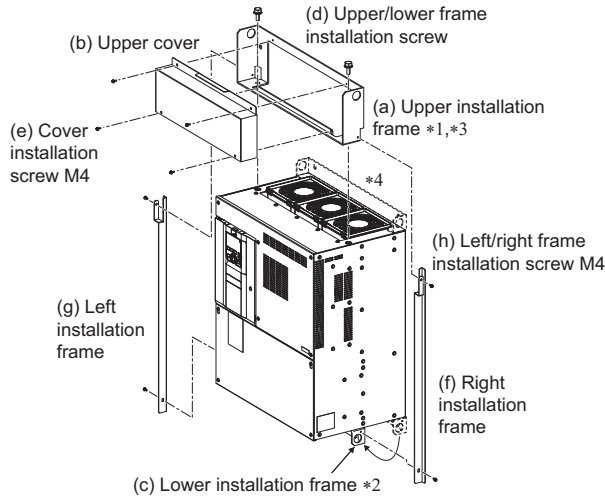
**FR-A8CN07**



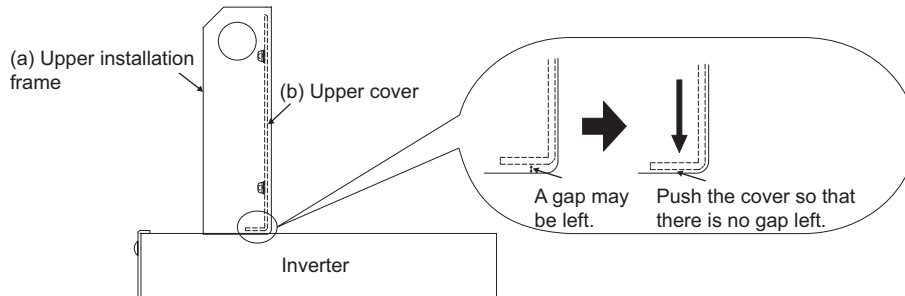
**FR-A8CN08**



## FR-A8CN09



- \*1 When carrying the inverter, do not hold the upper section of the upper installation frame (a). Doing so may change the frame shape.
- \*2 For the FR-A8CN06 to 09, change the position of the standard installation feet/lower section and use it instead of the lower installation frame (c).
- \*3 For the FR-A8CN05 to 09, fit the upper cover (b) to the upper installation frame (a) first, and then install the upper installation frame (a) to the inverter. When the upper cover (b) is installed to the upper installation frame (a), a gap may sometimes remain between the lower part of the upper cover (b) and the upper installation frame (a). Install the upper cover after checking that no gap exists.



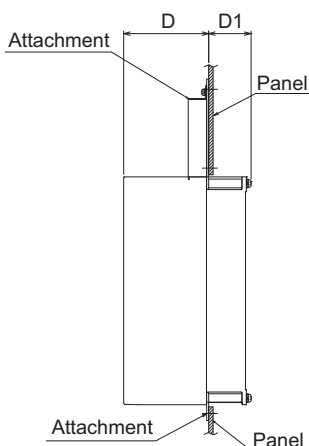
- \*4 Remove the standard installation foot/upper section of the inverter. Use the fixing screws for the standard installation feet to fix the upper installation frame.
- \*5 Remove the standard installation foot/lower section of the inverter. Use the fixing screws for the standard installation feet to fix the lower installation frame.

### NOTE

- When replacing the cooling fan, remove the upper cover (b) and then replace the cooling fan from the opening. (For details on the cooling fan replacement, refer to the Instruction Manual of the inverter.)

## 6 DEPTH DIMENSIONS

When a 700 series option unit is replaced with an 800 series option unit, depth requirements outside and inside the enclosure differ as shown in the shaded area of the table below.



Before replacement			After replacement		
Attachment model	D (mm)	D1 (mm)	Attachment model	D (mm)	D1 (mm)
FR-A7CN01	97	48.4	FR-A8CN01	97	48.4
FR-A7CN02	86	89.4	FR-A8CN02	86	89.4
FR-A7CN03	89	106.4	FR-A8CN03	89	106.4
FR-A7CN04	88.5	110.6	FR-A8CN04	96.7	102.4
FR-A7CN05, 06	123.5	71.5	FR-A8CN05	130.8	64.2
FR-A7CN07	96	154	FR-A8CN06	96	154
FR-A7CN11	97	153	FR-A8CN07	130	120
FR-A7CN10	176.5	183.5	FR-A8CN08	176.5	183.5
FR-A7CN08, 09	116.5	183.5	FR-A8CN09	152.3	147.7

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