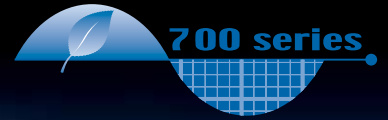




**MITSUBISHI
ELECTRIC**

Changes for the Better

for a greener tomorrow



INVERTER

Model

FR-A701

**Highest level of driving performance
with built-in power regeneration function**



Standard Specifications

Rating

●200V class

Model FR-A721-□□K	5.5	7.5	11	15	18.5	22	30	37	45	55	
Applicable motor capacity (kW) *1	5.5	7.5	11	15	18.5	22	30	37	45	55	
Output	Rated capacity (kVA) *2	9.2	12.6	17.6	23.3	29	34	44	55	67	82
	Rated current (A)	24	33	46	61	76	90	115	145	175	215
	Overload current rating *3	150% 60s, 200% 3s (inverse-time characteristics) surrounding air temperature 50°C									
	Rated voltage *4	Three-phase 200 to 240V									
	Regenerative braking torque	100% continuous 150% 60s									
Power supply	Rated input AC voltage/frequency	Three-phase 200 to 220V 50Hz, 200 to 240V 60Hz									
	Permissible AC voltage fluctuation	170 to 242V 50Hz, 170 to 264V 60Hz									
	Permissible frequency fluctuation	±5%									
	Power supply capacity (kVA) *5	12	17	20	28	34	41	52	66	80	100
Protective structure (JEM 1030) *6	Open type (IP00)										
Cooling system	Forced air cooling										
Approx. mass (kg)	20	22	33	35	50	52	69	87	90	120	

●400V class

Model FR-A741-□□K	5.5	7.5	11	15	18.5	22	30	37	45	55	
Applicable motor capacity (kW) *1	5.5	7.5	11	15	18.5	22	30	37	45	55	
Output	Rated capacity (kVA) *2	9.1	13	17.5	23.6	29	32.8	43.4	54	65	84
	Rated current (A)	12	17	23	31	38	44	57	71	86	110
	Overload current rating *3	150% 60s, 200% 3s (inverse-time characteristics) surrounding air temperature 50°C									
	Rated voltage *4	Three-phase 380 to 480V									
	Regenerative braking torque	100% continuous 150% 60s									
Power supply	Rated input AC voltage/frequency	Three-phase 380 to 480V 50Hz/60Hz									
	Permissible AC voltage fluctuation	323 to 528V 50Hz/60Hz									
	Permissible frequency fluctuation	±5%									
	Power supply capacity (kVA) *5	12	17	20	28	34	41	52	66	80	100
Protective structure *6	Open type (IP00)										
Cooling system	Forced air cooling										
Approx. mass (kg)	25	26	37	40	48	49	65	80	83	115	

*1. The applicable motor capacity indicated is the maximum capacity applicable for use of the Mitsubishi 4-pole standard motor.

*2. The rated output capacity indicated assumes that the output voltage is 220V for 200V and 440V for 400V class.

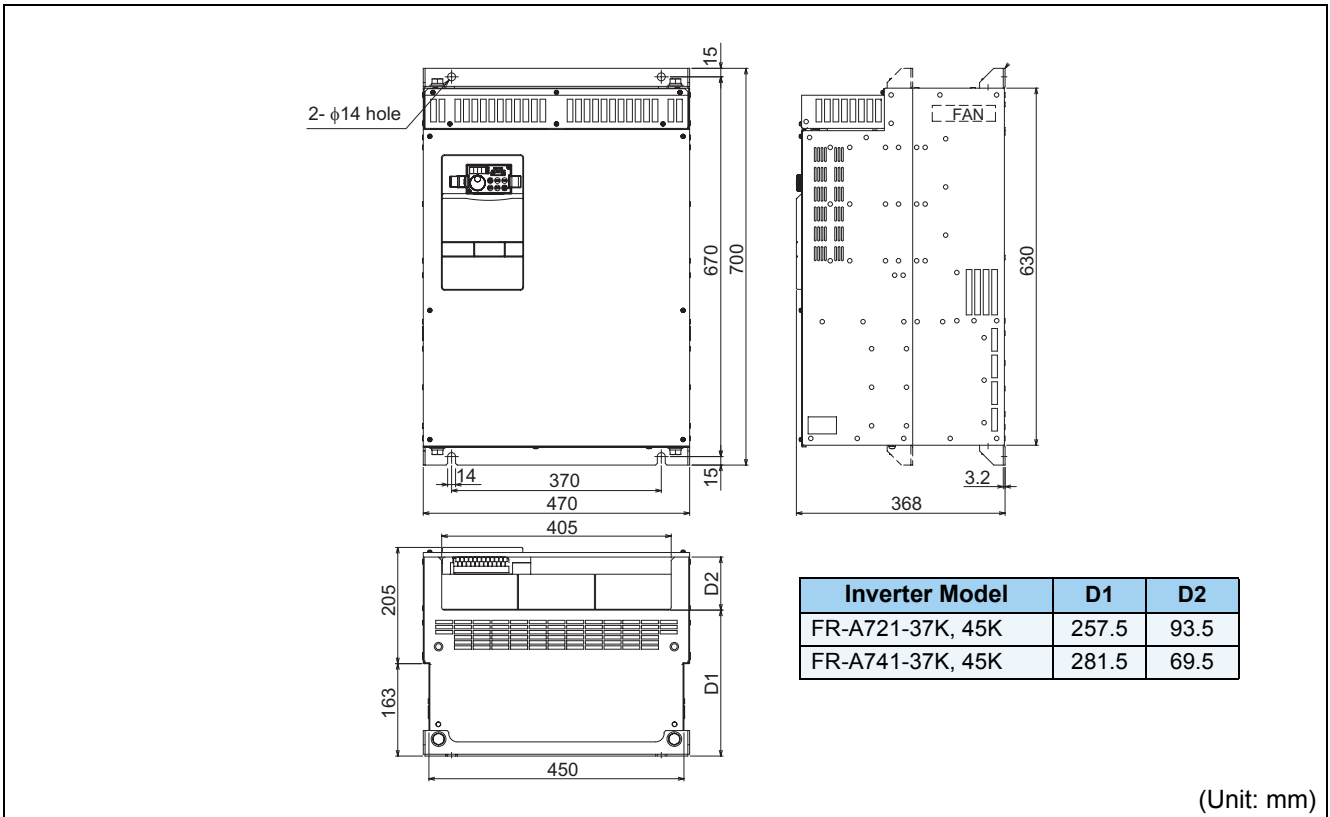
*3. The % value of the overload current rating indicated is the ratio of the overload current to the inverter's rated output current. For repeated duty, allow time for the inverter and motor to return to or below the temperatures under 100% load.

*4. The maximum output voltage does not exceed the power supply voltage. The maximum output voltage can be changed within the setting range. However, the pulse voltage value of the inverter output side voltage remains unchanged at about $\sqrt{2}$ that of the power supply.

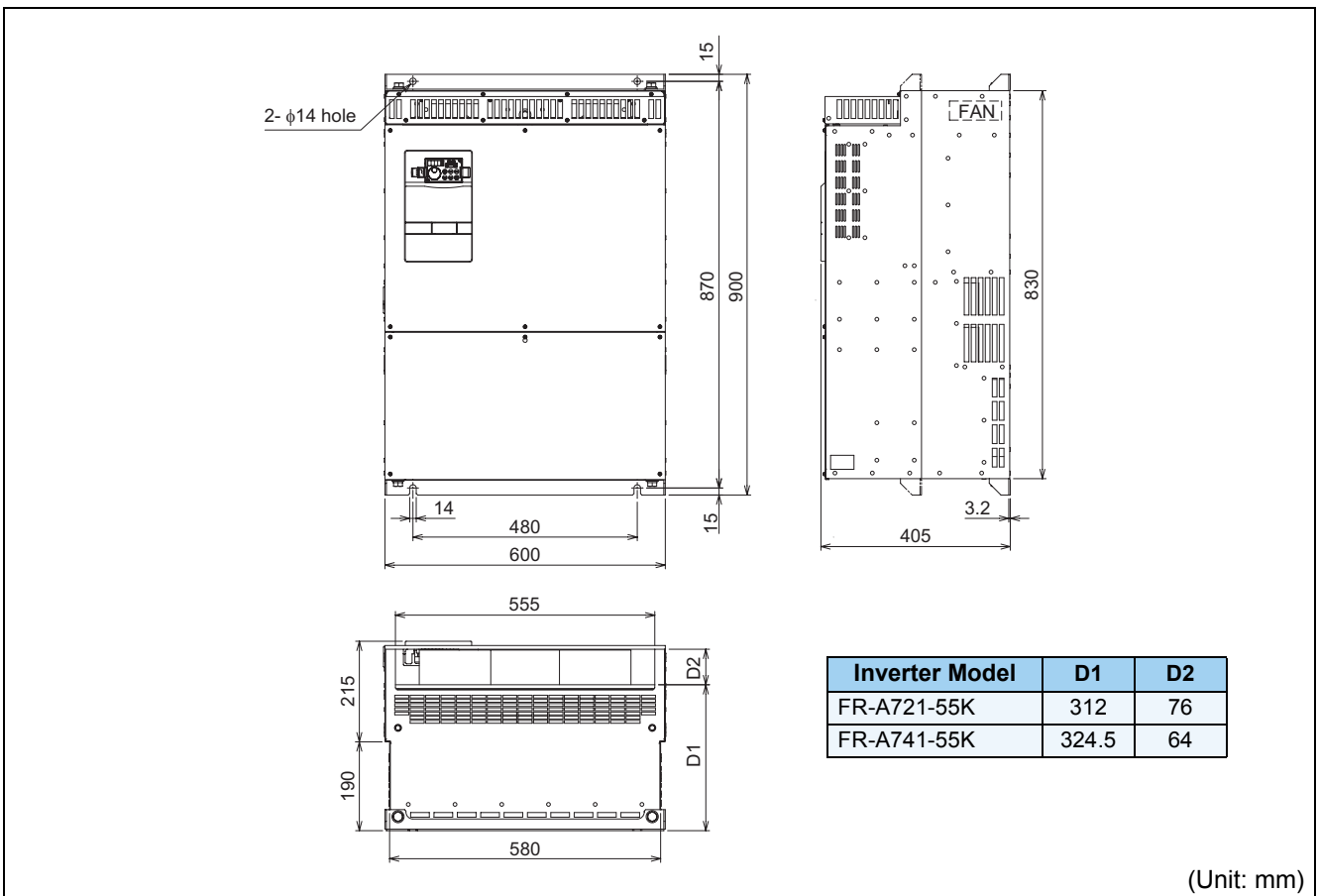
*5. The power supply capacity varies with the value of the power supply side inverter impedance (including those of the input reactor and cables).

*6. FR-DU07:IP40 (except for the PU connector)

- FR-A721-37K, 45K
- FR-A741-37K, 45K



- FR-A721-55K
- FR-A741-55K



Heatsink protrusion procedure

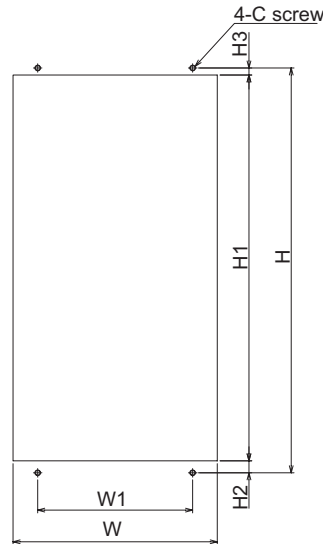
When encasing the inverter in an enclosure, the generated heat amount in an enclosure can be greatly reduced by installing the heatsink portion of the inverter outside the enclosure.

When installing the inverter in a compact enclosure, etc., this installation method is recommended.

●Protrusion of heatsink

● Panel cutting

Cut the panel of the enclosure according to the inverter capacity.

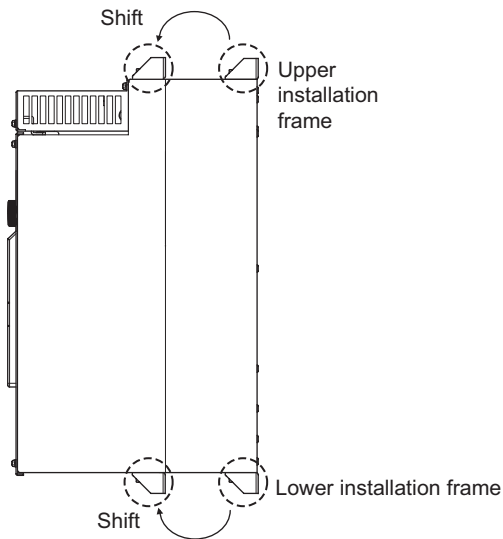


Inverter Model	W	W1	H	H1	H2	H3	C
FR-A721-5.5K, 7.5K FR-A741-5.5K, 7.5K	240	190	454	434	12	8	M8
FR-A721-11K, 15K FR-A741-11K, 15K	290	220	575	548	17	10	M8
FR-A721-18.5K, 22K	376	290	575	546	17	12	M10
FR-A741-18.5K, 22K	346	260	575	546	17	12	M10
FR-A721-30K FR-A741-30K	436	350	675	646	17	12	M10
FR-A721-37K, 45K FR-A741-37K, 45K	456	370	670	641	17	12	M12
FR-A721-55K FR-A741-55K	586	480	870	841	17	12	M12

(Unit: mm)

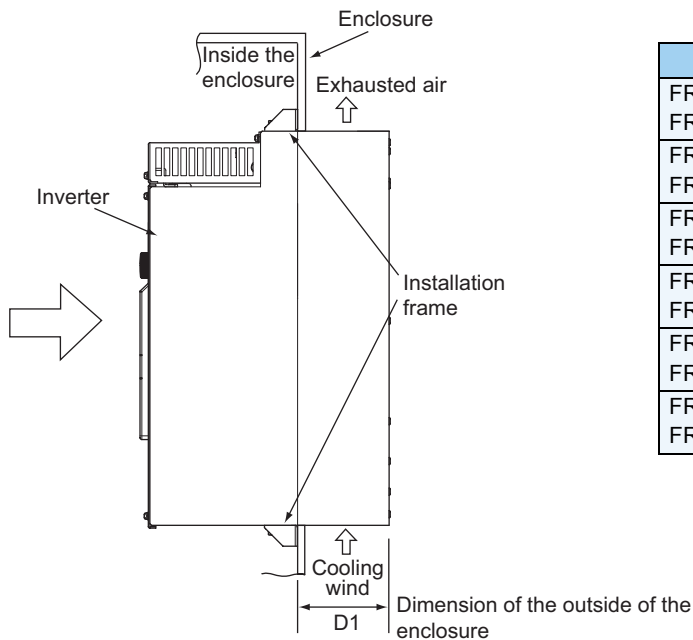
● Shift and removal of a rear side installation frame

One installation frame is attached to each of the upper and lower parts of the inverter. Change the position of the rear side installation frame on the upper and lower sides of the inverter to the front side as shown on the right. When changing the installation frames, make sure that the installation orientation is correct.



● Installation of the inverter

Push the inverter heatsink portion outside the enclosure and fix the enclosure and inverter with upper and lower installation frame.



Inverter Model	D1
FR-A721-5.5K, 7.5K FR-A741-5.5K, 7.5K	100
FR-A721-11K, 15K FR-A741-11K, 15K	125
FR-A721-18.5K, 22K FR-A741-18.5K, 22K	130
FR-A721-30K FR-A741-30K	145
FR-A721-37K, 45K FR-A741-37K, 45K	163
FR-A721-55K FR-A741-55K	190

(Unit: mm)

CAUTION

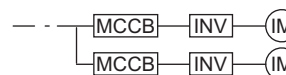
- Having a cooling fan, the cooling section which comes out of the enclosure can not be used in the environment of water drops, oil, mist, dust, etc.
- Be careful not to drop screws, dust, etc. into the inverter and cooling fan section.

Peripheral devices/cable size list

Voltage	Motor Output (kW) *1	Applicable Inverter Model	Breaker Selection *2	Input Side Magnetic Contactor *3	Recommended Cable Size (mm ²) *4	
					R, S, T	U, V, W
200V class	5.5	FR-A721-5.5K	40A	S-N20, N21	5.5	5.5
	7.5	FR-A721-7.5K	50A	S-N25	14	8
	11	FR-A721-11K	75A	S-N35	14	14
	15	FR-A721-15K	100A	S-N50	22	22
	18.5	FR-A721-18.5K	125A	S-N50	38	38
	22	FR-A721-22K	150A	S-N65	38	38
	30	FR-A721-30K	175A	S-N80	60	60
	37	FR-A721-37K	225A	S-N125	80	80
	45	FR-A721-45K	300A	S-N150	100	100
400V class	5.5	FR-A741-5.5K	20A	S-N11, N12	2	2
	7.5	FR-A741-7.5K	30A	S-N20, N21	3.5	3.5
	11	FR-A741-11K	40A	S-N20, N21	5.5	5.5
	15	FR-A741-15K	50A	S-N20, N21	8	8
	18.5	FR-A741-18.5K	60A	S-N25	14	8
	22	FR-A741-22K	75A	S-N25	14	14
	30	FR-A741-30K	100A	S-N50	22	22
	37	FR-A741-37K	125A	S-N50	22	22
	45	FR-A741-45K	150A	S-N65	38	38
	55	FR-A741-55K	175A	S-N80	60	60

*1 Selections for use of the Mitsubishi 4-pole standard motor with power supply voltage of 200VAC(200V class)/400VAC(400V class) 50Hz.

*2 Select the MCCB according to the power supply capacity.
 Install one MCCB per inverter.
 For the use in the United States or Canada, provide the appropriate UL and cUL listed Class RK5 or Class T type fuse or UL 489 molded case circuit breaker (MCCB) that is suitable for branch circuit protection.
 For details, refer to the Instruction Manual.



*3 Magnetic contactor is selected based on the AC-1 class. The electrical durability of magnetic contactor is 500,000 times. When the magnetic contactor is used for emergency stop during motor driving, the electrical durability is 25 times.
 When using the MC for emergency stop during motor driving or using on the motor side during commercial-power supply operation, select the MC with class AC-3 rated current for the motor rated current.

*4 Cable
 The cable size is that of the cable (HIV cable (600V class 2 vinyl-insulated cable) etc.) with continuous maximum permissible temperature of 75°C. Assumes that the surrounding air temperature is 50°C or less and the wiring distance is 20m or less.

CAUTION

When the breaker on the inverter primary side trips, check for the wiring fault (short circuit), damage to internal parts of the inverter, etc. Identify the cause of the trip, then remove the cause and power on the breaker.