AC Free Input Axial Fans

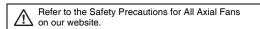
R89F-M

CSM_R89F-___DS_E_2_2

c Rus (PS) (E

Reducing required design work through unified power supply voltage

- Reduced time spent on replacement thanks to a longer service life.
- Selection of free voltage input 100 to 240 VAC models.
- Available in set packages (including finger guards, plug cords, and mounting screws).
- CE marking compliant, and certified compliant with various standards including UL and CSA.







For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Model Number Structure

Model Number Legend

R89F	-M						-
1	2	3	4	5	6	7	8

4	D-	-:-	Seri	

R89F	Plastic Blade Series
------	----------------------

3. Frame shape

S	Square
---	--------

5. Frame thickness

38	38
----	----

7. Terminal type

P	Terminals *		
* A Plug Cord (R89F-PC) is			
required for models with			
terminals.			

2. Rated voltage

M	100 to 240 VAC

4. Frame

09	92 × 92
12	120 × 120

6. Rotational speed

Н	High speed
L	Low speed

8. Delivered configuration

No marking	Standard
S1	Finger guard +
S2	Finger guard + Screw and nut set + Plug cord *

* Refer to Set Model on page 1 and 13 for details.

Note: These tables show only how to read model numbers. They do not indicate which products are available. Refer to *Ratings and Ordering Information* when ordering.

Ordering Information

AC Free Input Axial Fans

Series	Size (mm)	Speed	Model	Page
	92 × 92 × t38	High	R89F-MS0938HP	2
R89F-M series	92 × 92 × t38	Low	R89F-MS0938LP	2
	120 × 120 × t38	High	R89F-MS1238HP	3

Options (Order Separately)

Name	Model	Page
Plug Cord	R89F-PC-□	4
Finger Guard	R87F-FG□	5
Filter	R87F-FL□(S)	6

Note: Mounting screws are not provided.

Set Model

Model	Set Contents		
R89F-MS0938HP-S1	Fan, Finger guard × 1, M4 Screw (55 mm) × 4 and nut set × 4, Plug cord (1 m)		
R89F-MS0938LP-S1 Fan, Finger guard × 1, M4 Screw (55 mm) × 4 and nut set × 4, Plug cord (1 m)			
R89F-MS1238HP-S1 Fan, Finger guard × 1, M4 Screw (55 mm) × 4 and nut set × 4, Plug cord (1 m)			
R89F-MS0938HP-S2 Fan, Finger guard × 2, M4 Screw (55 mm) × 4 and nut set × 4, Plug cord (1 m)			
R89F-MS0938LP-S2 Fan, Finger guard × 2, M4 Screw (55 mm) × 4 and nut set × 4, Plug cord (1 m)			
R89F-MS1238HP-S2	Fan, Finger guard × 2, M4 Screw (55 mm) × 4 and nut set × 4, Plug cord (1 m)		

Safety Precautions

Refer to the Safety Precautions for All Axial Fans on our website.

R89F-MS0938 ☐ AC Free Input Axial Fans (92 × 92 × t38 mm)

Ratings and Ordering Information

ltem Model	Rated voltage	Permitted voltage fluctuation range	Frequency [Hz]	Rated current [A] *	Rated input [W] *	Rated rotational speed [r/min ⁻¹] *	Maximum flow rate [m³/min] *	Maximum static pressure [Pa] *	Noise [dB] *
R89F-MS0938HP	100 to 240 VAC	90 to 264 V	50/60	0.08	4.5	3850	1.5	90	40
R89F-MS0938LP	100 to 240 VAC	90 to 264 V	50/60	0.06	3.0	3100	1.18	56	33

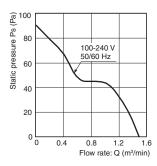
^{*} An asterisk (*) indicates a nominal value.

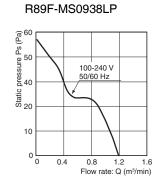
Characteristics

Motor type	!	Brushless DC motor
Terminal ty	/ре	Terminals
Insulation	class	Class E (UL class A)
Insulation	resistance	10 M Ω min. (at 500 VDC) Between lead wire conductor and frame
Insulation voltage	withstand	1,500 VAC (1 minute) Between input terminal and frame
Ambient of temperature		-20 to 75°C (with no icing)
Ambient storage temperature Ambient humidity		-30 to +75°C (no icing)
		20% to 85%
Protection		Restraint burnout protection (Current blocking function)
Materials	Frame	PBT/PC alloy (UL94V-0)
wateriais	Blades	PBT/PC alloy (UL94V-0)
Bearings		Ball bearings
Weight		Approx. 250 g
Compliant standards		EN/IEC60950-1 EN/IEC60335-2-80 (CE marking compliant) EAC, RCM PSE
Certified standards		UL: UL507 (Recognition), C22.2 No.113

Flow Rate and Static Pressure Characteristics (Reference Value)

R89F-MS0938HP

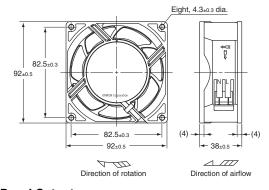




Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure Characteristics on Safety Precautions for All Axial Fans.*

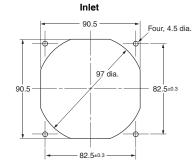
Dimensions (Unit: mm)

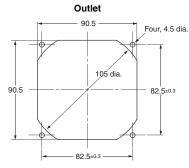




Panel Cutouts

Name Model Page Plug Cord R89F-PC-□ 4 Finger Guard R87F-FG90 5





R89F-MS1238□ AC Free Input Axial Fans (120 × 120 × t38 mm)

Ratings and Ordering Information

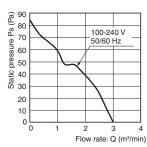
ltem Model	Rated voltage	Permitted voltage fluctuation range	Frequency [Hz]	Rated current [A] *	Rated input [W] *	Rated rotational speed [r/min ⁻¹] *	Maximum flow rate [m³/min] *	Maximum static pressure [Pa] *	Noise [dB] *
R89F-MS1238HP	100 to 240 VAC	90 to 264 V	50/60	0.08	4.4	3250	3.0	84	42

^{*} An asterisk (*) indicates a nominal value.

Characteristics

Onara			
Motor type		Brushless DC motor	
Terminal type		Terminals	
Insulation	class	Class E (UL class A)	
Insulation	resistance	10 MΩ min. (at 500 VDC) Between lead wire conductor and frame	
Insulation voltage	withstand	1,500 VAC (1 minute) Between input terminal and frame	
Ambient o		-20 to 75°C (with no icing)	
Ambient storage temperature		-30 to +75°C (no icing)	
Ambient h	umidity	20% to 85%	
Protection		Restraint burnout protection (Current blocking function)	
Materials	Frame	PBT/PC alloy (UL94V-0)	
Materiais	Blades	PPHOX (UL94V-1)	
Bearings		Ball bearings	
Weight		Approx. 290 g	
Compliant standards		EN/IEC60950-1 EN/IEC60335-2-80 (CE marking compliant) EAC, RCM PSE	
Certified standards		UL: UL507 (Recognition), C22.2 No.113	

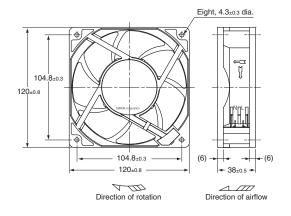
Flow Rate and Static Pressure Characteristics (Reference Value) R89F-MS1238HP



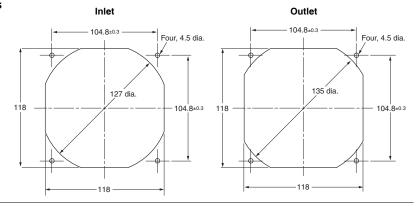
Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure Characteristics on Safety Precautions for All Axial Fans.*

Dimensions (Unit: mm)





Panel Cutouts



Name	Model	Page
Plug Cord	R89F-PC-□	4
Finger Guard	R87F-FG120	5
Filter	R87F-FL120(S)	6

R89F-PC Plug Cord

Ratings and Ordering Information

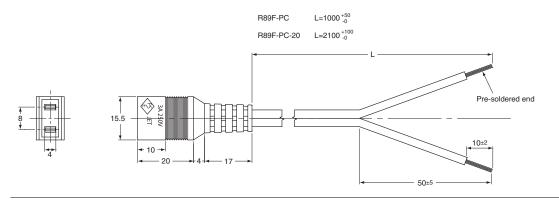
Cable length	Model	Weight
1 m	R89F-PC	Approx. 38 g
2 m	R89F-PC-20	Approx. 74 g

R89F-PC Rating: 3 A, 250 V



Dimensions (Unit: mm)

R89F-PC



 $\textbf{Note:} \ \mathsf{This} \ \mathsf{Plug} \ \mathsf{Cord} \ \mathsf{is} \ \mathsf{used} \ \mathsf{for} \ \mathsf{Axial} \ \mathsf{Fans} \ \mathsf{with} \ \mathsf{terminals}.$

R87F-FG Finger Guards

Ratings and Ordering Information

Size	Model number	Weight (g)	
150 dia.	R87F-FG150	Approx. 58	
120 × 120	R87F-FG120	Approx. 45	
92 × 92	R87F-FG90	Approx. 25	
80 × 80	R87F-FG80 Approx. 20		

Applicable Axial Fans

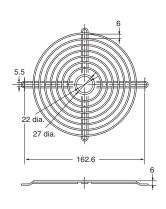
	AC Axial Fan	Finger Guard	
Size	Model		
150 dia.	R87T-A□A0 Series	R87F-FG150	
120 × 120	R89F-DS1225□ series R89F-DS1238□ series R89F-MS1238HP	R87F-FG120	
	R87F-A□A1 Series R87T-A□A1 Series		
92 × 92	R89F-MS0938□P series	R87F-FG90	
92 × 92	R87F-A□A9 Series	R87F-FG90	
80 × 80	R87F-A□A8 Series R87T-A□A8 Series	R87F-FG80	

Note: Finger Guards reduce the flow rate by approximately 2% to 5%.

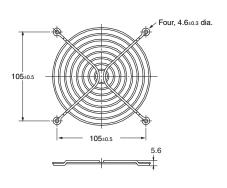
Dimensions (Unit: mm)

Material: steel, Joints: spot welded, Surface: nickel-chrome plated

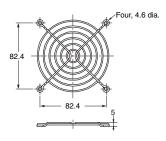
R87F-FG150



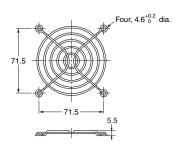
R87F-FG120



R87F-FG90



R87F-FG80



R87F-FL Filters

Ratings and Ordering Information

Filter

Size	Model number	Weight (g)
120 × 120	R87F-FL120	Approx. 43
92 × 92	R87F-FL90	Approx. 30
80 × 80	R87F-FL80	Approx. 21
120 × 120	R87F-FL120S	Approx. 19

Note: The filter contains one medium.

Media

Size	Model number
120 × 120	R87F-FL120-M120
92 × 92	R87F-FL90-M90
80 × 80	R87F-FL80-M80

Note: Use the following model number to order the Media only. R87F-FL□-M□ (□: 120, 90, or 80)

(One set containing five Media, weight: 5 g max.)

Applicable Axial Fans

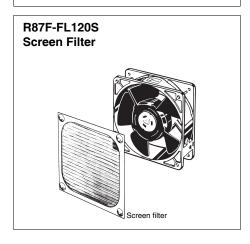
	AC Axial Fan	Filter		
Size	Model	Plastic	Aluminum	
150 dia.	R87T-A□A0 Series			
	R89F-DS1225□ series			
	R89F-DS1238□ series			
120×120	R89F-MS1238HP	R87F-FL120	R87F-FL120S	
	R87F-A□A1 Series			
	R87T-A□A1 Series			
92 × 92	R87F-A□A9 Series	R87F-FL90		
80×80	R87F-A□A8 Series	R87F-FL80		
00 ^ 00	R87T-A□A8 Series	11071 -1 200		

Note: Filters reduce the flow rate by approximately 20% to 40%. Ensure that there is no clogging.

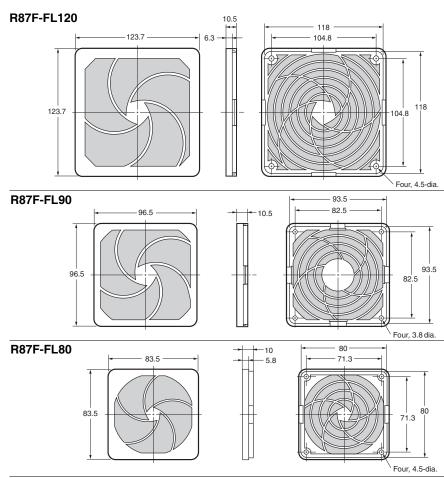
R87F-FL Plastic Filter Guard Hedia Plastic filter

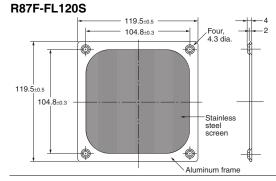
Mounting Method

- Attach the guard to the Fan using the mounting bolts. (There are no mounting bolts provided with the Plastic Filter.)
- With the media held between the retainer and the guard, hook the retainer to the guard. (The Media and retainer can be one-touch mounted/dismounted.)



Dimensions (Unit: mm)



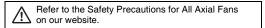


- Note: 1. The Screen Filter is made using aluminium and has an <u>EMI/RFI</u> shielding effect.
 - 2. When mounting the Screen Filter, make sure that it does not come in contact with the fan blades.
 - 3. The screen is a 30 × 30 aluminum mesh. (30 aluminum wires per inch)

DC Axial Fans

Reducing required design work through unified power supply voltage

- Reduced time spent on replacement thanks to a longer service life.
- Selection of low-voltage input 24 VDC models.
- Available in set packages (including finger guards and mounting screws).
- CE marking compliant, and certified compliant with various standards including UL and CSA.











For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Model Number Structure

Model Number Legend



-	_			
1	Kа	ICIC	80	ries

R89F Plastic Blade Series

R89F	Plastic Blade Series

2.	Rated	voltage

D	24 VDC
---	--------

•	ο.	Г	ıaı	пе	51	ıaı	JE	

S	Square
---	--------

4. Frame

09	92 × 92
12	120 × 120

5. Frame thickness

25	25
38	38

6. Rotational speed

Н	High speed
L	Low speed

7. Terminal type

	No marking	Lead wires
--	------------	------------

8. Delivered configuration

No marking	Standard
S1	Finger guard +
S2	Screw and nut set *

* Refer to Set Model on page 7 and 13 for details.

Note: These tables show only how to read model numbers. They do not indicate which products are available. Refer to Ratings and Ordering Information when ordering.

Ordering Information

DC Axial Fans

Series	Size (mm)	Speed	Model	Page
	92 × 92 × t25	High	R89F-DS0925H	8
	92 × 92 × t25	Low	R89F-DS0925L	8
R89F-D series	120 × 120 × t25	High	R89F-DS1225H	9
HOSE-D Selles	120 × 120 × t25	Low	R89F-DS1225L	9
	120 × 120 × t38	High	R89F-DS1238H	10
	120 × 120 × t38	Low	R89F-DS1238L	10

Options (Order Separately)

	= -	
Name	Model	Page
Finger Guard	R87F-FG□	11
Filter	R87F-FL□(S)	12

Note: Mounting screws are not provided.

Set Model

Model	Set Contents
R89F-DS0925H-S1	Fan, Finger guard x 1, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS0925L-S1	Fan, Finger guard x 1, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS1225H-S1	Fan, Finger guard x 1, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS1225L-S1	Fan, Finger guard x 1, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS1238H-S1	Fan, Finger guard x 1, M4 Screw (55 mm) x 4 and nut set x 4
R89F-DS1238L-S1	Fan, Finger guard x 1, M4 Screw (55 mm) x 4 and nut set x 4
R89F-DS0925H-S2	Fan, Finger guard x 2, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS0925L-S2	Fan, Finger guard x 2, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS1225H-S2	Fan, Finger guard x 2, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS1225L-S2	Fan, Finger guard x 2, M4 Screw (40 mm) x 4 and nut set x 4
R89F-DS1238H-S2	Fan, Finger guard x 2, M4 Screw (55 mm) x 4 and nut set x 4
R89F-DS1238L-S2	Fan, Finger guard x 2, M4 Screw (55 mm) x 4 and nut set x 4

Safety Precautions

Refer to the Safety Precautions for All Axial Fans on our website.

R89F-DS0925 □ DC Axial Fans (92 × 92 × t25 mm)

Ratings and Ordering Information

ltem Model	Rated voltage	Permitted voltage fluctuation range	Frequency [Hz]	Rated current [A] *	Rated input [W] *	Rated rotational speed [r/min ⁻¹] *	Maximum flow rate [m³/min] *	Maximum static pressure [Pa] *	Noise [dB] *
R89F-DS0925H	24 VDC	12 to 27.6 V		0.15	3.6	3550	1.66	56.1	39
R89F-DS0925L	24 VDC	12 to 27.6 V		0.08	1.92	2650	1.24	32.2	30

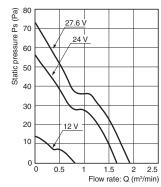
^{*} An asterisk (*) indicates a nominal value.

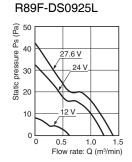
Characteristics

Onara	Citatacteristics					
Motor type		Brushless DC motor				
Terminal ty	/ре	Lead wires				
Insulation	class	Class E (UL class A)				
Insulation	resistance	10 M Ω min. (at 500 VDC) Between lead wire conductor and frame				
Insulation voltage	withstand	500 VAC (1 minute) Between lead wire conductor and frame				
Ambient of temperature		-20 to +70°C (no icing)				
Ambient storage temperature		-30 to +70°C (no icing)				
Ambient h	umidity	20% to 85%				
Protection		Restraint burnout protection (Current blocking function) Power supply lead wire reverse polarity protection				
Materials	Frame	PBT/ABS alloy (UL94V-0)				
wateriais	Blades	PBT/ABS alloy (UL94V-0)				
Bearings		Ball bearings				
Weight		Approx. 100 g				
Compliant standards		EN/IEC60950-1 EN/IEC60335-2-80 (CE marking compliant) EAC RCM				
Certified st	tandards	UL: UL507 (Recognition) CSA: C22.2 No.113				

Flow Rate and Static Pressure Characteristics (Reference Value)



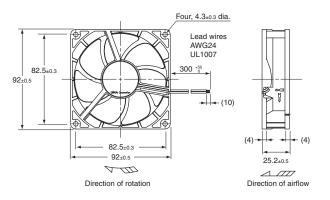




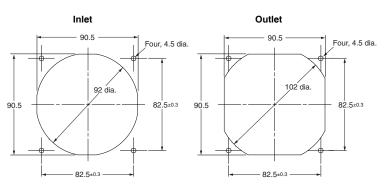
Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure* on page 17.

Dimensions (Unit: mm)





Panel Cutouts



Name	Model	Page
Finger Guard	R87F-FG90	11

R89F-DS1225 □ DC Axial Fans (120 × 120 × t25 mm)

Ratings and Ordering Information

ltem Model	Rated voltage	Permitted voltage fluctuation range	Frequency [Hz]	Rated current [A] *	Rated input [W] *	Rated rotational speed [r/min ⁻¹] *	Maximum flow rate [m³/min] *	Maximum static pressure [Pa] *	Noise [dB] *
R89F-DS1225H	24 VDC	20.4 to 27.6 V		0.47	11.28	4100	3.68	120	51
R89F-DS1225L	24 VDC	12 to 27.6 V		0.17	4.08	2850	2.5	64	40

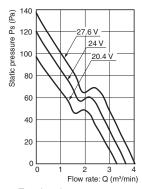
^{*} An asterisk (*) indicates a nominal value.

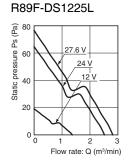
Characteristics

Motor type		Brushless DC motor			
Terminal ty	уре	Lead wires			
Insulation	class	Class E (UL class A)			
Insulation	resistance	10 M Ω min. (at 500 VDC) Between lead wire conductor and frame			
Insulation voltage	withstand	500 VAC (1 minute) Between lead wire conductor and frame			
Ambient of temperature		-20 to +70°C (no icing)			
Ambient storage temperature		-30 to +70°C (no icing)			
Ambient h	umidity	20% to 85%			
Protection		Restraint burnout protection (Current blocking function) Power supply lead wire reverse polarity protection			
Materials	Frame	PBT/ABS alloy (UL94V-0)			
Materiais	Blades	PPHOX (UL94V-1)			
Bearings		Ball bearings			
Weight		Approx. 280 g			
Compliant	standards	EN/IEC60950-1 EN/IEC60335-2-80 (CE marking compliant) EAC RCM			
Certified st	tandards	UL: UL507 (Recognition) CSA: C22.2 No.113			

Flow Rate and Static Pressure Characteristics (Reference Value)



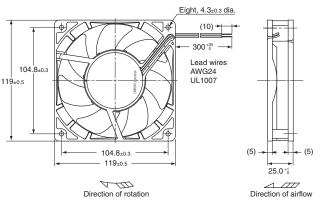




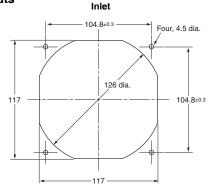
Note: For details on measurement conditions, refer to *Flow Rate and Static Pressure Characteristics on Safety Precautions for All Axial Fans.*

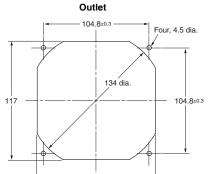
Dimensions (Unit: mm)





Panel Cutouts





Name	Model	Page
Finger Guard	R87F-FG120	11
Filter	R87F-FL120(S)	12

R89F-DS1238 ☐ DC Axial Fans (120 × 120 × t38 mm)

Ratings and Ordering Information

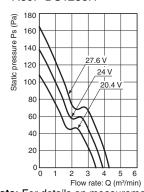
ltem Model	Rated voltage	Permitted voltage fluctuation range	Frequency [Hz]	Rated current [A] *	Rated input [W] *	Rated rotational speed [r/min ⁻¹] *	Maximum flow rate [m³/min] *	Maximum static pressure [Pa] *	Noise [dB] *
R89F-DS1238H	24 VDC	20.4 to 27.6 V		0.5	12	3600	3.88	135	49
R89F-DS1238L	24 VDC	14 to 27.6 V		0.11	2.64	1950	2.1	39.6	32

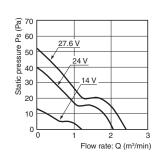
* An asterisk (*) indicates a nominal value.

Motor type	•	Brushless DC motor	
Terminal ty	уре	Lead wires	
Insulation	class	Class E (UL class A)	
Insulation resistance		10 M Ω min. (at 500 VDC) Between lead wire conductor and frame	
Insulation voltage	withstand	500 VAC (1 minute) Between lead wire conductor and frame	
Ambient o temperatur		-20 to +70°C (no icing)	
Ambient storage temperature		-30 to +70°C (no icing)	
Ambient h	umidity	20% to 85%	
Protection		Restraint burnout protection (Current blocking function) Power supply lead wire reverse polarity protection	
Materials	Frame	PBT/ABS alloy (UL94V-0)	
Materials	Blades	PPHOX (UL94V-1)	
Bearings	•	Ball bearings	
Weight		Approx. 330 g	
Compliant standards		EN/IEC60950-1 EN/IEC60335-2-80 (CE marking compliant) EAC RCM	
Certified s	tandards	UL: UL507 (Recognition) CSA: C22.2 No.113	

Characteristics

Flow Rate and Static Pressure Characteristics (Reference Value) R89F-DS1238L R89F-DS1238H

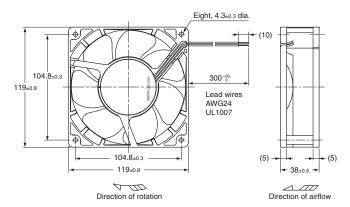




Note: For details on measurement conditions, refer to Flow Rate and Static Pressure Characteristics on Safety Precautions for All Axial Fans.

Dimensions (Unit: mm)

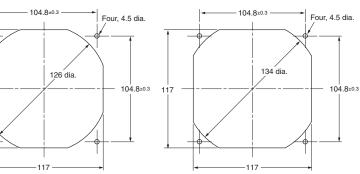




Panel Cutouts

Inlet 104.8±0.3





Name	Model	Page
Finger Guard	R87F-FG120	11
Filter	R87F-FL120(S)	12

R87F-FG Finger Guards

Ratings and Ordering Information

Size	Model number	Weight (g)	
150 dia.	R87F-FG150	Approx. 58	
120 × 120	R87F-FG120	Approx. 45	
92 × 92	R87F-FG90 Approx. 25		
80 × 80	R87F-FG80	Approx. 20	

Applicable Axial Fans

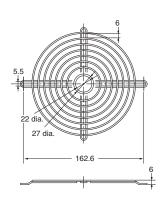
	AC Axial Fan	Finger Guard	
Size	Model		
150 dia.	R87T-A□A0 Series	R87F-FG150	
120×120	R89F-DS1225□ series R89F-DS1238□ series R89F-MS1238HP	R87F-FG120	
	R87F-A□A1 Series R87T-A□A1 Series		
92 × 92	R89F-DS0925□ series R89F-MS0938□P series R87F-A□A9 Series	R87F-FG90	
80 × 80	R87F-A□A8 Series R87T-A□A8 Series	R87F-FG80	

Note: Finger Guards reduce the flow rate by approximately 2% to 5%.

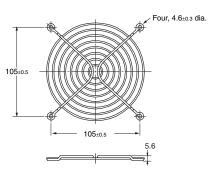
Dimensions (Unit: mm)

Material: steel, Joints: spot welded, Surface: nickel-chrome plated

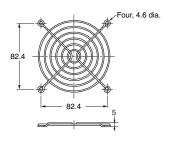
R87F-FG150



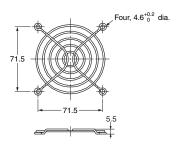
R87F-FG120



R87F-FG90



R87F-FG80



R87F-FL Filters

Ratings and Ordering Information

Filter

Size	Model number	Weight (g)
120 × 120	R87F-FL120	Approx. 43
92 × 92	R87F-FL90	Approx. 30
80 × 80	R87F-FL80	Approx. 21
120 × 120	R87F-FL120S	Approx. 19

Note: The filter contains one medium.

Media

Size	Model number	
120 × 120	R87F-FL120-M120	
92 × 92	R87F-FL90-M90	
80 × 80	R87F-FL80-M80	

Note: Use the following model number to order the Media only. R87F-FL□-M□ (□: 120, 90, or 80)

(One set containing five Media, weight: 5 g max.)

Applicable Axial Fans

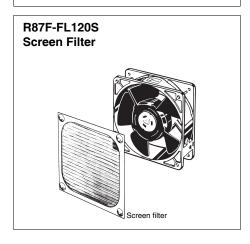
AC Axial Fan		Filter	
Size	Model	Plastic	Aluminum
150 dia.	R87T-A□A0 Series		
	R89F-DS1225□ series		
	R89F-DS1238□ series		
120×120	R89F-MS1238HP	R87F-FL120	R87F-FL120S
	R87F-A□A1 Series		
	R87T-A□A1 Series		
92 × 92	R87F-A□A9 Series	R87F-FL90	
80 × 80	R87F-A□A8 Series	R87F-FL80	
00 × 00	R87T-A□A8 Series	11071 -1 200	

Note: Filters reduce the flow rate by approximately 20% to 40%. Ensure that there is no clogging.

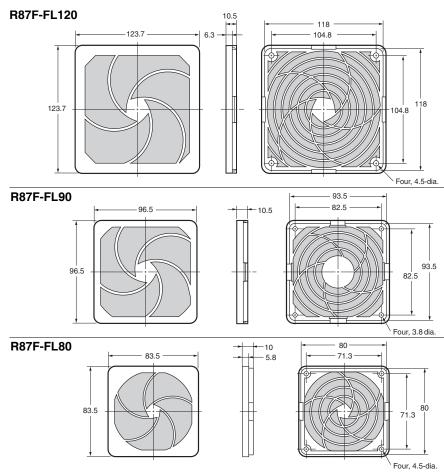
R87F-FL Plastic Filter Guard Hedia Plastic filter

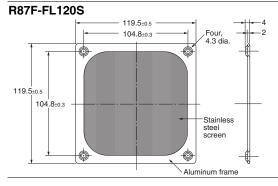
Mounting Method

- Attach the guard to the Fan using the mounting bolts. (There are no mounting bolts provided with the Plastic Filter.)
- With the media held between the retainer and the guard, hook the retainer to the guard. (The Media and retainer can be one-touch mounted/dismounted.)



Dimensions (Unit: mm)



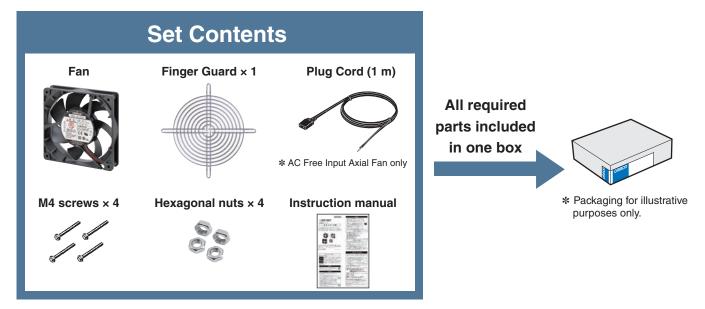


- Note: 1. The Screen Filter is made using aluminium and has an <u>EMI/RFI</u> shielding effect.
 - 2. When mounting the Screen Filter, make sure that it does not come in contact with the fan blades.
 - 3. The screen is a 30×30 aluminum mesh. (30 aluminum wires per inch)

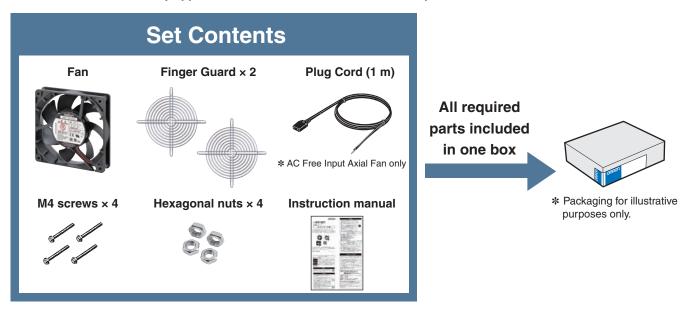
Set Model

- Select the optimum size for a variety of control panels.
- All required parts can be ordered as a set, ideal for fan replacement.
- All required maintenance parts are included in one box, requiring less space and reduced parts management work.

R89F-



R89F-□□□□□□□-S2 *Only applicable for DC Axial Fans and AC Free Input Axial Fans.



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