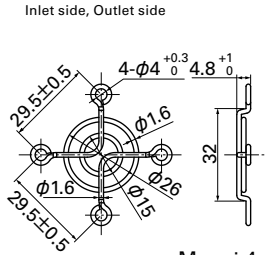


Dimensions (unit : mm)

36mm sq. type

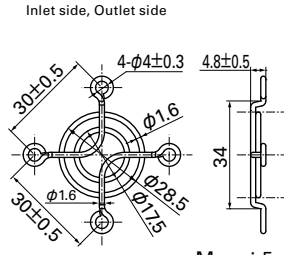
Model : 109-1050 Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 4g

38mm sq. type

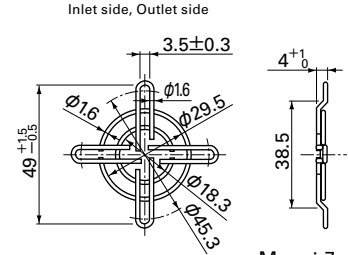
Model : 109-1065 Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 5g

40mm sq. type

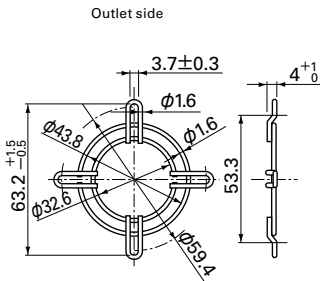
Model : 109-059 Surface treatment : Nickel-chrome plating (silver) Color (silver)
Model : 109-059H Surface treatment : Cation electropainting (black) Color (black)



Mass : 7g

52mm sq. type

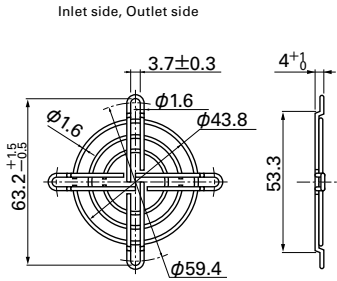
Model : 109-149 Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 7g

52mm sq. type

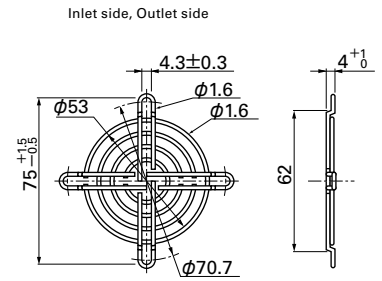
Model : 109-149E Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 9g

60mm sq. type

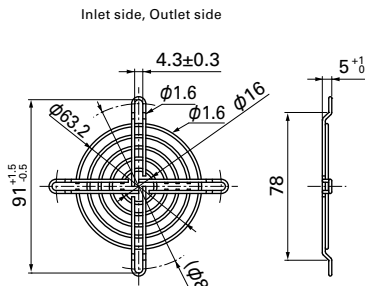
Model : 109-139E Surface treatment : Nickel-chrome plating (silver) Color (silver)
Model : 109-139H Surface treatment : Cation electropainting (black) Color (black)



Mass : 14.5g

70mm sq. type

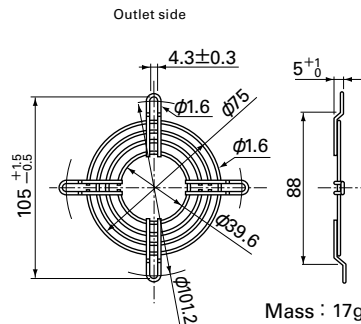
Model : 109-1128 Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 17g

80mm sq. type

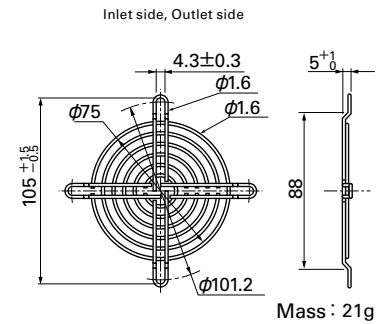
Model : 109-049C Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 17g

80mm sq. type

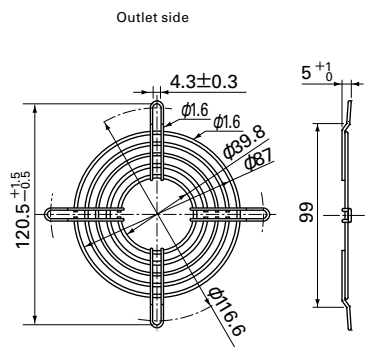
Model : 109-049E Surface treatment : Nickel-chrome plating (silver) Color (silver)
Model : 109-049H Surface treatment : Cation electropainting (black) Color (black)



Mass : 21g

92mm sq. type

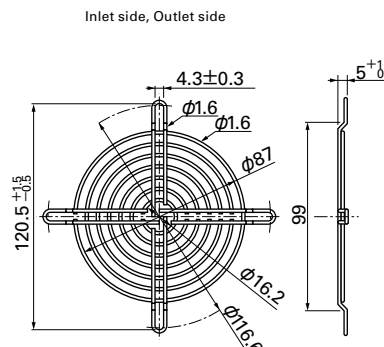
Model : 109-099C Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 22g

92mm sq., φ100mm type

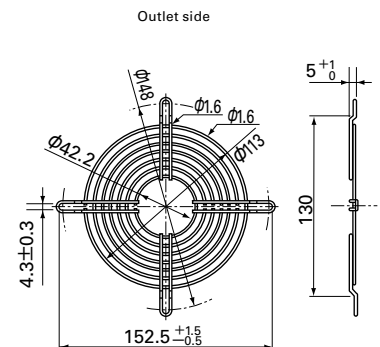
Model : 109-099E Surface treatment : Nickel-chrome plating (silver) Color (silver)
Model : 109-099H Surface treatment : Cation electropainting (black) Color (black)



Mass : 29g

120mm sq. type

Model : 109-019C Surface treatment : Nickel-chrome plating (silver) Color (silver)
Model : 109-019H Surface treatment : Cation electropainting (black) Color (black)



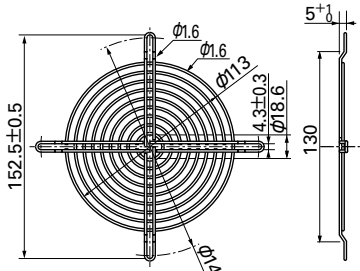
Mass : 32g

Dimensions (unit : mm)

120mm sq. type

Model : 109-019E Surface treatment : Nickel-chrome plating Color (silver)
 : 109-019K : Cation electroplating (black)

Inlet side, Outlet side

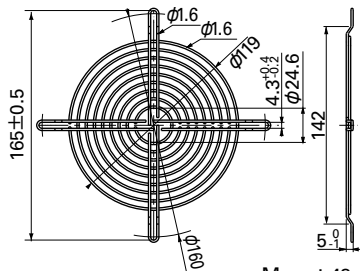


Mass : 42g

127mm sq., φ175mm type

Model : 109-722 Surface treatment : Nickel-chrome plating Color (silver)

Inlet side, Outlet side

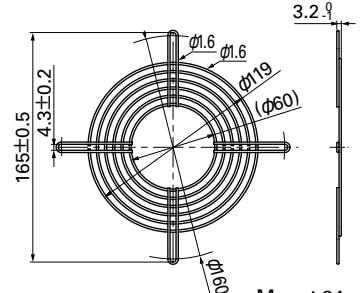


Mass : 43g

127mm sq. type

Model : 109-723 Surface treatment : Nickel-chrome plating Color (silver)

Outlet side

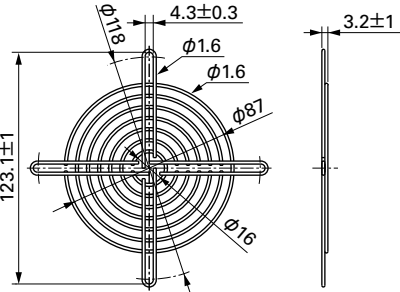


Mass : 34g

φ133mm type

Model : 109-1112 Surface treatment : Nickel-chrome plating Color (silver)

Inlet side

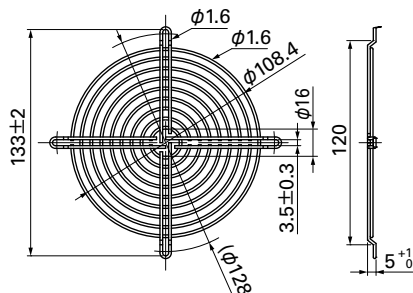


Mass : 65g

φ136mm type

Model : 109-1139 Surface treatment : Nickel-chrome plating Color (silver)

Impeller side, Nameplate side

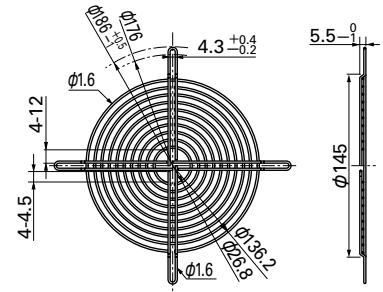


Mass : 41g

140mm sq. type

Model : 109-719 Surface treatment : Nickel-chrome plating Color (silver)

Inlet side, Outlet side

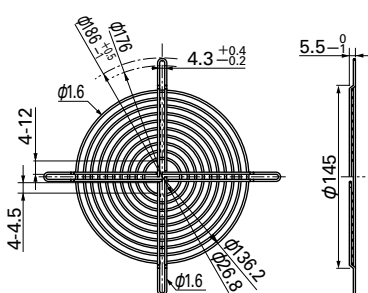


Mass : 51g

140mm sq. type

Model : 109-719H Surface treatment : Cation electroplating Color (black)

Inlet side, Outlet side

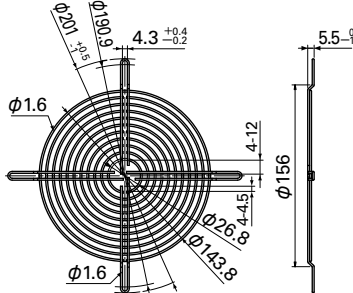


Mass : 51g

150mm sq. type

Model : 109-1051 Surface treatment : Nickel-chrome plating Color (silver)

Inlet side, Outlet side

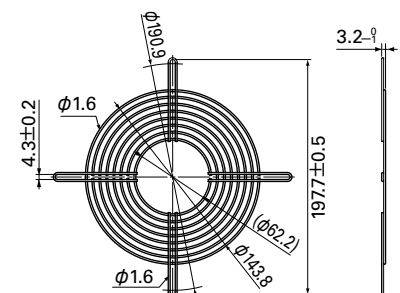


Mass : 63g

150mm sq. type

Model : 109-1052 Surface treatment : Nickel-chrome plating Color (silver)

Outlet side

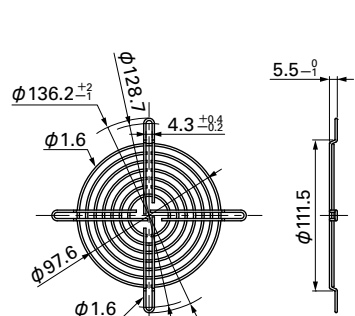


Mass : 53g

φ150mm type

Model : 109-1104 Surface treatment : Nickel-chrome plating Color (silver)
 : 109-1104H : Cation electroplating (black)

Inlet side

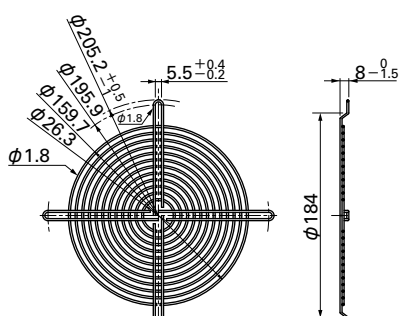


Mass : 31g

160mm sq. type

Model : 109-619E Surface treatment : Nickel-chrome plating Color (silver)
 Model : 109-619H : Cation electroplating (black)

Inlet side, Outlet side

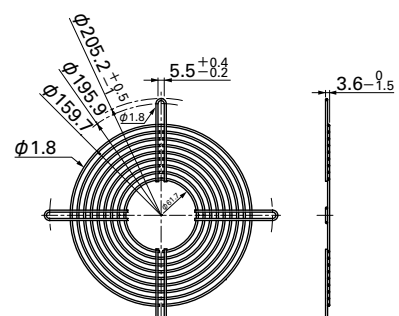


Mass : 85g

160mm sq. type

Model : 109-620 Surface treatment : Nickel-chrome plating Color (silver)

Outlet side

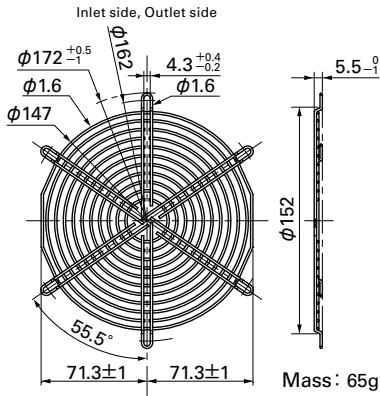


Mass : 74g

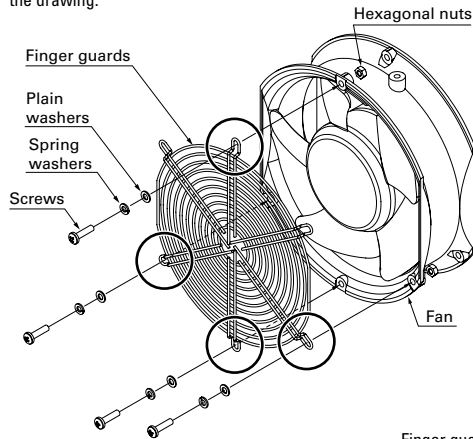
Dimensions (unit : mm)

φ172mm SideCut type

Model : 109-319J Surface treatment : Nickel-chrome plating (silver) Color
 Applicable Model: 9SG57**P5***/9GV57**H501 : Cation electroplating (black)
 9CR5748PG001/9WVG5748P5*001

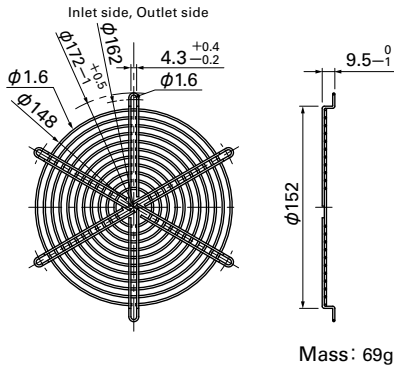


Finger guard 109-319J should be mounted with four holes as in the drawing.



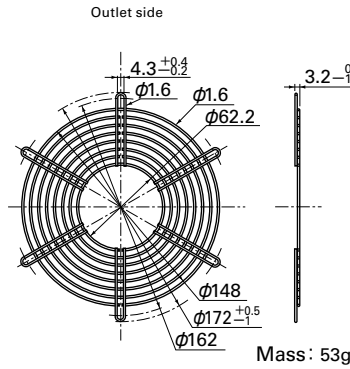
φ172mm SideCut, Round type

Model : 109-319E Surface treatment : Nickel-chrome plating (silver) Color
 : 109-319H : Cation electroplating (black)

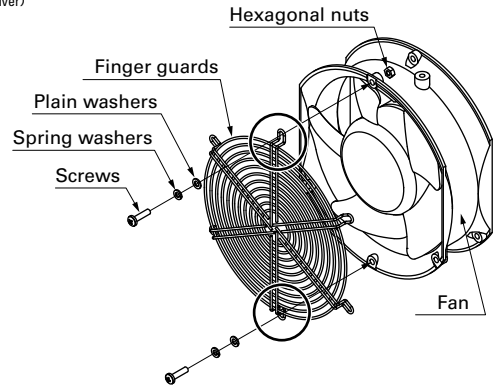


φ172mm SideCut, Round type

Model : 109-320 Surface treatment : Nickel-chrome plating (silver) Color

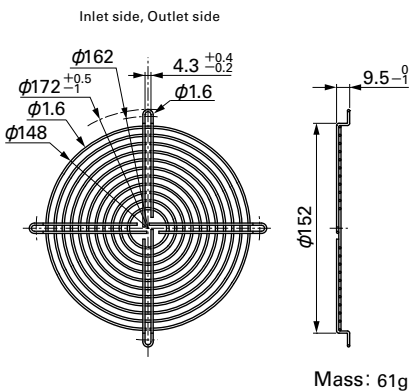


Finger guards 109-319E, 109-319H, and 109-320 should be mounted with two holes as in the drawing and do not use any other holes.



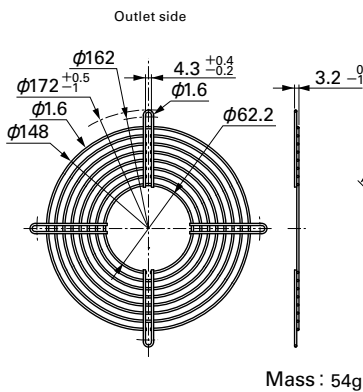
φ172mm Round type

Model : 109-1066 Surface treatment : Nickel-chrome plating (silver) Color



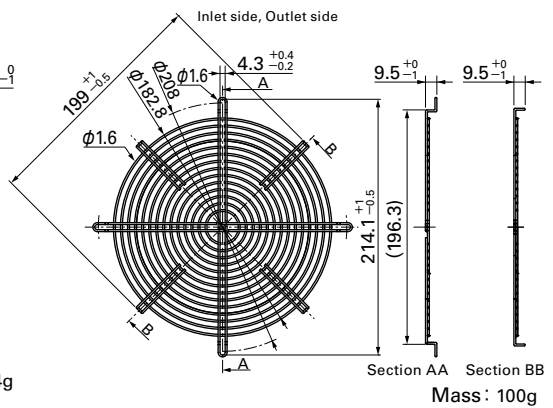
φ172mm Round type

Model : 109-1068 Surface treatment : Nickel-chrome plating (silver) Color



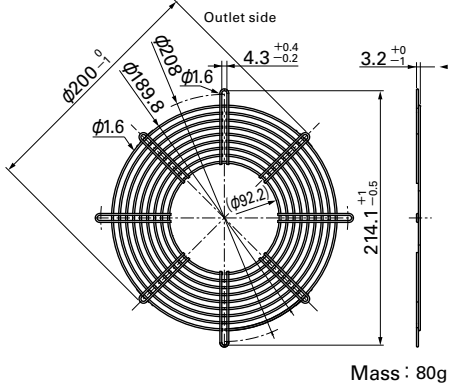
φ200mm type

Model : 109-1102 Surface treatment : Nickel-chrome plating (silver) Color
 Applicable Model: 9GV2048P0G201



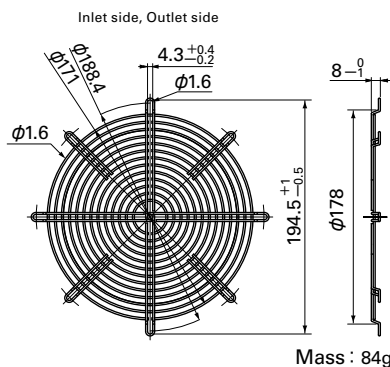
φ200mm type

Model : 109-1103 Surface treatment : Nickel-chrome plating (silver) Color
 Applicable Model: 9GV2048P0G201



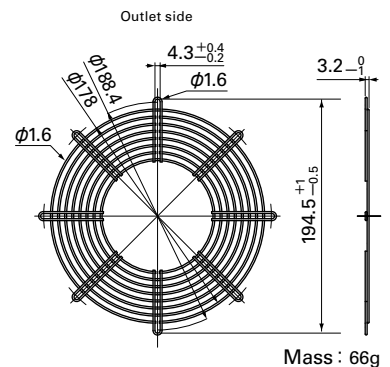
φ200mm type

Model : 109-720 Surface treatment : Nickel-chrome plating (silver) Color
 : 109-720H : Cation electroplating (black)
 Applicable Model: 109E2024****/9EC20***001



φ200mm type

Model : 109-721 Surface treatment : Nickel-chrome plating (silver) Color
 : 109-721H : Cation electroplating (black)
 Applicable Model: 109E2024****/9EC20***001



Option

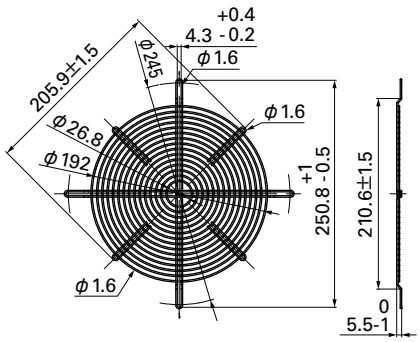
Finger guards

DC AC

Dimensions (unit : mm)

φ221mm type

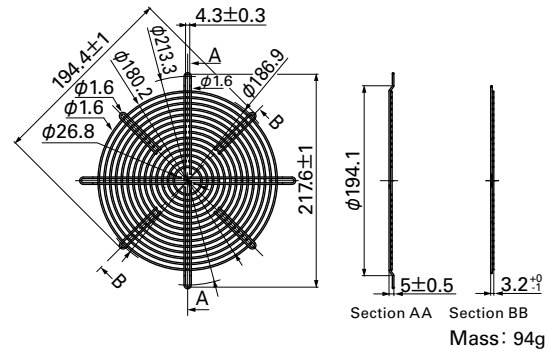
Model : 109-1138 Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 105g

φ225mm type

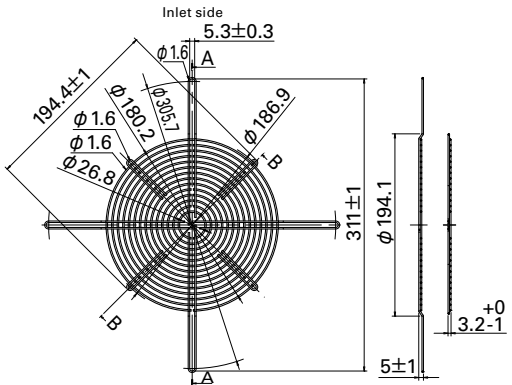
Model : 109-1137 Surface treatment : Nickel-chrome plating (silver) Color (silver)



Mass : 94g

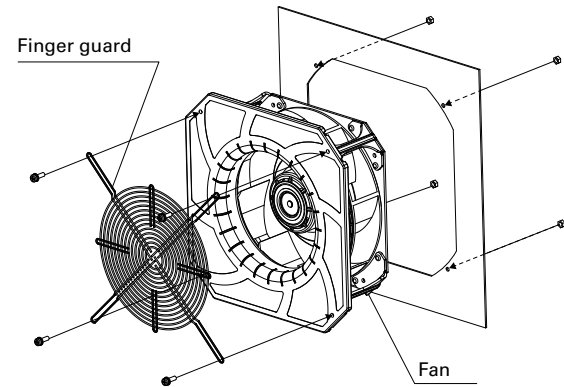
270mm sq. type (for Bracket-mounted Centrifugal Fan)

Model : 109-1146 Surface treatment : Nickel-chrome plating (silver) Color (silver)



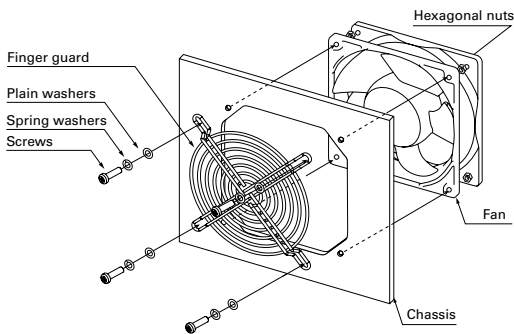
Mass : 106g Section AA Section BB

Finger guard 109-1146 should be mounted with four holes as in the drawing.

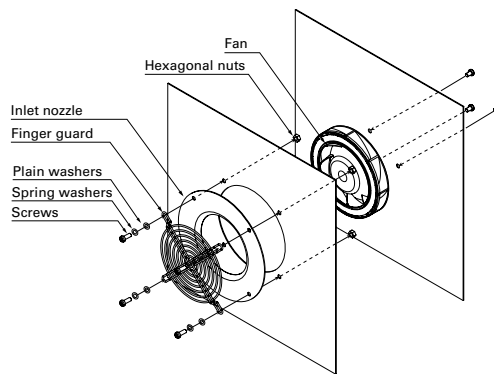


Mounting example

Axial fan



Centrifugal fan



Inlet nozzle for centrifugal fan and splash proof centrifugal fan

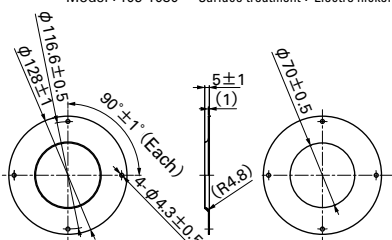
DC

Nozzle mounted in fan inlet side to adjust the flow of introduced air. Material: Steel sheet

Dimensions (unit : mm)

φ100mm type

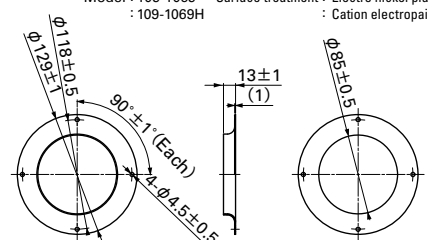
Model : 109-1080 Surface treatment : Electro nickel plating (silver) Color (silver)



Mass : 80g

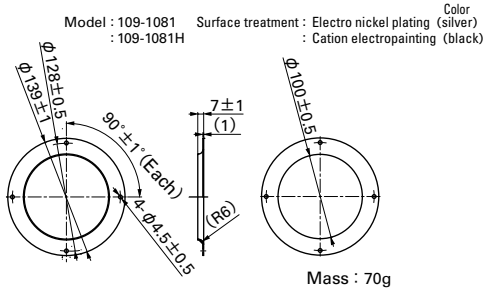
φ133mm type

Model : 109-1069 Surface treatment : Electro nickel plating (silver) Color (silver)
: 109-1069H : Cation electropainting (black)

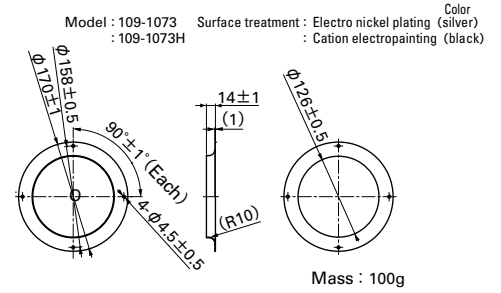


Mass : 76g

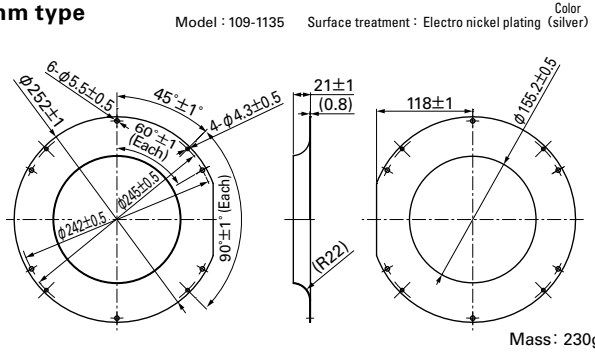
φ150mm type



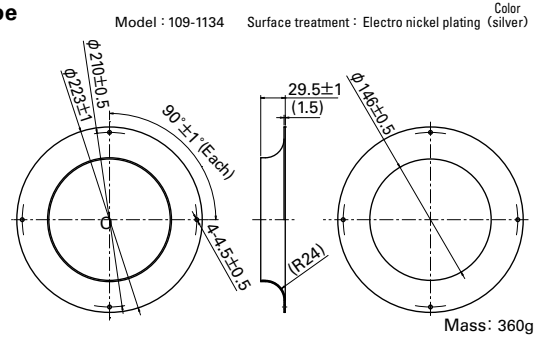
φ175mm type



φ221mm type



φ225mm type

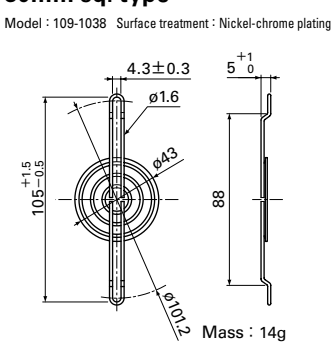


EMC guards

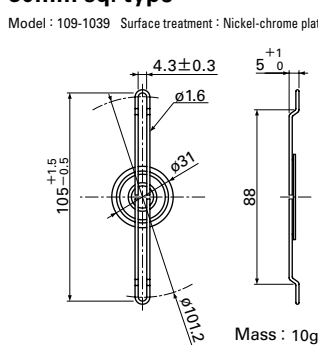
It is a metallic piece that protects materials from the adverse effects of electromagnetic noise sources. It provides electromagnetic shielding. It is attached to the casing of a device by means of the fan fixing screw(s). Ground the devices equipped with an EMC guard.

Dimensions (unit : mm)

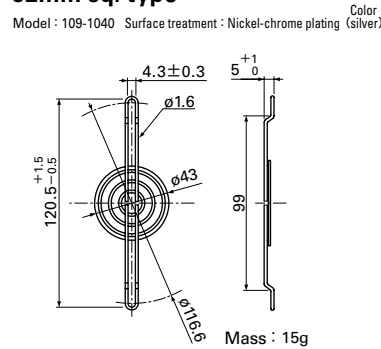
80mm sq. type



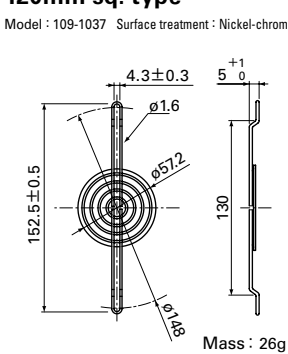
80mm sq. type



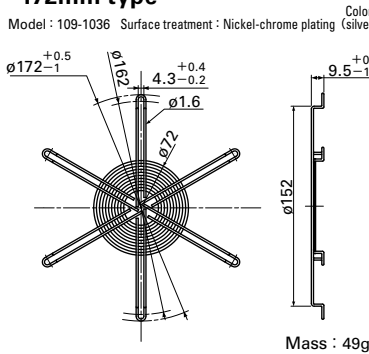
92mm sq. type



120mm sq. type

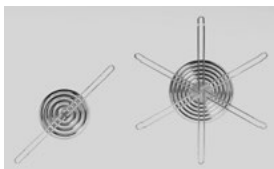


φ172mm type

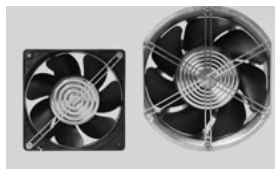


EMC guard

Dimensions of fans (mm)	Representative fans model numbers	EMC guards model numbers
80×80×15	109P08*	109-1039
	9GA08*	109-1038
80×80×20	109L08*	109-1038
	9GV08*	109-1038
80×80×25	109R08*	109-1039
	9A08*	
	9GA08*	
80×80×32	109P08*	109-1038
	9GA08*	109-1039
80×80×38	9G08*	109-1039
	9GA08*	
	9GV08*	
92×92×25	109L09*	109-1040
	109P09*	
92×92×32	9G09*	109-1040
	9G09*	
92×92×38	9G09*	109-1040
	9GV09*	
	9GA09*	
120×120×25	9G12*	109-1037
	9GV12*	
120×120×38	9GL12*	109-1037
	9LB12*	
	9G12*	
	9GV12*	
	9HV12*	
φ172×25	109E47*	109-1036
φ172×51	109L17*	109-1036
	9GV57*	
	109E17*	
	109E57*	
	9SG57*	



EMC guard



attached to a cooling fan

Resin finger guards

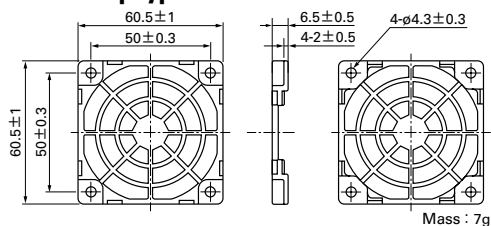
DC AC

Dimensions(unit : mm)

Material Frame : Resin (PPE+PS) UL File No.E82268 94V-0

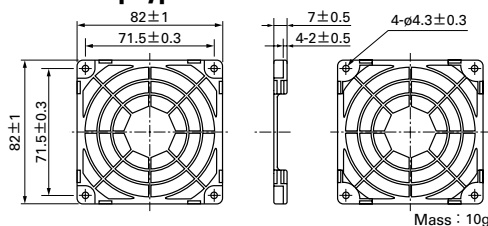
60mm sq. type

Model : 109-1003G



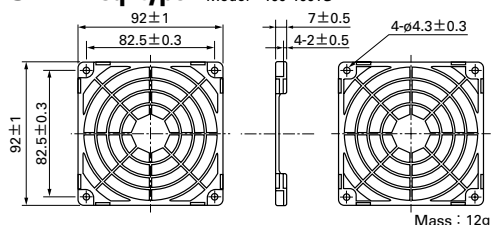
80mm sq. type

Model : 109-1002G



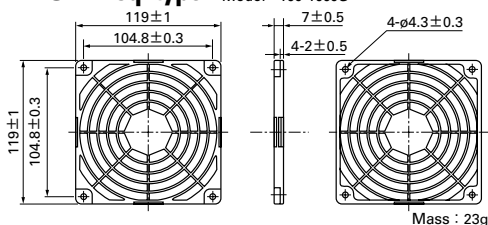
92mm sq. type

Model : 109-1001G



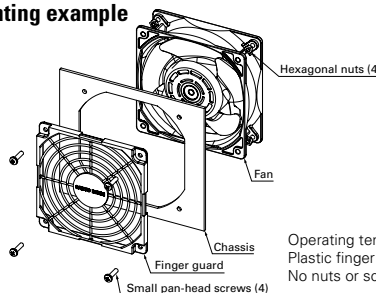
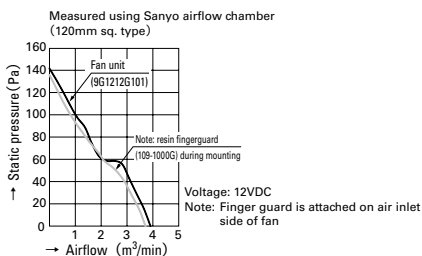
120mm sq. type

Model : 109-1000G



Airflow and Static Pressure Characteristics

Mounting example



Operating temperature limit is between -20°C to +70°C (non condensing)
Plastic finger guards are placed on both the intake and exhaust sides of the fan.
No nuts or screws for use in attachment included.

Resin filter kits

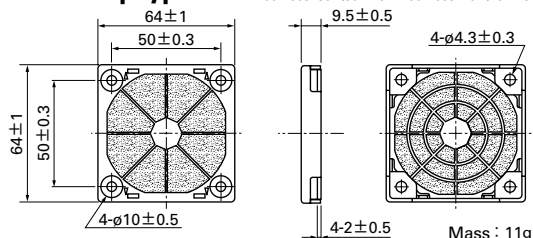
DC AC

Dimensions (unit : mm)

Material Guard, cover : Resin (PPE+PS) UL File No.E82268 94V-0
Filter : Polyurethane foam UL File No.E74916(S) 94HF-1

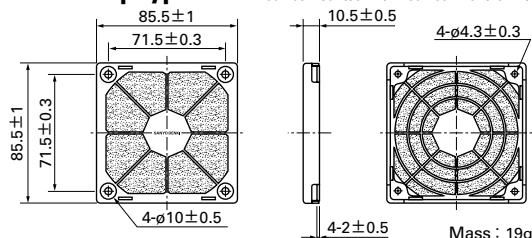
60mm sq. type

Model : 109-1003F13 (13PPI) 109-1003F20 (20PPI)
: 109-1003F30 (30PPI) 109-1003F40 (40PPI)



80mm sq. type

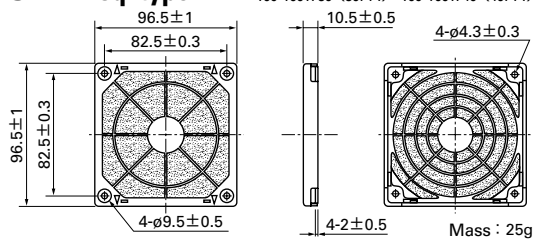
Model : 109-1002F13 (13PPI) 109-1002F20 (20PPI)
: 109-1002F30 (30PPI) 109-1002F40 (40PPI)



- Replacement filter (5 sheets each)
- 60mm sq. type
 - 109-1003M13 (13PPI)
 - 109-1003M20 (20PPI)
 - 109-1003M30 (30PPI)
 - 109-1003M40 (40PPI)

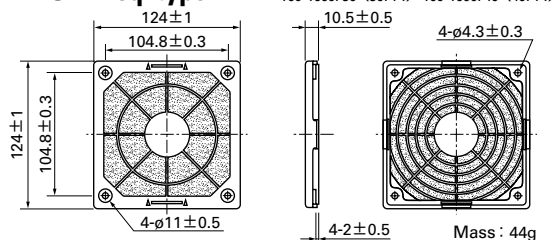
92mm sq. type

Model : 109-1001F13 (13PPI) 109-1001F20 (20PPI)
: 109-1001F30 (30PPI) 109-1001F40 (40PPI)



120mm sq. type

Model : 109-1000F13 (13PPI) 109-1000F20 (20PPI)
: 109-1000F30 (30PPI) 109-1000F40 (40PPI)



- 80mm sq. type
- 109-1002M13 (13PPI)
 - 109-1002M20 (20PPI)
 - 109-1002M30 (30PPI)
 - 109-1002M40 (40PPI)

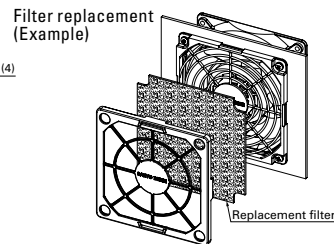
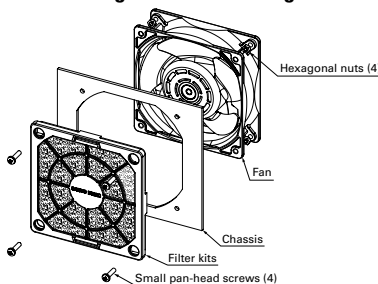
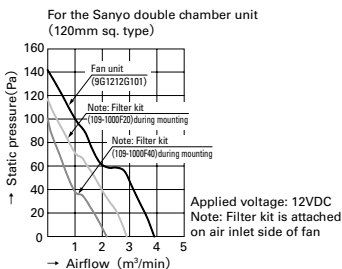
- 92mm sq. type
- 109-1001M13 (13PPI)
 - 109-1001M20 (20PPI)
 - 109-1001M30 (30PPI)
 - 109-1001M40 (40PPI)

- 120mm sq. type
- 109-1000M13 (13PPI)
 - 109-1000M20 (20PPI)
 - 109-1000M30 (30PPI)
 - 109-1000M40 (40PPI)

PPI Particles Per Inch : Indicates the number of holes per inch. Note that the higher the number, the finer the grain of the sponge.

Airflow and Static Pressure Characteristics

Reference Diagram For Mounting



● Replacement filters can be replaced by taking off the front part of the filter kit. There is no need to remove the screws.

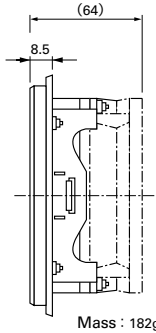
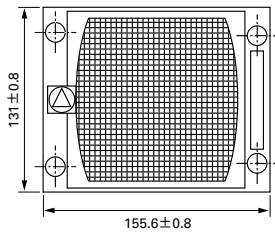
● Filter kit is one of the option to keep air in the chassis clean filtering dust in external atmosphere when pulling-air cooling is implemented. The filter kit is hooked up through mounting hole of fan frame with screw as well as finger guard. Some performances (airflow & static pressure) of the fan motor decreases when filter kit is hooked up. ● This Filter Kit is composed of 3 components, including a guard, a filter and a cover. It is delivered as a finished product at delivery, saving assembly time when mounting. It can be mounted by inserting a screw in the apertures of the cover. ● The filter and cover can be easily removed from the guard with one touch. There is no need for fan removal when undertaking maintenance. ● Operating temperature limit is between -10°C to +60°C (non condensing). ● The filter will deteriorate with age, and the level of deterioration will vary upon usage conditions. Please be aware that the filter has a greater tendency to deteriorate under high temperature and humidity. For long-term storage, please store under the temperature range of 10°C to 30°C, humidity range of 20% to 65%. Usage and storage period is approximately 2 years. ● Cooling ability decreases with filter contamination due to clogging. Filter replacement is recommended approximately every six months of usage. Please replace the filter if deterioration or clogging is seen at inspection. ● When replacing the filter, please use genuine SANYO DENKI filters. ● Do not water-wash the filter. ● Avoid use and storage under high temperature or humidity, direct sunlight or exposure to ultraviolet light, or in corrosive gas. ● No nuts or screws for use in attachment included.

Applicable models : AC Fan 120×120×38mm

Neither filter kit nor screen kit can be installed on ACDC fans and AC fans with sensor.
Please evaluate it by assembly filter kits on the device.

Dimensions (unit : mm)

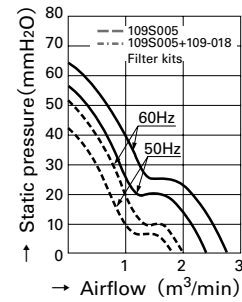
Model : 109-018



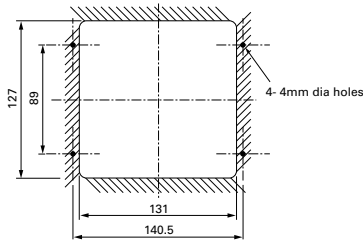
Material
Steel Wire Mesh : Stainless 16-mesh nets in 3 layers
Cover : Resin
Metal fittings : Steel (chromate-plated)
Mass : 182g

Airflow - Static Pressure Characteristics

(by SANYO airflow chamber)

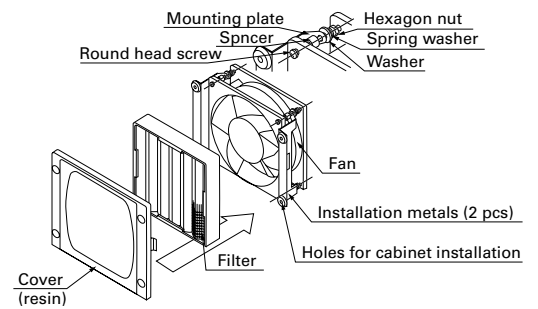


Reference Dimensions Of Mounting Holes (unit : mm)



The parts shown in the installation diagram (nuts, washers, and screws) are included.

Mounting Example

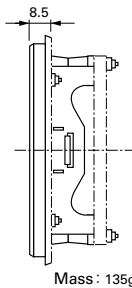
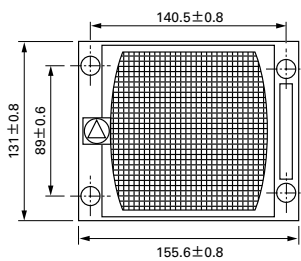


Applicable models : AC Fan 120×120×38mm

Neither filter kit nor screen kit can be installed on ACDC fans and AC fans with sensor.

Dimensions (unit : mm)

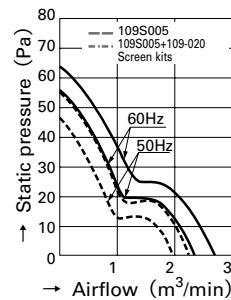
Model : 109-020



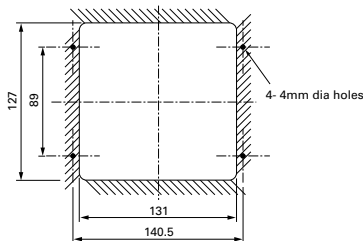
Material
Steel Wire Mesh : Stainless 16-mesh nets in 1 layers
Cover : Resin
Metal fittings : Steel (chromate-plated)
Mass : 135g

Airflow - Static Pressure Characteristics

(by SANYO airflow chamber)

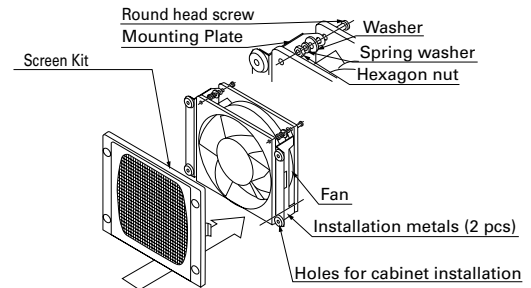


Reference Dimensions Of Mounting Holes (unit : mm)



The parts shown in the installation diagram (nuts, washers, and screws) are included.

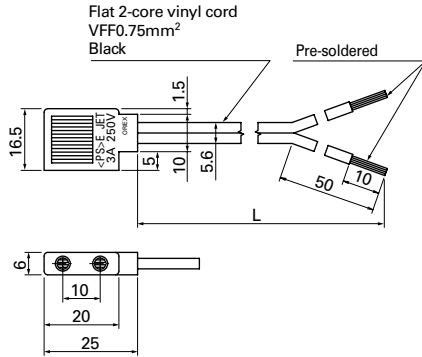
Mounting Example



Products Compliant with Electrical Appliance and Material Safety Law (unit : mm)

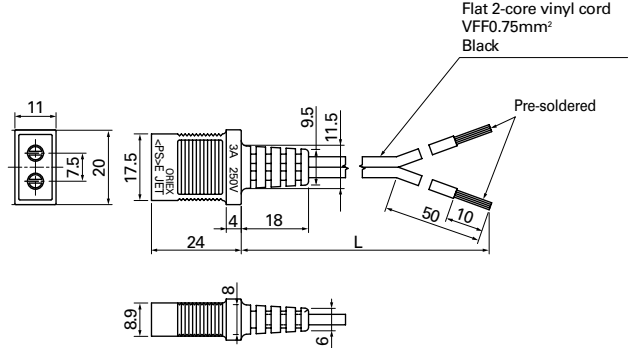
For 80×80×42mm

Model	Power cord length (L) [mm]	Mass [g]
489-008-L10	1,000	30
489-008-L21	2,100	61
489-008-L35	3,500	99



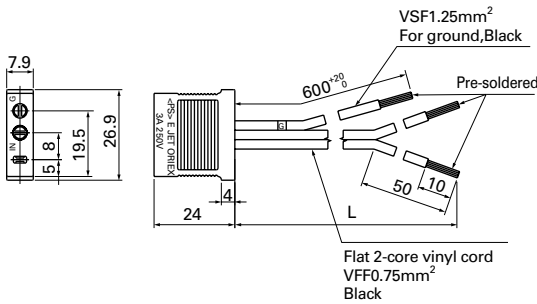
For 80×80×25mm 80×80×38mm 92×92×25mm 120×120×25mm

Model	Power cord length (L) [mm]	Mass [g]
489-016-L10	1,000	34
489-016-L21	2,100	64



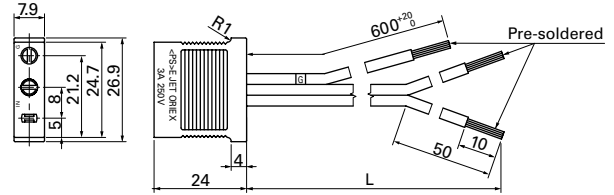
For 120×120×38mm (not including AC/DC fan)

Model	Power cord length (L) [mm]	Mass [g]
489-006-L10	1,000	47
489-006-L21	2,100	76
489-006-L35	3,500	114



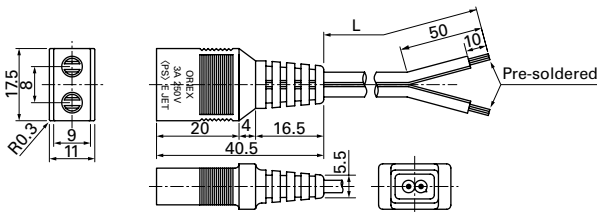
For 120×120×38mm (not including AC/DC fan)

Model	Power cord length (L) [mm]	Mass [g]
489-037-L10	1,000	46
489-037-L21	2,100	76
489-037-L35	3,500	114



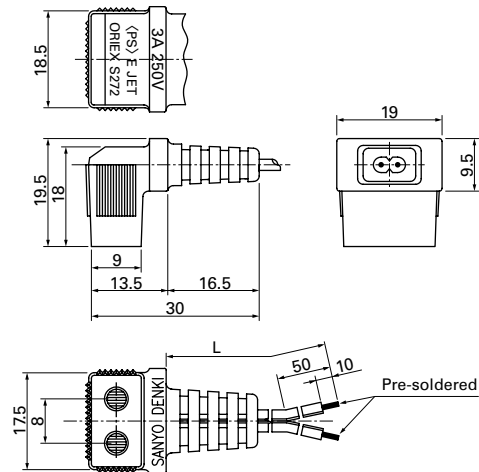
For 160×160×51mm

Model	Power cord length (L) [mm]	Mass [g]
489-1618-L10	1,000	34
489-1618-L21	2,100	63
489-1618-L28	2,800	83



For φ172mm×51mm φ172×150×51mm 160×160×51mm

Model	Power cord length (L) [mm]	Mass [g]
489-1619-L10	1,000	34
489-1619-L21	2,100	64

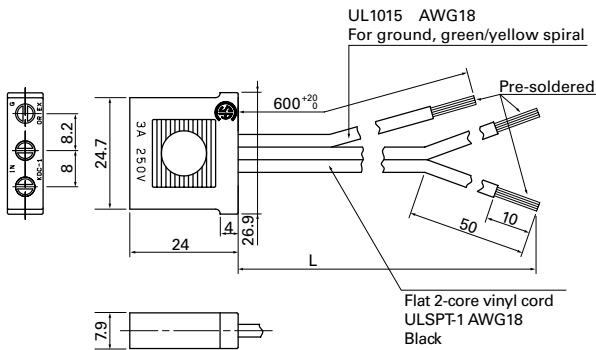


●Be careful not to damage the plug/cord when taking them out of the package.

UL/CSA Certified (unit : mm) **UL FILE No.: E50197** **CSA FILE No.: LR67048**

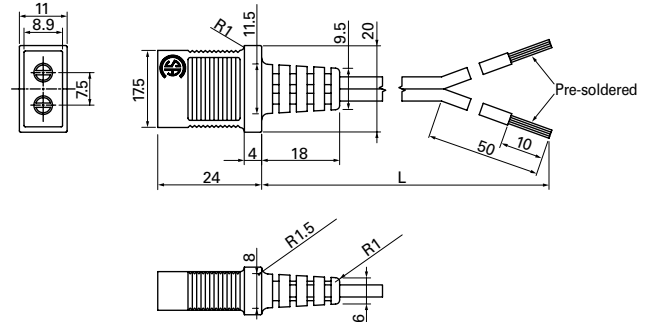
For 120×120×38mm (not including AC/DC fan)

Model	Power cord length (L) [mm]	Mass [g]
489-007-L10	1,000	48
489-007-L21	2,100	80



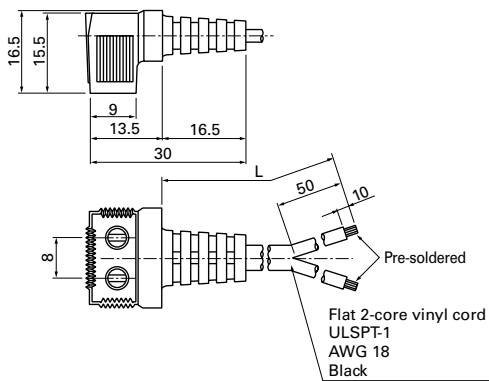
For 80×80×25mm 80×80×38mm 92×92×25mm

Model	Power cord length (L) [mm]	Mass [g]
489-047-L10	1,000	38
489-047-L21	2,100	71



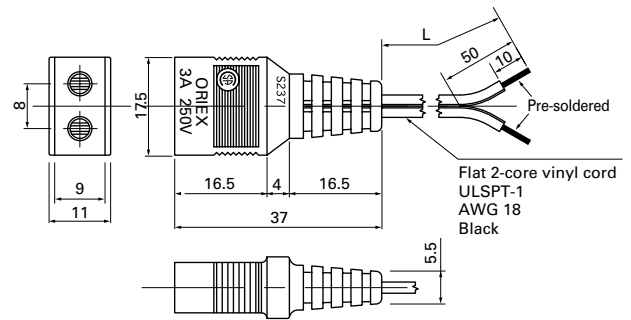
For φ172mm×51mm φ172×150×51mm 160×160×51mm

Model	Power cord length (L) [mm]	Mass [g]
489-084-L10	1,000	37
489-084-L21	2,100	70



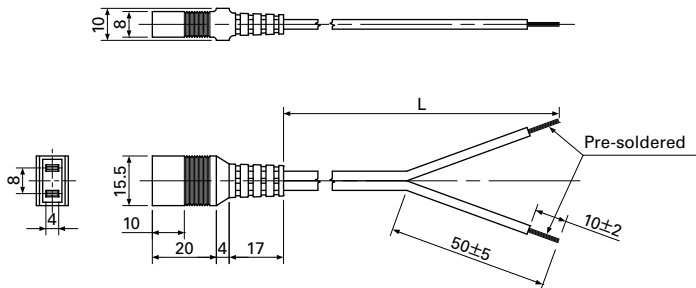
For 160×160×51mm

Model	Power cord length (L) [mm]	Mass [g]
489-086-L10	1,000	37
489-086-L21	2,100	70



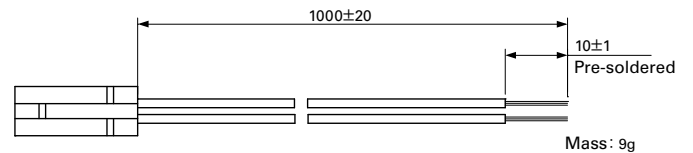
Products compliant with Electrical Appliance and Material Safety Law, UL/CSA [c-UL] Certified (unit : mm) **UL FILE No.E43202**

Model	Power cord length (L) [mm]	Mass [g]
489-1635-L10	1,000	38
489-1635-L21	2,100	74



Wiring Harness for Sensor

Model: 489-1636



● Be careful not to damage the plug/cord when taking them out of the package.

Recommended connectors for DC fans

DC

Manufacturer	2 pins Housing model number	3 pins Housing model number	4 pins Housing model number	Contact model number
MOLEX	22-01-1022:P/N 5051-02	22-01-1032:P/N 5051-03 22-01-3037:P/N 2695-03RP	22-01-1042:P/N 5051-04	08-70-0064:P/N 5159T
				08-70-0048:P/N 5159PBT
				39-00-0372:P/N 2759T
	43025-0200	—	43025-0400	43030-0001
	51191-0200	51191-0300	51191-0400	43030-0002
50-37-5023:P/N 5264-02	50-37-5033:P/N 5264-03	50-37-5043:P/N 5264-04	43030-0003	
51191-0200	51191-0300	51191-0400	50802-9001	
			08-70-1039:P/N 5263PBT	
50-37-5023:P/N 5264-02	50-37-5033:P/N 5264-03	50-37-5043:P/N 5264-04	39-00-0059:P/N 5556PBT	
39-01-2020:P/N 5557-02R	—	39-01-2040:P/N 5557-04R	39-00-0038:P/N 5556T	
Tyco Electronics	171822-2	171822-3	171822-4	170262-1
	179228-2	179228-3	179228-4	179227-1
Hirose	DF1B-2EP-2.5RC	DF1B-3EP-2.5RC	—	DF1B-2428PCF
	DF3-2EP-2C	DF3-3EP-2C	DF3-4EP-2C	DF3-EP2428PCF
	DF3AA-2EP-2C	DF3AA-3EP-2C	DF3AA-4EP-2C	
Japan Solderless Terminals	EHR-2	EHR-3	EHR-4	SEH-001T-P0.6
	SMP-02V-BC	SMP-03V-BC	SMP-04V-BC	SHF-001T-0.8BS
	SMP-02V-NC	SMP-03V-NC	—	
	H2P-SHF-AA	H3P-SHF-AA	—	
	PHR-2	PHR-3	PHR-4	SPH-002T-P0.5S
	XAP-02V-1	XAP-03V-1	XAP-04V-1	SXA-001T-P0.6
	XMP-02V	XMP-03V	—	
	XHP-2	XHP-3	XHP-4	SXH-001GU-P0.6
	SMR-02V-B	SMR-03V-B	SMR-04V-B	SXH-001T-P0.6
	SMR-02V-N	SMR-03V-N	SMR-04V-N	SYM-001T-P0.6

Recommended tubes and cable ties for DC fan

DC

	Manufacturer	Representative model numbers	Specifications	UL File No.
PVC tube	YAMAICHI CHEMICAL	YET-300H	105°C 300V VW-1	E55011
	IWASE KAGAKU KOGYO	AH-3		E56036
Thermal contraction tube	SUMITOMO ELECTRIC	SUMITUBE® F2 (Z)	125°C 600V VW-1	E48762
	SUMI-PAC	SUMITUBE® F32		
Cable tie	THOMAS & BETTS	TY-23M	UL94V-2	E49405
	PANDUIT	BT1M		E56854
	HellermannTyton	T18R		E64962

Note : The specifications in this table are for reference purposes only. When selecting, please check catalogs of each brand.