# 80mm sq.

# San Ace 80

**20mm thick, 25mm thick**
**External thermistor model /**
**Built-in thermistor model**



Note: Optional external thermistors are sold separately.

## ■General Specifications

- Material ·················· Frame: Plastics (Flammability: UL94V-0),
  Impeller:Plastics (Flammability: UL94V-1)
- Life Expectancy ········ Varies for each model（L10:Survival rate:90% at 60℃ ,
  rated voltage, and continuously run in a free air state）
- Lead Wire ················· ⊕red ⊖black Control brown (Only for external thermistor type)
- Fail-safe ···················· The motor becomes high speed when the thermistor is unable
  to detect the temperature in case of open or short circuit etc.
  (Models equipped with a pulse sensor are excluded.)
- Storage Temperature··· −30℃ to +70℃ （Non-condensing）

# 80×80×25mm 〔Mass：110g〕

## ■ Specifications  External thermistor model

The numbers in ( ) represent ribless models.

| Model No. | Rated Voltage [V] | Operating Voltage Range [V] | Rated Current [A] | Rated Input [W] | Rated Speed [min⁻¹] | Air Flow [m³/min] | [CFM] | Static Pressure [Pa] | [inchH₂0] | SPL [dB(A)] | Operating Temperature [℃] | Life Expectancy [h] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **109R0812T4H12(121)** | 12 | 10.2 to 13.8 | 0.14 | 1.68 | 2,900 | 1.03 | 36.4 | 35.3 | 0.142 | 29 | −10 to +60 | 60,000 |
| | | | 0.09 | 1.08 | 1,450 | 0.51 | 18.0 | 8.8 | 0.035 | 14 | | |

Note: The top row gives characteristics shown when the thermistor temperature is 35℃ ,while the bottom row gives characteristics shown when the thermistor temperature is 28℃ (Thermistor: 169-002).

## Built-in thermistor model

The numbers in ( ) represent ribless models.

| Model No. | Rated Voltage [V] | Operating Voltage Range [V] | Rated Current [A] | Rated Input [W] | Rated Speed [min⁻¹] | Air Flow [m³/min] | [CFM] | Static Pressure [Pa] | [inchH₂0] | SPL [dB(A)] | Operating Temperature [℃] | Life Expectancy [h] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **109R0812T4H122(123)** | 12 | 10.2 to 13.8 | 0.14 | 1.68 | 3,000 | 1.07 | 37.8 | 37.7 | 0.151 | 29 | −10 to +60 | 60,000 |
| | | | 0.09 | 1.08 | 1,450 | 0.51 | 18.0 | 8.8 | 0.035 | 14 | | |

Note: The top row gives characteristics shown when the emperature is 40℃ , while the bottom row gives characteristics shown when the temperature is 30℃ .

## ■ Dimensions （Unit : mm） (With ribs)

External thermistor model
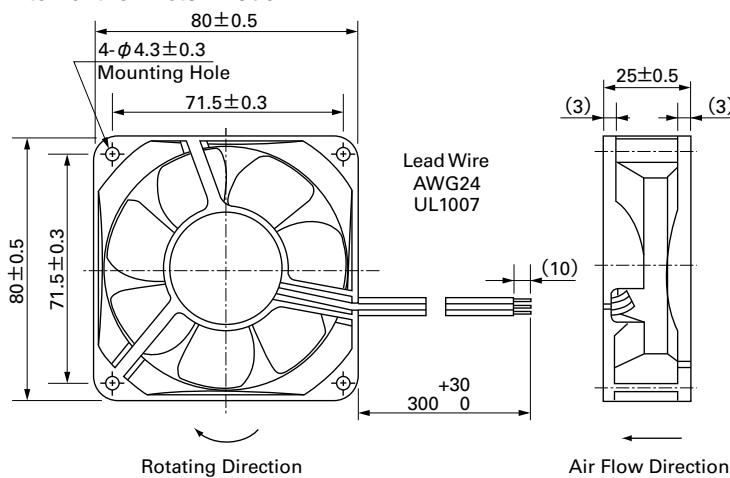


## ■ Reference dimensions of mounting holes and vent opening (Unit : mm)

Inlet side, Outlet side
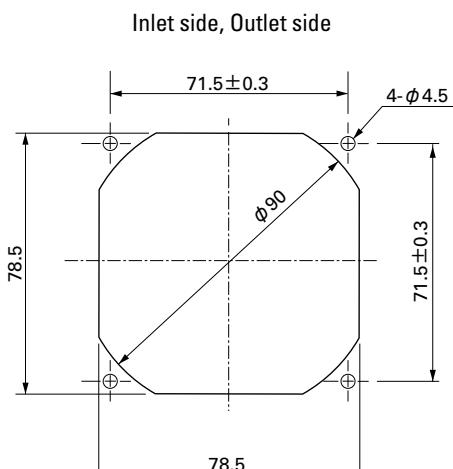


Built-in thermistor model
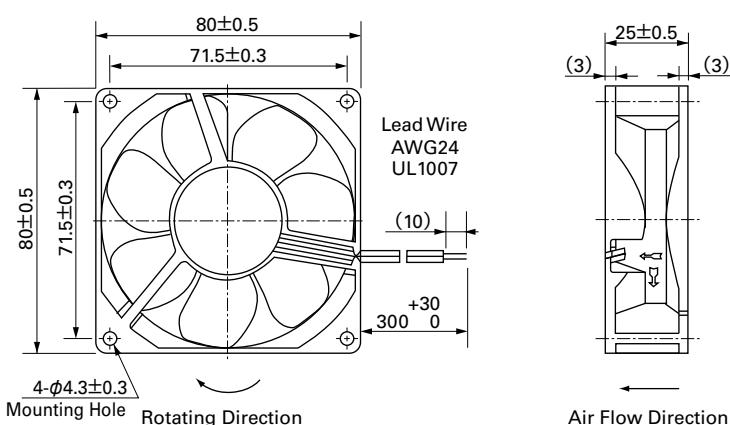
## ■ Options（Unit : mm）

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

Outlet side



4.3±0.3　　5 +1/0

φ1.6　φ75
φ1.6
φ39.6
φ101.2
105 +1.5/-0.5
88
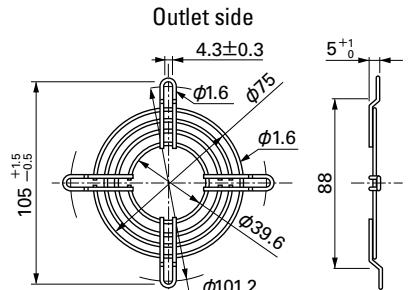
Model : 109-049E　Surface treatment : Nickel-chrome plating (silver)　Color
　　 : 109-049H　　　　　　　 : Cation electropainting (black)

Inlet side, Outlet side



4.3±0.3　　5 +1/0

φ1.6　φ75
φ1.6
φ39.6
φ101.2
105 +1.5/-0.5
88
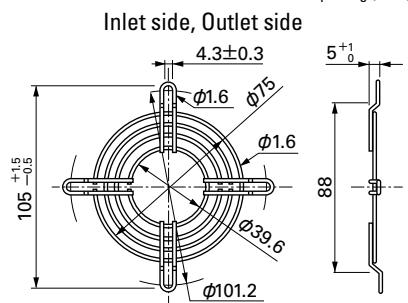
### Thermistor
Model : 169-002



3.5Max
① ② ③
7 +3/0
500±10
20±5
5±1
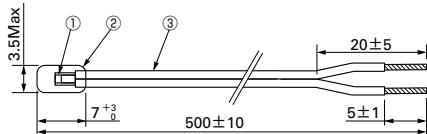
### Resin finger guards
Model : 109-1002G



82±1
71.5±0.3
82±1
71.5±0.3
7±0.5
4-2±0.5
4-φ4.3±0.3
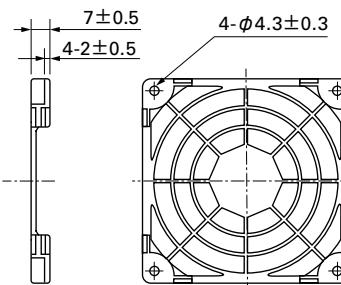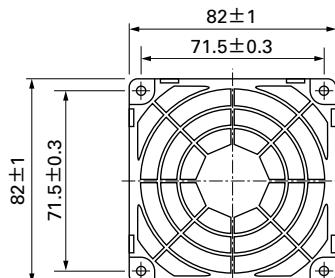
### Resin filter kits
Model : 109-1002F13 (13PPI), 109-1002F20 (20PPI), 109-1002F30 (30PPI), 109-1002F40 (40PPI)



85.5±1
71.5±0.3
85.5±1
71.5±0.3
4-φ10±0.5
10.5±0.5
4-2±0.5
4-φ4.3±0.3
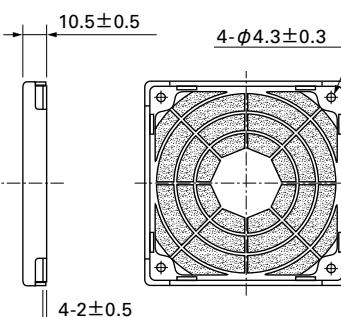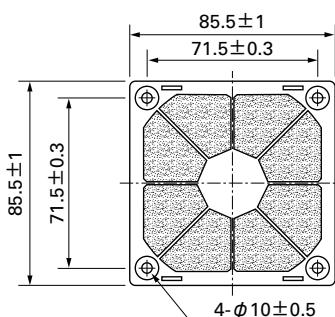
| Number | Name | Standards,materials, etc. |
|---|---|---|
| ① | Thermistor | Chip |
| ② | Insulated cord | Epoxy resin |
| ③ | Lead | UL2555 CSA TR-64 AWG#28（blue） |

| Item | | Spec |
|---|---|---|
| 2-1 | Resistance | R25　6.8KΩ±3% |
| 2-2 | B constant | B25/50　3950K±2% |
| 2-3 | Maximum rated power | 188mW（25℃ under still air） |
| 2-4 | Insulation resistance | 100MΩ or more（DC500V megger） |
| 2-5 | Dielectric strength | No problem（AC1500V 1 minute） |
| 2-6 | Operating temperature range | −30℃ to +80℃ |
| 2-7 | Storage temperature range | −40℃ to +100℃ |

Manufactured by OHIZUMI MFG CO.,LTD.
Mfr. Part No. 159-682-86 □□□

## ■ Air Flow and Static Pressure Characteristics

### External thermistor model



(inch H₂O)　(Pa)
Static Pressure →
12V　Thermistor temperature 35℃
12V　Thermistor temperature 28℃
0.16 / 40
0.14
0.12 / 30
0.10
0.08 / 20
0.06
0.04 / 10
0.02
0
0.4　0.8　1.2　(m³/min)
0　10　20　30　40　50 (CFM)
→ Air Flow

**109R0812T4H12(121)**

### Built-in thermistor model



(inch H₂O)　(Pa)
Static Pressure →
12V Temperature of air flow passing through the fan 40℃
12V Temperature of air flow passing through the fan 30℃
0.16 / 40
0.14
0.12 / 30
0.10
0.08 / 20
0.06
0.04 / 10
0.02
0
0.4　0.8　1.2　(m³/min)
0　10　20　30　40　50 (CFM)
→ Air Flow
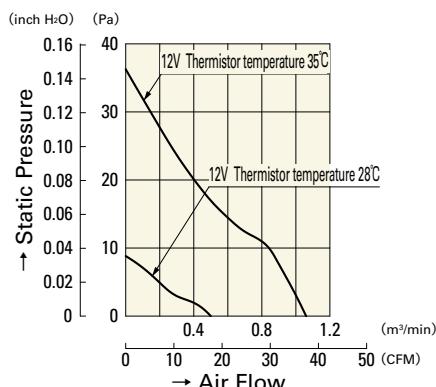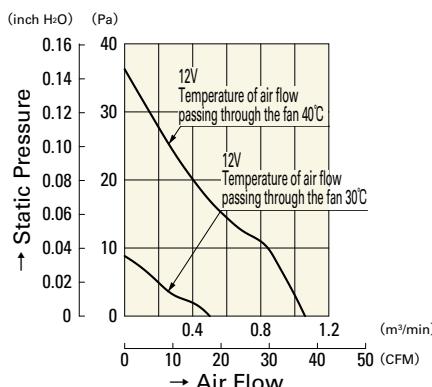
**109R0812T4H122(123)**

## ■ Temperature-Rotation Speed Characteristics

### External thermistor model
■ Characteristics of Thermistor-detected Temperature vs Speed

Voltage : 12V DC



Rotation Speed (min⁻¹) →
3000
2900min⁻¹
TH
2000
TL
1450min⁻¹
1000
0
25　30　35　40
→ Thermistor Temperature（℃）
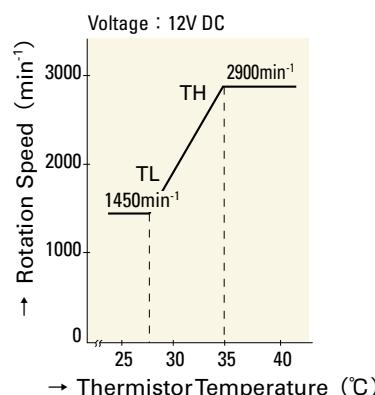
**109R0812T4H12(121)**

### Built-in thermistor model
■ Typical characteristics of temperature of air flowing through the fan versus rotation speed

Voltage : 12V DC



Rotation Speed (min⁻¹) →
3000
3000min⁻¹
TH
2000
TL
1450min⁻¹
1000
20　30　40　50
→ Thermistor Temperature（℃）
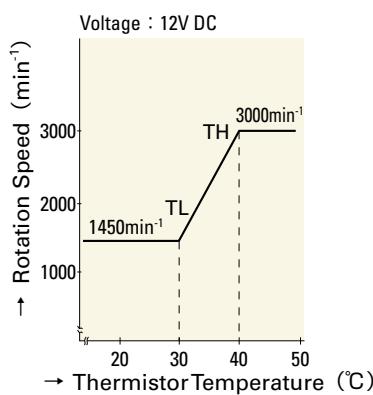
**109R0812T4H122(123)**

80mm

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