

# ETRI®

## DC - AC COMPACT FANS & ACCESSORIES



12/2011

We are proud to form a part of the ROSENBERG family:



Rosenberg Ventilatoren GmbH  
Künzelsau, Germany



ECOFIT S.A.  
Vendôme, France

- **Technical Expertise & Application Engineering**
- **Outstanding Customer Service**
- **Design Flexibility & Custom Fan/Motor Equipment**
- **Stock Fans for Immediate Shipment**
- **Accessory Products & Controls**
- **Value Added Fabrication**

## CONTENTS

Catalogue data	..... 2
Technical guide	..... 3/4
Standards and compliance	..... 5

DC Axial Fans	Page	AC Axial Fans	Page	Accessories	Page
25 x 25 x 10 mm	..... 6	Ø 80 x 25 mm	..... 39	Metal Mesh Filters	
30 x 30 x 10 mm	..... 7	80 x 80 x 38 mm	..... 40	Metal Finger Guards	..... 56
35 x 35 x 10 mm	..... 8	92 x 92 x 25 mm	..... 41	Plastic Filters	
40 x 40 x 10 mm	..... 9	92 x 92 x 38 mm	..... 42	Plastic Finger Guards	..... 57
40 x 40 x 20 mm	..... 10	120 x 120 x 25 mm	..... 43	Alarm RA104 / RA105	..... 58
50 x 50 x 10 mm	..... 11	120 x 120 x 38 mm	..... 44-47	Alarm RA107 / Ra111	..... 59
50 x 50 x 15 mm	..... 12	172 x 150 x 38 mm	..... 48	Alarm RA109 / RA112	..... 60
60 x 60 x 15 mm	..... 13				
60 x 60 x 20 mm	..... 14	<b>DC Centrifugal Fans</b>			
60 x 60 x 25 mm	..... 15/16	51 x 51,3 x 15 mm	..... 49		
70 x 70 x 25 mm	..... 17	75,7 x 75,7 x 30 mm	..... 50		
80 x 80 x 15 mm	..... 18/19	97,2 x 94,4 x 33 mm	..... 51		
80 x 80 x 25 mm	..... 20-22	120 x 120 x 32 mm	..... 52		
80 x 80 x 38 mm	..... 23	126 x 125 x 34,5 mm	..... 53		
92 x 92 x 25 mm	..... 24/25	165 x 159 x 40 mm	..... 54		
92 x 92 x 38 mm	..... 26/27				
120 x 120 x 25 mm	..... 28	<b>AC Centrifugal Fan</b>			
120 x 120 x 32 mm	..... 29	126,2 x 127,6 x 41 mm	..... 55		
120 x 120 x 38 mm	..... 30-32				
127 x 127 x 38 mm	..... 33				
172 x 150 x 38 mm	..... 34				
172 x 150 x 50 mm	..... 35/36				
Ø 172 x 50 mm	..... 37/38				

Visit ETRI on line at :  
[www.etrinet.com](http://www.etrinet.com)

The following data tables give the main characteristics of our standard fans ; for detailed information or specific request, call our local sales team.

DC Axial Fans

AC Axial Fans

DC Centrifugal Fans

AC Centrifugal Fans

Accessories

## Catalogue data

In this DC and AC Compact Fans catalogue, we offer models which are in general use.

Our standard product range includes many other versions with variations in supply voltage and speed.

Specific fans are available and can be made to customers specification.

Our application engineers work constantly with our customers specification to offer the best fan selection..

In this way, many special units are produced both for commercial and military applications.

Our test laboratories in Vendôme (France) are available for customers to test their prototype equipment in order to determine the optimum cooling solution.

Further products catalogue:

- 400 HZ FANS AND HIGH PERFORMANCE FANS

All the datasheets are still available on the website:

[www.etrinet.com](http://www.etrinet.com)

## ELECTRICAL, AERODYNAMIC AND INDUSTRIAL DATA

The following information can be found in the data tables:

- Nominal voltage and voltage range
- Rated speed which is an approximate value of the fan speed operating at free air
- Power consumption and line current at free air
- Maximum static pressure corresponding to the pressure at no flow condition
- Maximum air delivery corresponding to airflow at no static pressure value
- Total noise level in decibels from the equilibrium curve A measured 1 meter from the air inlet, the fan operating in free air.

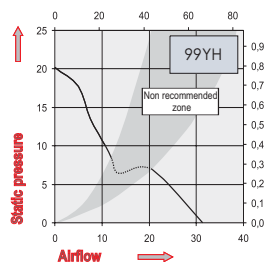
## AERODYNAMIC CURVES

The aerodynamic graphs are constructed using a test chamber and method described in CCTU Standard 18.10. They are drawn up for an air density of 1,2 kg/m<sup>3</sup>.

## CONDITIONS OF USE FOR DC AXIAL FANS

Unstable operating zone for ETRI DC axial fans

Many axial flow fan characteristics have a "stall point", also referred to as the "unstable zone" or "pumping zone". It is recommended that fans should not be allowed to operate around the fan stall point otherwise there are serious risks of:



- impeller speed fluctuation causing mechanical instability
- increased motor temperature rise, especially on the bearings
- increased noise and vibration levels
- destruction of the motor mountings, motor bearings, and the fan impeller.

Some small diameter fans may be operated around the stall point, or at higher pressures and lower flow rates, but strictly with the written approval of manufacturer ETRI.

## EXEMPLE OF CODIFICATION FOR DC FANS

Series code	246 DS 1 L P 1 1 001
Speed (from lower to higher):	DL, DM, DH, DS, DX, DZ, DY, DG, DR; DK DW or YW = custom speed
Voltage:	1= 12 V; 2 = 24 V; 3 = 28 V; 4 = 48 V; 5 = 5 V; 7 = 72 V; 8 = 110 V; 9 = special voltage
Connection:	L = leads; T = terminals
Housing material:	P = plastic; M = metal
Bearing system:	1 = ball bearings; 1 = no option; 3 = speed sensor; 4 = alarm;
Special features:	500 = TTL output in case of speed sensor option; 510 = rib type; 600 = tropicalization; 601 = IP54; 602 = IP55; other: custom designs

## EXEMPLE OF CODIFICATION FOR AC FANS

Series code	125 XR 0 1 81 001
Speed	
Construction code:	0 = ball bearings; 5 = high temperature fan
	1 = standard; 3 = speed sensor
Voltage:	81= 208-240 V; 82 = 115 V; 8L = 24 V;
Design code:	000 standard version; XXX = option (salt spray protection, tropicalization...)

Series code	148 VK 0 2 81 000
Speed	
Construction code:	0 = ball bearings; 2 = standard; 4 = speed sensor
Voltage:	81= 208-240 V; 82 = 115 V; 8L = 24 V;
Design code:	001 standard version; XXX = option (salt spray protection, tropicalization...)

## Technical guide

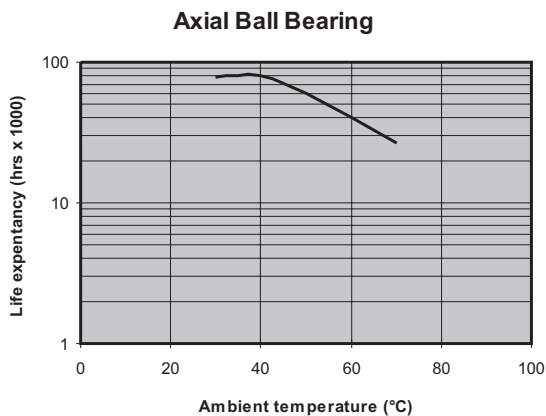
### LIFE EXPECTANCY

The mechanical and electrical design, the choice of materials, and the high level of inspection give our fans excellent reliability. Special attention is given to bearings, both in design and production, i.e.:

choice of bearings and lubricants, accurate machining, strict alignment, very careful balancing and inspection of 100 % of finished fans.

Life expectancy is calculated on a L-10 basis.

The following curves describe the life expectancy of the fans at a given temperature, after which 90 % of them are still operating.



### OPTIONS

#### DEGREES OF PROTECTION - IP

ETRI supplies a full range of AC and BDC fans offering high level of protection against dust or water.

Most of our standard models, and all our high performance fans are available with protection for use in specific conditions, up to IP55 environments.

#### SPEED SENSORS AND ALARMS

Most ETRI DC and AC Fans feature a speed sensor that detects number of pulses per revolution, or a rotation detector (on/off signal) which indicates if the fan works correctly.

ETRI provides also a full range of alarm boxes (relay and dry contact) to read directly the signal of the speed sensor or alarm output.

### RoHS compliance

ETRI fans of this catalogue are **RoHS compliant** according to 2002/95/EC European Directive. For more information, please refer to Standards and ECOFIT compliance chapter.

*Important notice!*

#### About fans performance:

Values indicated in this catalogue are based on free delivery (no pressure value) and shutoff (no flow condition).

### TOLERANCES

The values shown in the data tables and the various curves have been measured from standard design equipment and should be considered nominal.

Without particular specifications, we accept the tolerances given at the beginning of each catalogue.

Drawings: without particular specifications, we accept a tolerance of  $\pm 1$  mm.

### TOLERANCES FOR DC FANS (Indicative values)

#### Series 146D, 99Y, 158D, 121D, 148D

Speed / airflow	+/- 6 %
Static pressure	+/- 12 %
Input power	+/- 15 %
Voltage	See voltage range on each technical datasheet

#### Other axial DC series and DC centrifugal fans

Speed / airflow	+/- 8 %
Static pressure	+/- 15 %
Input power	+/- 25 %
Voltage	See voltage range on each technical datasheet

### TOLERANCES FOR AC FANS (Indicative values)

#### Low speed AC fans series: 126LH, 126LJ, 99XM, 99XW, 146DF, 98XC, 98XY, 141LV, 141LT, 129XR, 125LG, 125XL, 148VE, 148VP

Speed / airflow	+/- 10 %
Static pressure	+/- 20 %
Input power	+/- 30 %
Current	+/- 30 %
Voltage: 208-240V	-10 % +6 %
Other voltages:	+/- 10 %

#### Other AC axial series and AC centrifugal fan

Speed / airflow	+/- 4 %
Static pressure	+/- 8 %
Input power	+/- 10 %
Current	+/- 10 %
Voltage: 208-240V	-10 % +6 %
Other voltages:	+/- 10 %



## Technical guide - Selecting a fan

Forced convection cooling is an effective solution to dissipate heat in electronic equipment. This technical guide will help you to determine the performance of the required fan for your application.

### BASIC REQUIREMENTS

**VOLTAGE :** The first step is to determine the nominal voltage; this can be AC or DC. ETRI fans cover all voltage ranges from 5V to 240V.

**DIMENSIONS:** Optimizing performance within the available space envelope available is the most important criteria. ETRI offers a complete compact range of fans and blowers from 25 x 25 x 10 mm up to ø 172 mm.

### DETERMINING NECESSARY AIRFLOW

Dissipated power has to be determined first. If this value is unknown, the estimation can be done by taking the power consumed by the equipment and the efficiency (which is approximately 75% for electronics equipments).

Example :

Consumed power = 500 W

Power to be dissipated: 500 x 25% = 125W

The graph below (fig.1) shows how to calculate the airflow according to the dissipated power, using the formula:

$$\text{Airflow (l/s)} = \frac{P(W)}{1,2 \times \Delta t}$$

This calculation does not take into consideration pressure drop, which has a direct impact on the airflow. Pressure drop is defined in the next paragraph.

### CALCULATING NECESSARY STATIC PRESSURE

Each component mounted in the equipment opposes a resistance to air circulation. These accumulated resistances are called the "pressure drop".

The pressure drop is balanced by the fan static pressure

which is expressed in mmH<sub>2</sub>O, InH<sub>2</sub>O or Pa.

The necessary airflow of the fan must be specified at a certain static pressure.

Pressure drop is not easily calculable, especially in complex equipment. In cooling applications, pressure drop can be calculated according to duct diameter, length, bends or other deviations.

Here is the basic principle to define pressure drop by experimentation:

A specified fan, which air performance is known, is mounted on the equipment. The air speed at the outlet is measured with an anemometer. The airflow is calculated as follows :

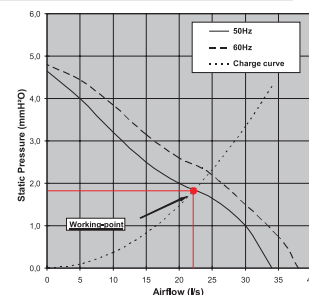
A = Air Flow (l/s)  
O = Outlet Section (m<sup>2</sup>)  
S = Air Speed (m/s)

$$A = \frac{S \times O}{1000}$$

The static pressure, corresponding to the measured airflow, can therefore be read on the fan performance curve. The value of this static pressure is the second parameter to consider when selecting a fan.

### CHOOSING THE APPROPRIATE FAN WITH THE WORKING POINT

The combination of necessary airflow and static pressure gives a value which is called working point. It is now very easy to choose the appropriate fan by selecting a model in the catalogue, which curve meets the working point.



**Fig.1 - Determining necessary airflow**

P: represents the power to be dissipated (in watts)

Dt: represents the temperature difference between internal temperature of the equipment and ambient temperature

Q: represents the air flow of the fan:

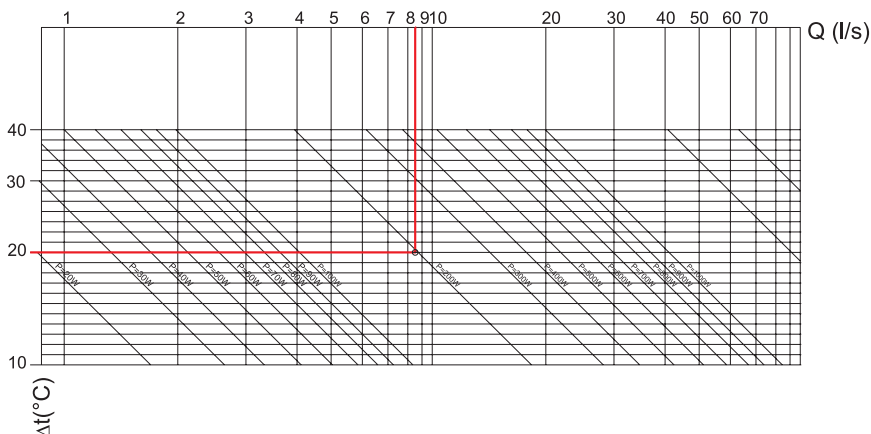
$$A = \frac{P(W)}{1,2 \times \Delta t} \text{ L/s}$$

THE AIR FLOW IS DETERMINED BY THE PROJECTION ON THE GRAPH BELOW FROM THE INTERSECTION POINT OF THE LINES W AND Dt ON THE AIR FLOW SCALE.

Example: Power to be dissipated: 200W

Δt: 20°C

Necessary airflow to cool is: 8,5 l/s



## Standards and ECOFIT compliance

### QUALITY SYSTEM ISO 9001: 2008

The rigorous examination of our management system by AFAQ, one of the leading certification bodies in the world, has highlighted the quality of the procedures implemented.

Our commitment to this approach which has mobilized the entire company's expertise was driven by our ongoing commitment to improving not only our performance but also the quality of our services.

Today, AFAQ ISO 9001 version 2008 certification as the demonstration of our commitment to quality service, has further enhanced the relationship of trust we share with our customers and partners. It also opens the door to new markets at home and abroad.

Finally, it reflects our commitment to an ongoing and shared progress approach.



### CE marking - European Conformity

ETRI fans are marked as follow: **CE**

This European CE marking means that ETRI fans comply with legal requirements of the applicable EC Directives.

These requirements include EMC regulations, electrical safety standards and Directive Machine.

For more detailed information, please consult the factory.

### REACH European regulation

(Registration, Evaluation, Authorization and Restriction of Chemical substances)

The REACH European regulation (Registration, Evaluation, Authorization and Restriction of Chemical substances), with the intention of protecting human health and environment, submits chemical substances to a registration and an authorization for the most dangerous substances. (Substances of Very High Concern: SVHC)

It sets a replacement of concerned substances, as soon as they are identified on the REACH Candidate List.

This regulation imposes a complete control of products used by the company and by any supplier.

ECOFIT continues to check that its suppliers comply with REACH requirements for all materials and substances used.

Current analysis shows that ECOFIT do not use such substances.

### RoHS European Directive

(Restriction of use of certain Hazardous Substances)

The 2002/95/EC European Directive restricts the use of six hazardous materials in the manufacture of various types of electronic and electrical equipment.

Although this restriction is not applying to components, the conformity of components is also important for various customers.

RoHS conformity indicates that products don't contain any hazardous substances in superior concentrations to authorized maximum given by the Directive.

ECOFIT checks with its suppliers the conformity of their components to manufacture its fans and takes necessary steps to ensure the follow-up of the conformity.

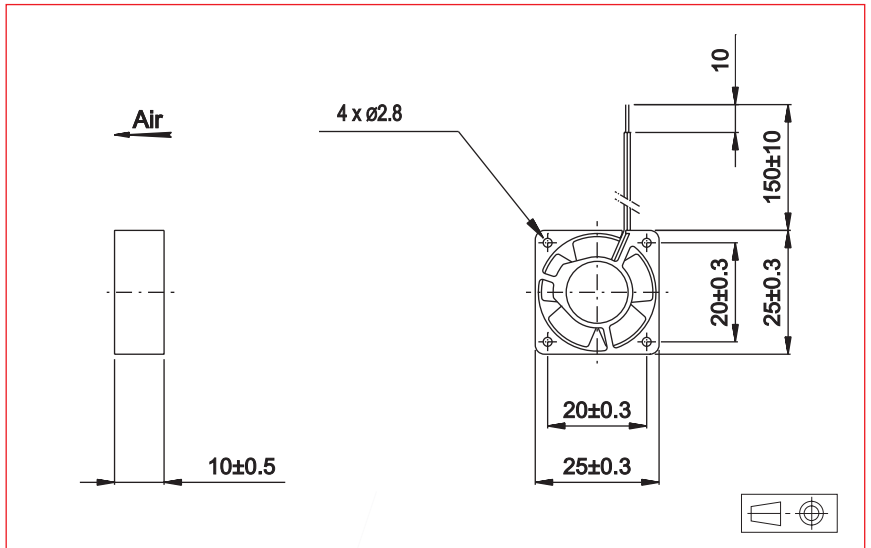
For more information, please consult the ECOFIT website, standards section.

Most of our fans are UL, CSA and CE approved and according to European directives, they comply with EMI and electrical safety standards.

Certificates are available on request.



DC Axial Fans



### Approvals



### Life expectancy

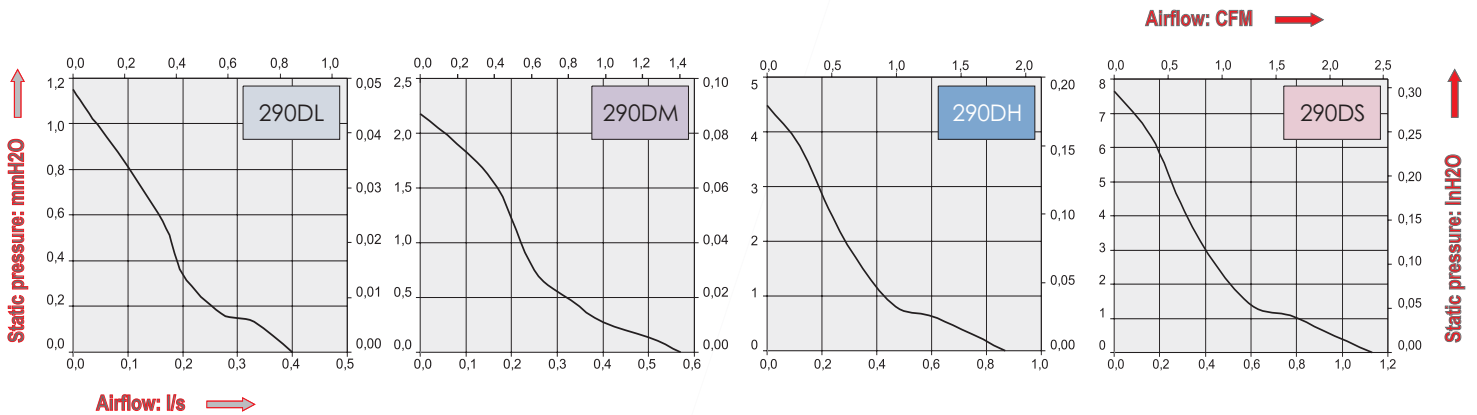
L-10 LIFE AT 40°C:  
30 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 11 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
290DL5LP11000	5	0,39	18	5000	0,20	(4-6)	-10	70
290DL1LP11000	12	0,39	18	5000	0,36	(7-13,2)	-10	70
290DM5LP11000	5	0,57	20	7000	0,30	(4-6)	-10	70
290DM1LP11000	12	0,57	20	7000	0,48	(7-13,2)	-10	70
290DH5LP11000	5	0,87	23,5	10000	0,60	(4-6)	-10	70
290DH1LP11000	12	0,87	23,5	10000	0,72	(7-13,2)	-10	70
290DS5LP11000	5	1,13	28	13000	0,80	(4-6)	-10	70
290DS1LP11000	12	1,13	28	13000	0,96	(7-13,2)	-10	70

### Additional versions:

Series 215: 25 x 25 x 15 mm, 5V,  
available with speed sensor: consult factory

# 30 x 30 x 10 mm

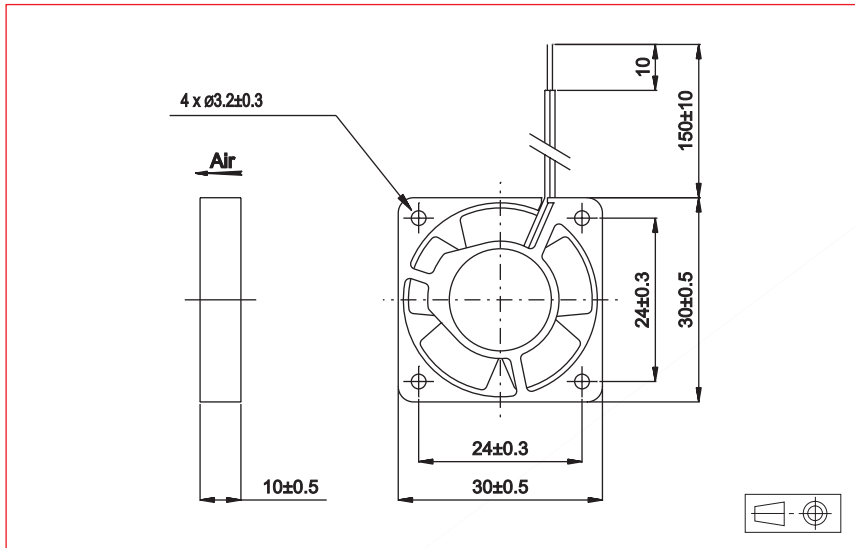
Series  
**260D**

**ETRI**<sup>®</sup>

DC Axial Fans



DC Axial Fans



**Approvals**



**Life expectancy**

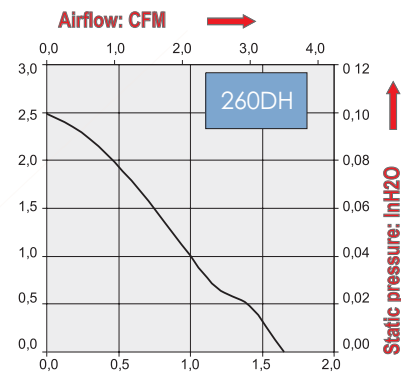
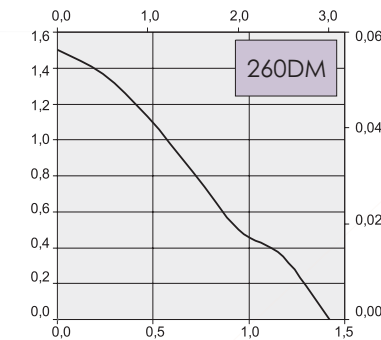
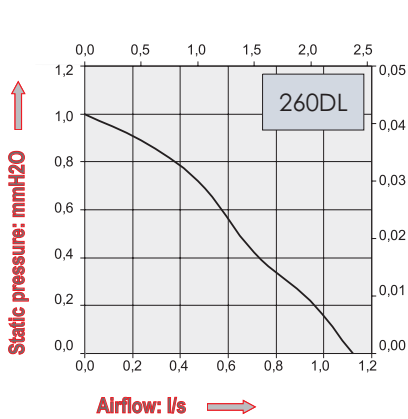
L-10 LIFE AT 40°C:  
30 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 11 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55

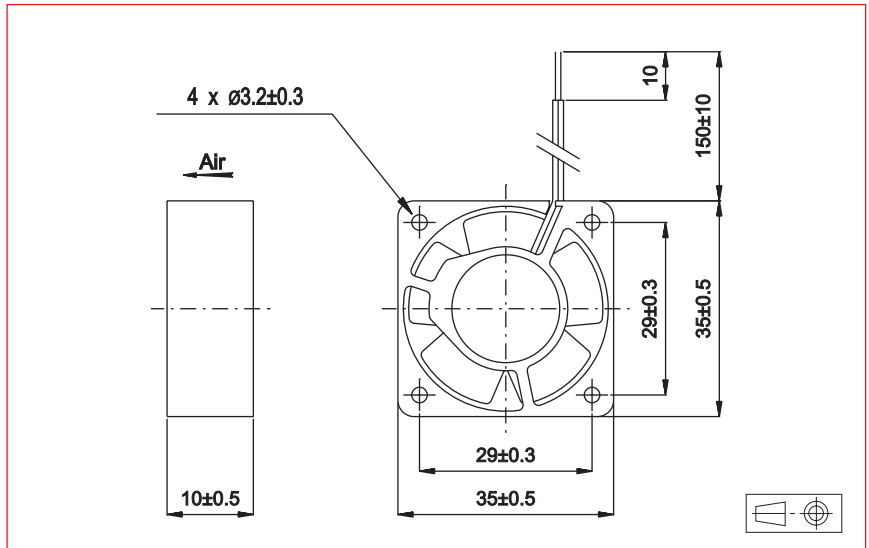


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM			Min.°C	Max.°C
260DL5LP11000	5	1,10	17,5	6000	0,4	(4,5-5,5)	-10	70
260DL1LP11000	12	1,10	17,5	6000	0,6	(9,5-13,8)	-10	70
260DM5LP11000	5	1,40	20	7500	0,6	(4,5-5,5)	-10	70
260DM1LP11000	12	1,40	20	7500	0,8	(9,5-13,8)	-10	70
260DH5LP11000	5	1,70	25	9000	0,8	(4,5-5,5)	-10	70
260DH1LP11000	12	1,70	25	9000	1,1	(9,5-13,8)	-10	70





DC Axial Fans



### Approvals



### Life expectancy

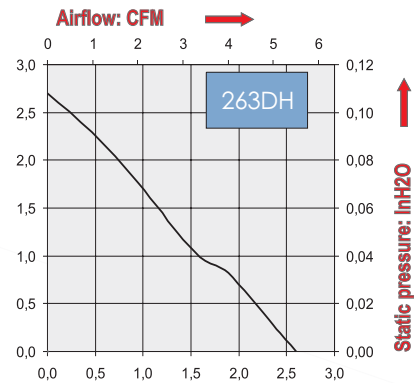
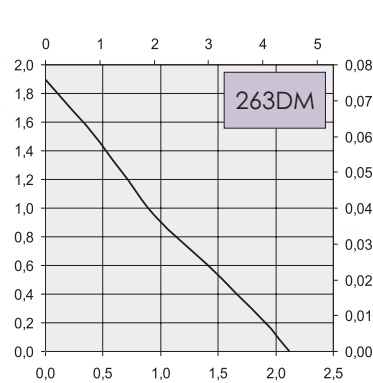
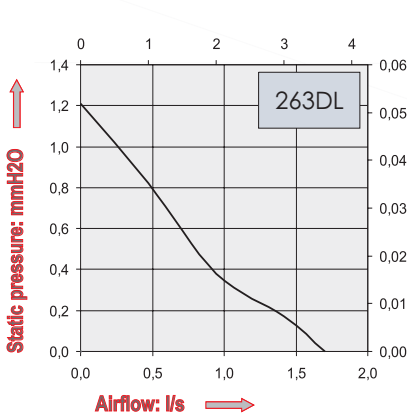
L-10 LIFE AT 40°C:  
30 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 10 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55



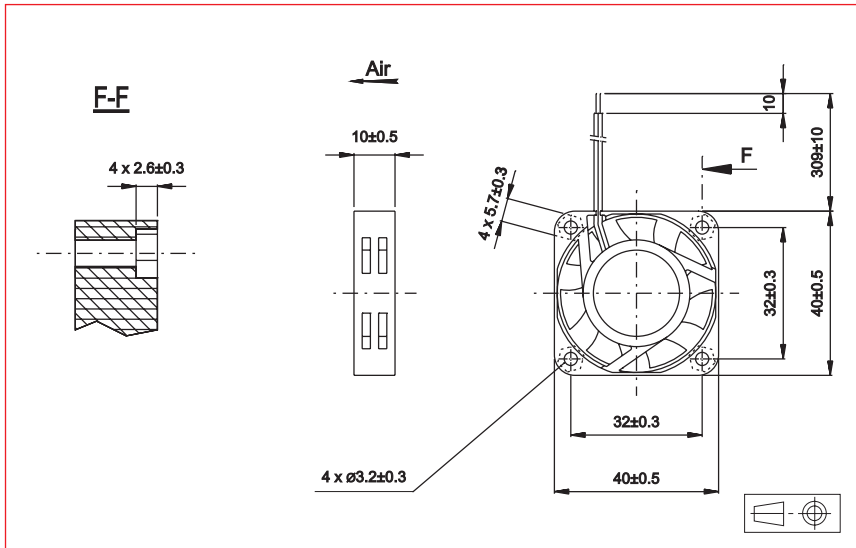
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
263DL5LP11000	5	1,7	15	4500	0,3	(4,5-5,5)	-10	70
263DL1LP11000	12	1,7	15	4500	0,5	(9,5-13,8)	-10	70
263DM5LP11000	5	2,1	18	5800	0,5	(4,5-5,5)	-10	70
263DM1LP11000	12	2,1	18	5800	0,6	(9,5-13,8)	-10	70
263DH5LP11000	5	2,6	22	7000	0,7	(4,5-5,5)	-10	70
263DH1LP11000	12	2,6	22	7000	1,1	(9,5-13,8)	-10	70

# 40 x 40 x 10 mm

Series  
**276D**

**ETRI**<sup>®</sup>

DC Axial Fans



DC Axial Fans

### Approvals



### Life expectancy

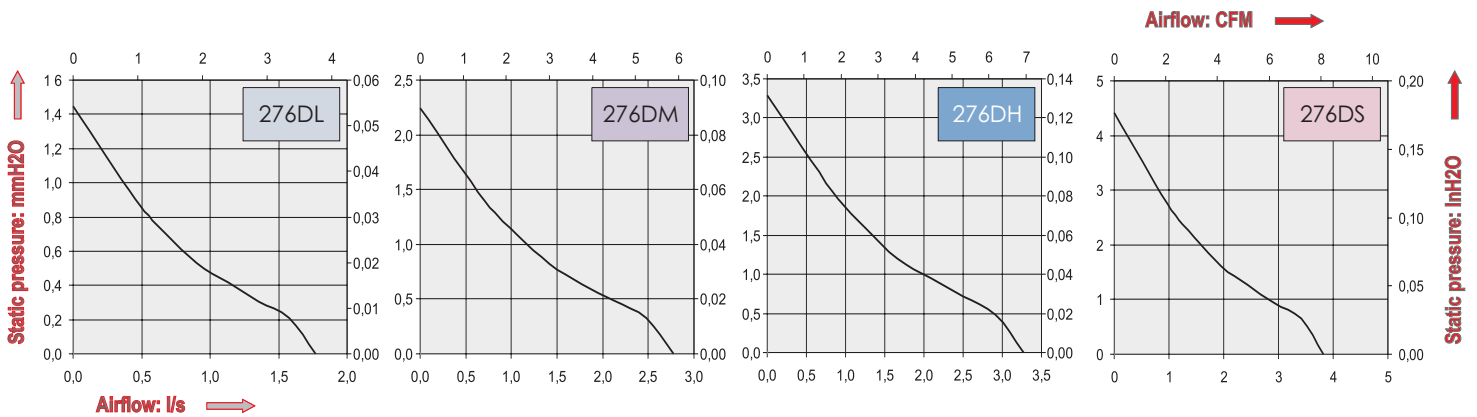
L-10 LIFE AT 40°C :  
70 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 20 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
276DL5LP11000C	5	1,8	20,5	4000	0,4	(4,5-5,5)	-10	70
276DL1LP11000C	12	1,8	20,5	4000	0,6	(9-13,8)	-10	70
276DM5LP11000C	5	2,8	24,5	5000	0,5	(4,5-5,5)	-10	70
276DM1LP11000C	12	2,8	24,5	5000	0,7	(7-13,8)	-10	70
276DH5LP11000C	5	3,3	28,5	6000	0,7	(4,5-5,5)	-10	70
276DH1LP11000C	12	3,3	28,5	6000	1,0	(7-13,8)	-10	70
276DS5LP11000C	5	3,8	33,0	7000	1,0	(4,5-5,5)	-10	70
276DS1LP11000C	12	3,8	33,0	7000	1,2	(7-13,8)	-10	70

### Additional versions:

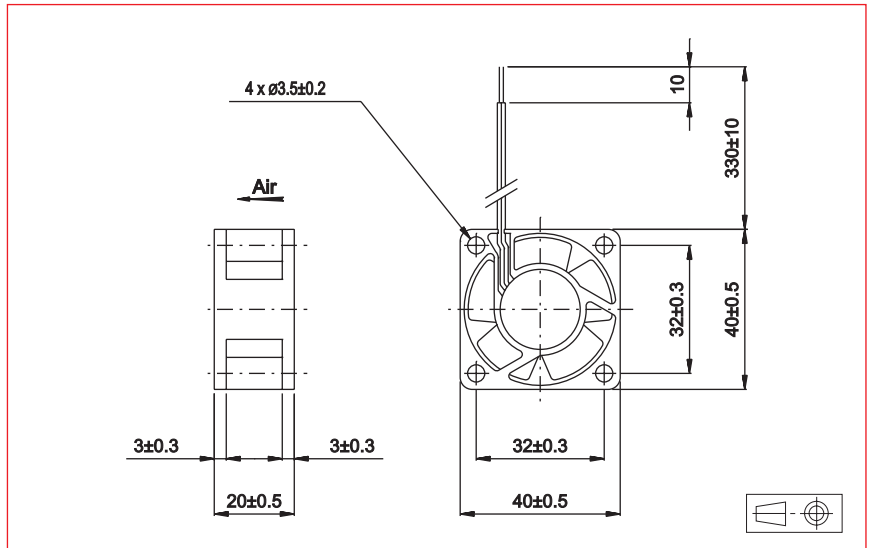
Higher speed (276DX): consult factory

**ETRI**<sup>®</sup> • <http://www.etrinet.com> • e-mail: [info@etrinet.com](mailto:info@etrinet.com) • ETRI is a trademark of ECOFIT,



Non contractual document. Specifications are subject to change without prior notice. Pictures for information only. Edition 2011

DC Axial Fans



### Approvals



### Life expectancy

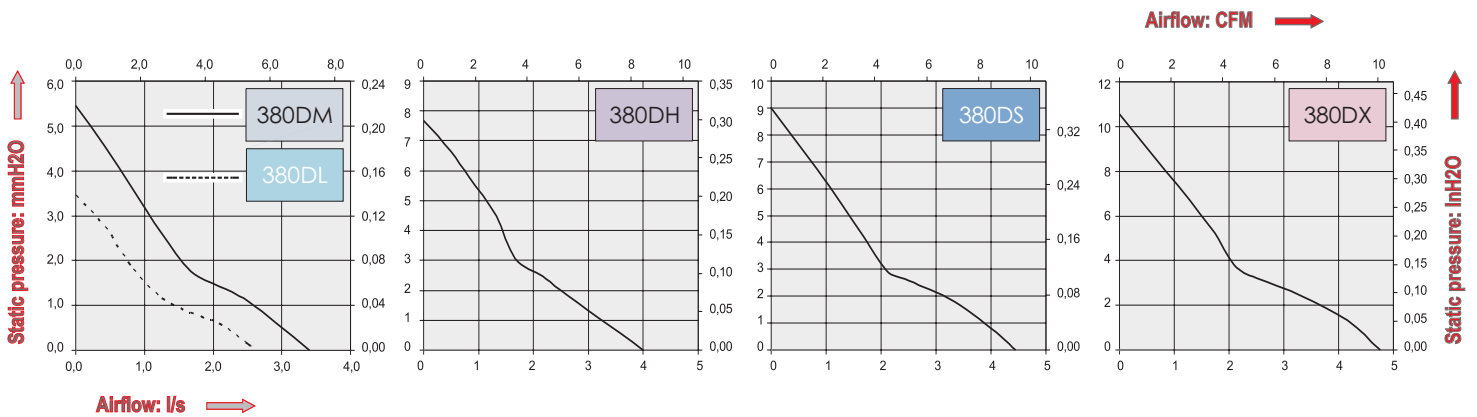
L-10 LIFE AT 40°C:  
70 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 33 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55

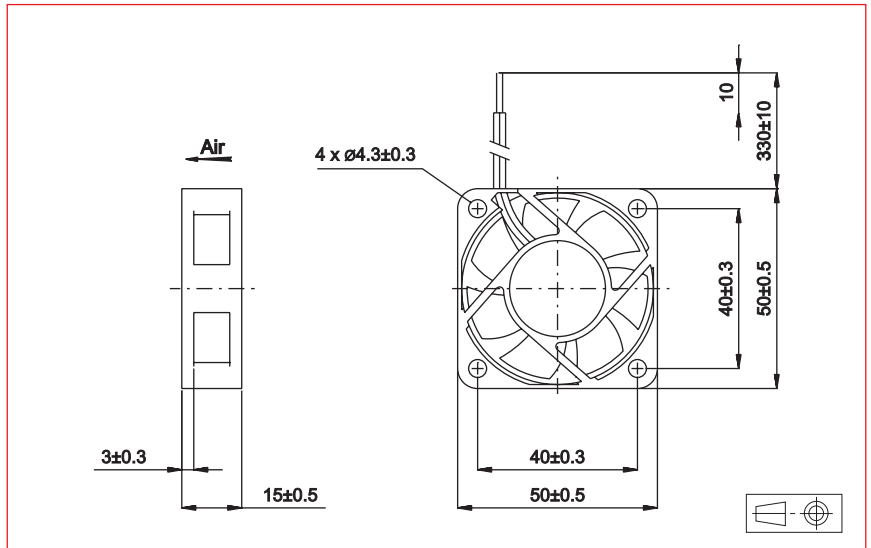


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
380DL5LP11000	5	2,6	22	5000	0,5	(4,5-5,5)	-10	70
380DL1LP11000	12	2,6	22	5000	0,6	(7-13,8)	-10	70
380DL2LP11000	24	2,6	22	5000	1,0	(14-27,6)	-10	70
380DM5LP11000	5	3,4	24	6300	0,8	(7-13,2)	-10	70
380DM1LP11000	12	3,4	24	6300	0,7	(7-13,8)	-10	70
380DM2LP11000	24	3,4	24	6300	1,2	(14-27,6)	-10	70
380DH5LP11000	5	4,0	28,5	7600	1,3	(4,5-5,5)	-10	70
380DH1LP11000	12	4,0	28,5	7600	1,0	(7-13,8)	-10	70
380DH2LP11000	24	4,0	28,5	7600	1,4	(14-27,6)	-10	70
380DS5LP11000	5	4,5	30,5	8200	1,5	(4,5-5,5)	-10	70
380DS1LP11000	12	4,5	30,5	8200	1,2	(7-13,8)	-10	70
380DS2LP11000	24	4,5	30,5	8200	1,7	(14-27,6)	-10	70
380DX5LP11000	5	4,8	32,5	9000	1,6	(4,5-5,5)	-10	70
380DX1LP11000	12	4,8	32,5	9000	1,4	(7-13,8)	-10	70
380DX2LP11000	24	4,8	32,5	9000	2,2	(14-27,6)	-10	70





DC Axial Fans



### Approvals



### Life expectancy

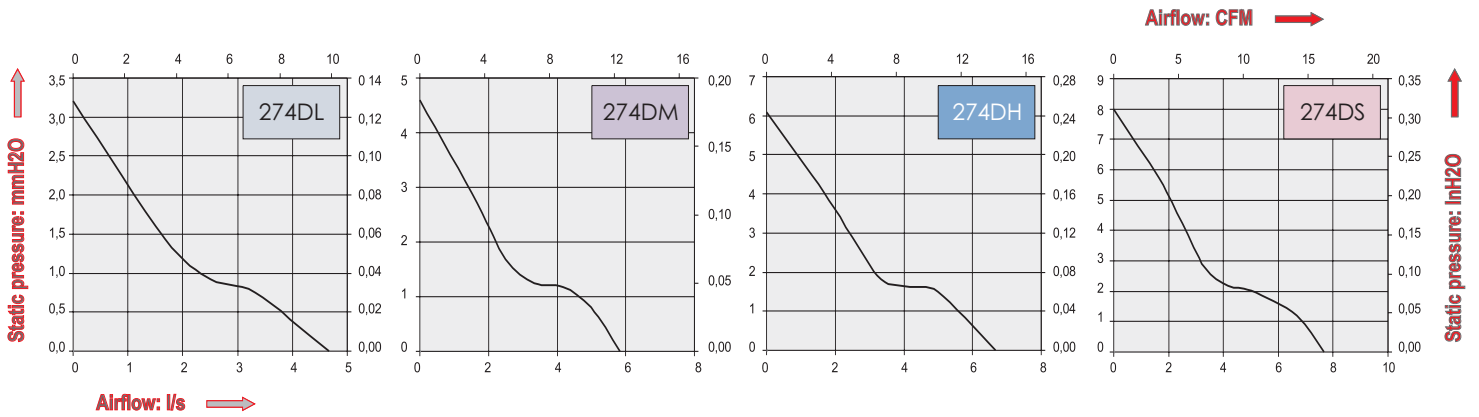
L-10 LIFE AT 40°C:  
70 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 32 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
274DL5LP11000	5	4,7	24	4000	0,8	(4,5-5,5)	-10	70
274DL1LP11000	12	4,7	24	4000	0,7	(7-13,8)	-10	70
274DL2LP11000	24	4,7	24	4000	1,7	(14-27,6)	-10	70
274DM5LP11000	5	5,8	28	4800	1,1	(4,5-5,5)	-10	70
274DM1LP11000	12	5,8	28	4800	1,0	(7-13,8)	-10	70
274DM2LP11000	24	5,8	28	4800	1,7	(14-27,6)	-10	70
274DH5LP11000	5	6,7	32	5600	1,6	(4,5-5,5)	-10	70
274DH1LP11000	12	6,7	32	5600	1,2	(7-13,2)	-10	70
274DH2LP11000	24	6,7	32	5600	2,2	(14-27,6)	-10	70
274DS1LP11000	12	7,7	36	6400	1,6	(7-13,8)	-10	70
274DS2LP11000	24	7,7	36	6400	2,6	(14-27,6)	-10	70

# 60 x 60 x 15 mm

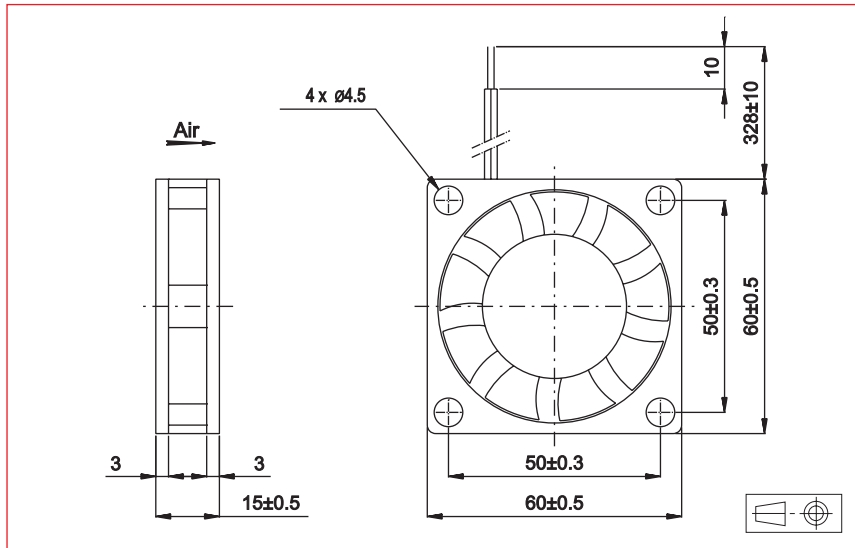
Series  
282D

**ETRI**<sup>®</sup>

DC Axial Fans



DC Axial Fans



### Approvals



### Life expectancy

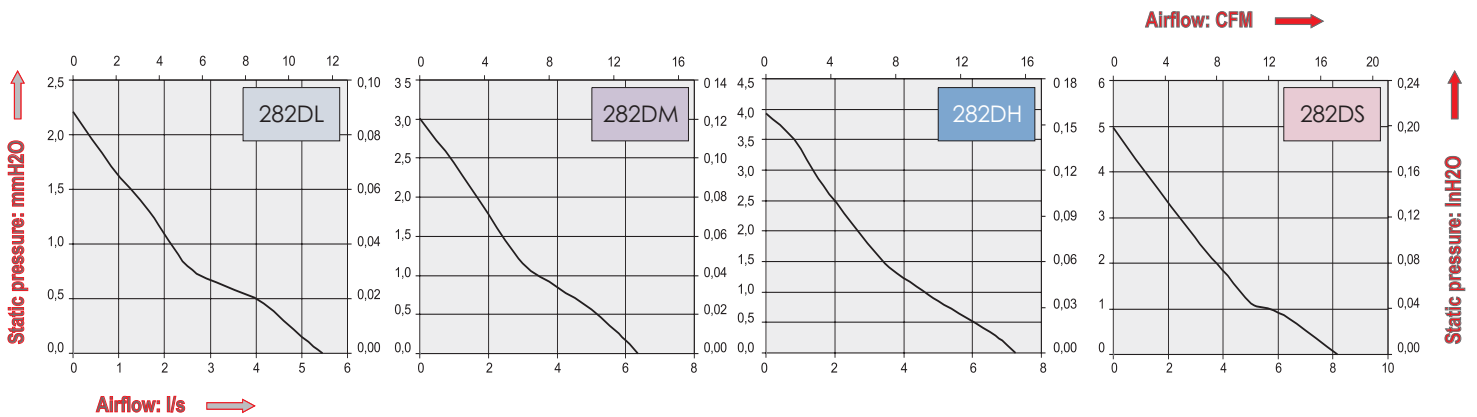
L-10 LIFE AT 40°C:  
70 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 44g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm (except for 5V)
- IP 54 / IP 55

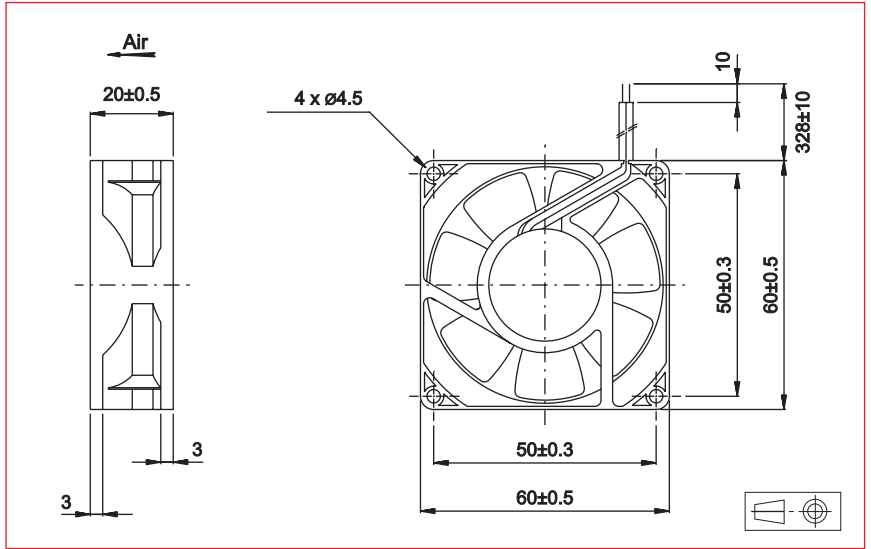


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
282DL1LP11000	12	5,5	24	3000	0,8	(7-13,8)	-10	70
282DL2LP11000	24	5,5	24	3000	1,0	(14-27,6)	-10	70
282DM1LP11000	12	6,4	29	3500	1,0	(7-13,8)	-10	70
282DM2LP11000	24	6,4	29	3500	1,2	(14-27,6)	-10	70
282DH1LP11000	12	7,3	32	4000	1,2	(7-13,8)	-10	70
282DH2LP11000	24	7,3	32	4000	1,9	(14-27,6)	-10	70
282DS1LP11000	12	8,2	35	4500	1,4	(7-13,8)	-10	70
282DS2LP11000	24	8,2	35	4500	2,4	(14-27,6)	-10	70

### Additional versions:

5V

DC Axial Fans



### Approvals



### Life expectancy

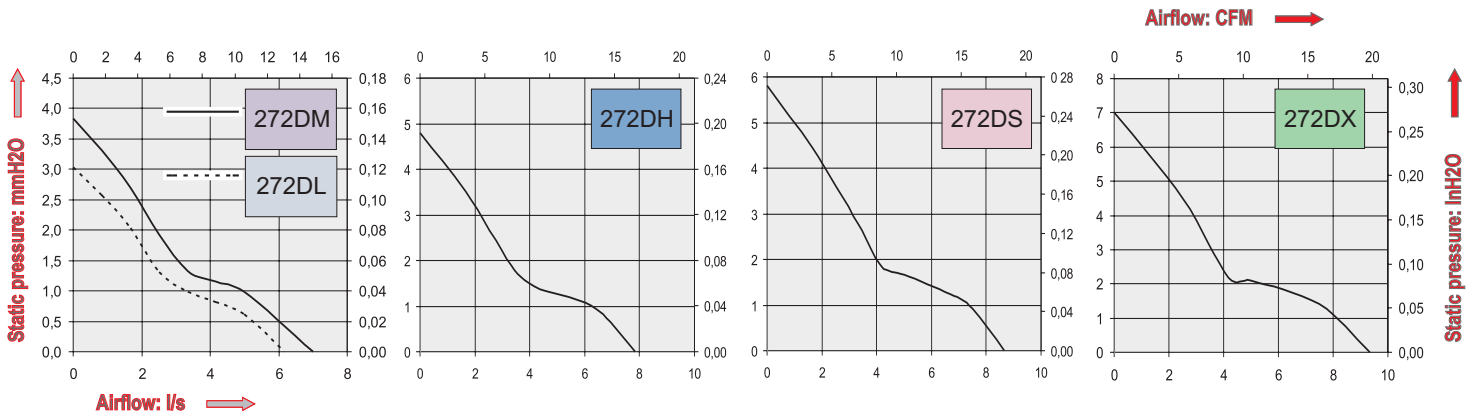
L-10 LIFE AT 40°C:  
70 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 62 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
272DL5LP11000A	5	6,2	24	3200	0,70	(4,5-5,5)	-10	70
272DL1LP11000A	12	6,2	24	3200	0,84	(7-13,8)	-10	70
272DL2LP11000A	24	6,2	24	3200	0,72	(14-27,6)	-10	70
272DM5LP11000A	5	7,0	26	3600	0,95	(4,5-5,5)	-10	70
272DM1LP11000A	12	7,0	26	3600	1,08	(7-13,8)	-10	70
272DM2LP11000A	24	7,0	26	3600	0,96	(14-27,6)	-10	70
272DH5LP11000A	5	7,8	28	4000	1,20	(4,5-5,5)	-10	70
272DH1LP11000A	12	7,8	28	4000	1,32	(7-13,8)	-10	70
272DH2LP11000A	24	7,8	28	4000	1,20	(14-27,6)	-10	70
272DS5LP11000A	5	8,7	31	4400	1,65	(4,5-5,5)	-10	70
272DS1LP11000A	12	8,7	31	4400	1,80	(7-13,8)	-10	70
272DS2LP11000A	24	8,7	31	4400	1,68	(14-27,6)	-10	70
272DX1LP11000A	12	9,3	33	4800	2,16	(7-13,8)	-10	70
272DX2LP11000A	24	9,3	33	4800	2,16	(14-27,6)	-10	70

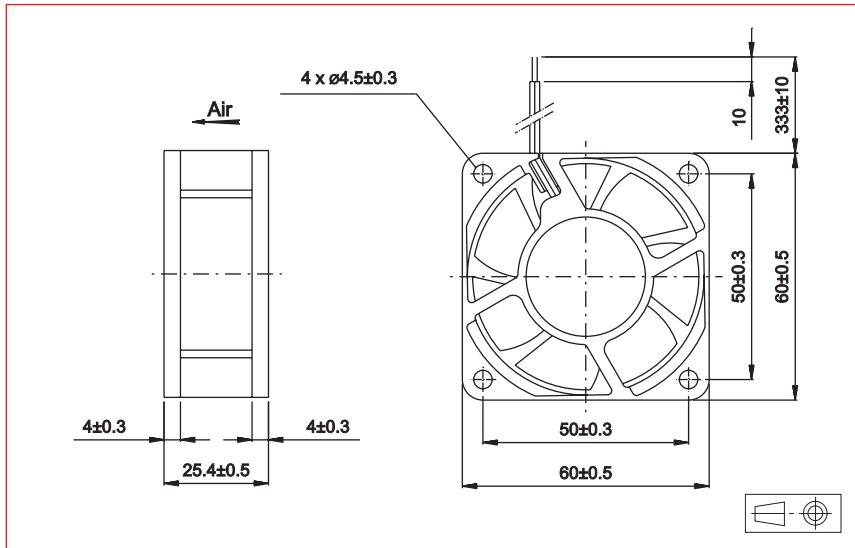
# 60 x 60 x 25 mm

Series  
**281D**  
L, M, H, S  
speeds

**ETRI**<sup>®</sup>  
DC Axial Fans



DC Axial Fans



### Approvals



### Life expectancy

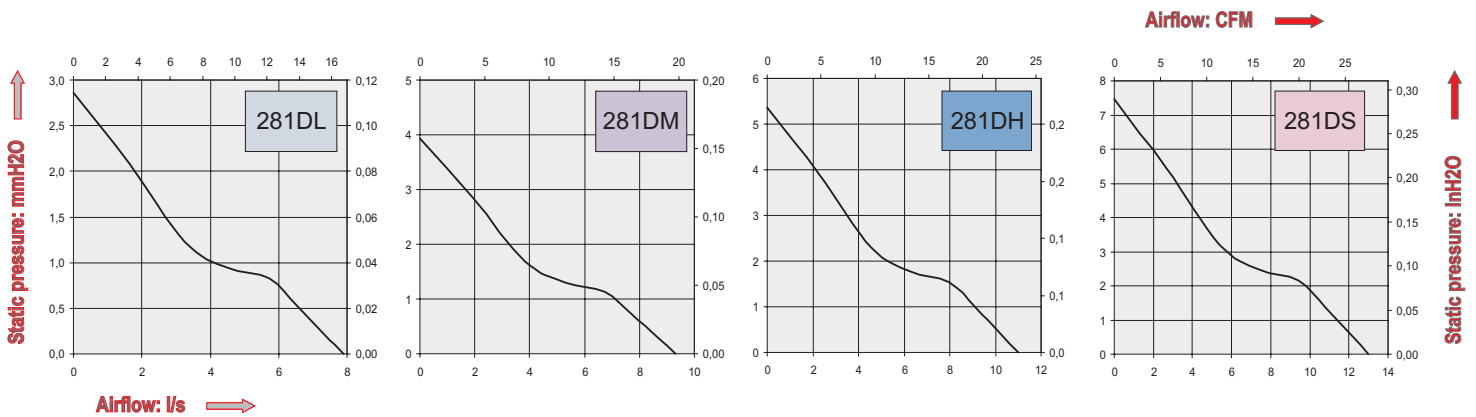
L-10 LIFE AT 40°C :  
70 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 80g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55

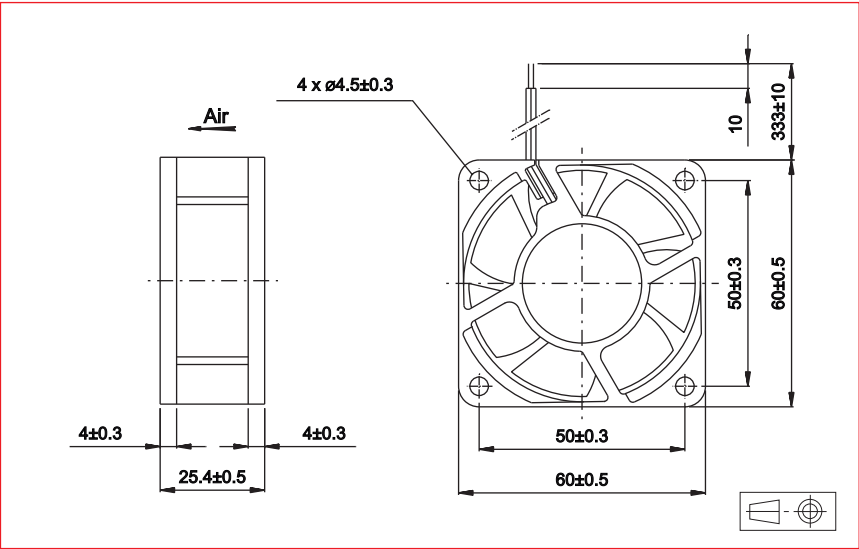


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
281DL1LP11000B	12	7,9	26,5	3100	0,96	(4-13,8)	-10	70
281DL2LP11000B	24	7,9	26,5	3100	1,44	(14-27,6)	-10	70
281DM1LP11000B	12	9,3	31	3600	1,56	(4-13,8)	-10	70
281DM2LP11000B	24	9,3	31	3600	1,68	(14-27,6)	-10	70
281DH1LP11000B	12	11	34	4250	1,68	(4-13,8)	-10	70
281DH2LP11000B	24	11	34	4250	2,16	(14-27,6)	-10	70
281DS1LP11000B	12	13	40	5000	2,04	(4-13,8)	-10	70
281DS2LP11000B	24	13	40	5000	2,64	(14-27,6)	-10	70
281DS4LP11000B	48	13	40	5000	3,84	(28-56)	-10	70

### Additional versions:

Higher speeds (refer to page 11)





**Approvals**



**Life expectancy**

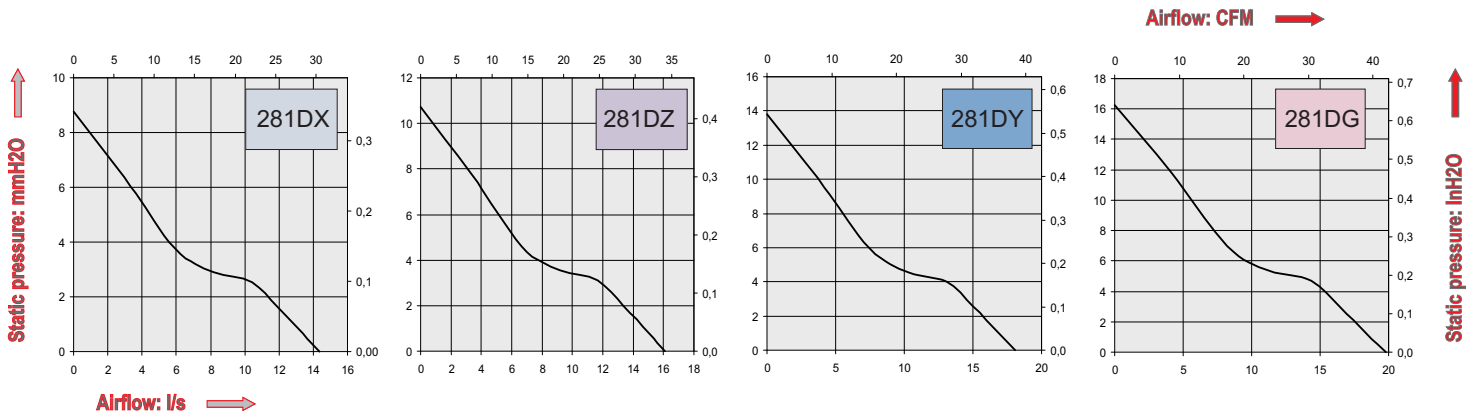
L-10 LIFE AT 40°C :  
70 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 80 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
281DX1LP11000B	12	14,4	42,5	5500	2,76	(4-13,8)	-10	70
281DX2LP11000B	24	14,4	42,5	5500	3,36	(14-27,6)	-10	70
281DX4LP11000B	48	14,4	42,5	5500	4,32	(28-56)	-10	70
281DZ1LP11000B	12	16,1	44,5	6000	3,24	(4-13,8)	-10	70
281DZ2LP11000B	24	16,1	44,5	6000	4,08	(14-27,6)	-10	70
281DZ4LP11000B	48	16,1	44,5	6000	5,28	(28-56)	-10	70
281DY1LP11000B	12	18,1	46,5	6800	4,56	(4-13,8)	-10	70
281DY2LP11000B	24	18,1	46,5	6800	5,76	(14-27,6)	-10	70
281DY4LP11000B	48	18,1	46,5	6800	6,72	(28-56)	-10	70
281DG1LP11000B	12	19,8	50,5	7500	6,60	(7-13,2)	-10	70

**Additional versions:**  
Lower speeds (refer to page 10)

**70 x 70 x 25 mm**

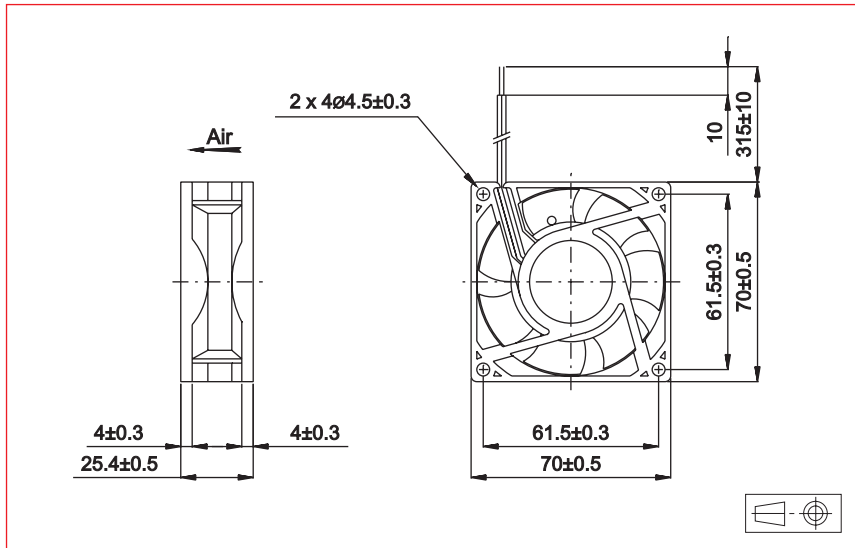
Series  
**291D**

**ETRI**<sup>®</sup>

DC Axial Fans



DC Axial Fans



**Approvals**



**Life expectancy**

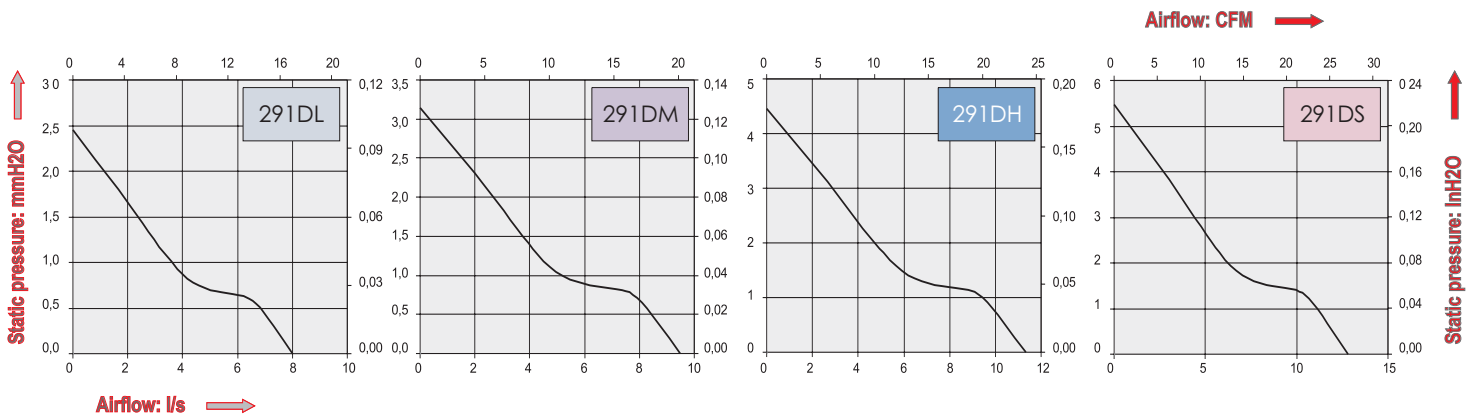
L-10 LIFE AT 40°C:  
70 000 hours

**Brushless DC Motor**

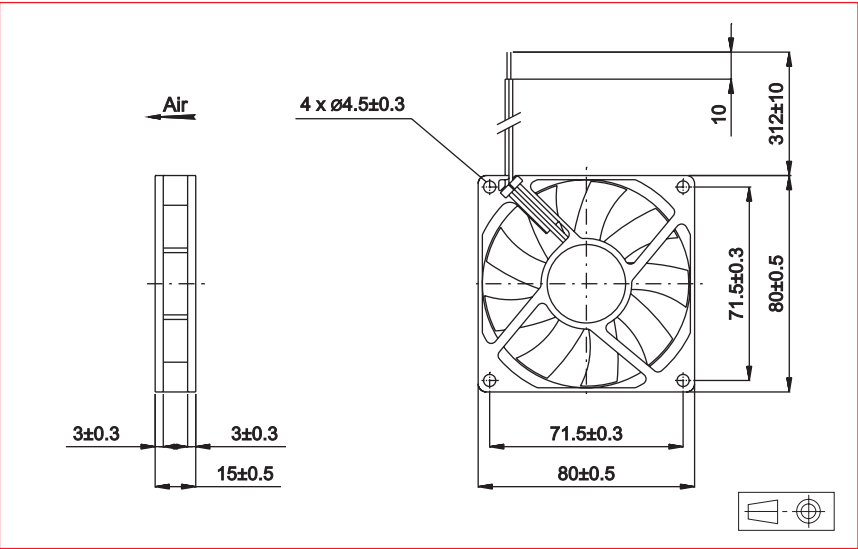
Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 77 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm (except for 5 V)
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
291DL1LP11000	12	8,0	24,5	2600	1,0	(7-13,8)	0	70
291DL2LP11000	24	8,0	24,5	2600	1,0	(14-27,6)	0	70
291DM1LP11000	12	9,5	28	3000	1,2	(7-13,8)	0	70
291DM2LP11000	24	9,5	28	3000	1,2	(14-27,6)	0	70
291DH1LP11000	12	11,3	32	3600	1,6	(7-13,8)	0	70
291DH2LP11000	24	11,3	32	3600	1,9	(14-27,6)	0	70
291DS1LP11000	12	12,8	35	4000	2,0	(7-13,8)	0	70
291DS2LP11000	24	12,8	35	4000	2,4	(14-27,6)	0	70



DC Axial Fans

**Approvals**



**Life expectancy**

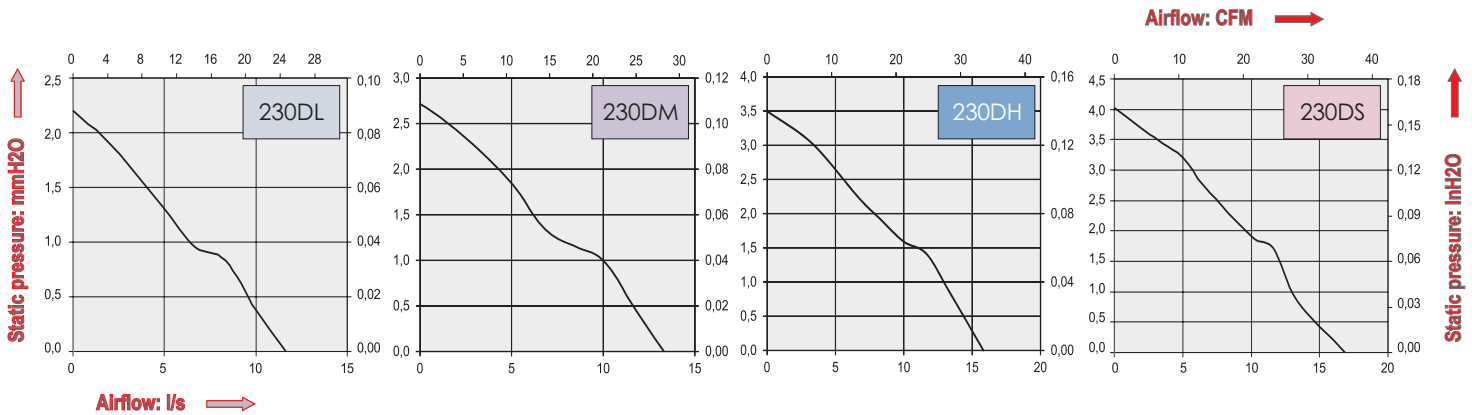
L-10 LIFE AT 40°C:  
70 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 58 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
230DL1LP11000	12	11,7	27,5	2400	1,1	(7-13,8)	-10	70
230DL2LP11000	24	11,7	27,5	2400	1,2	(14-27,6)	-10	70
230DM1LP11000	12	13,3	30,5	2700	1,3	(7-13,8)	-10	70
230DM2LP11000	24	13,3	30,5	2700	1,4	(14-27,6)	-10	70
230DH1LP11000	12	15,8	34	3100	1,7	(7-13,8)	-10	70
230DH2LP11000	24	15,8	34	3100	1,9	(14-27,6)	-10	70
230DS1LP11000	12	16,8	37	3400	1,9	(7-13,8)	-10	70
230DS2LP11000	24	16,8	37	3400	2,4	(14-27,6)	-10	70

**Additional versions:**  
Higher speeds (refer to page 14)





DC Axial Fans

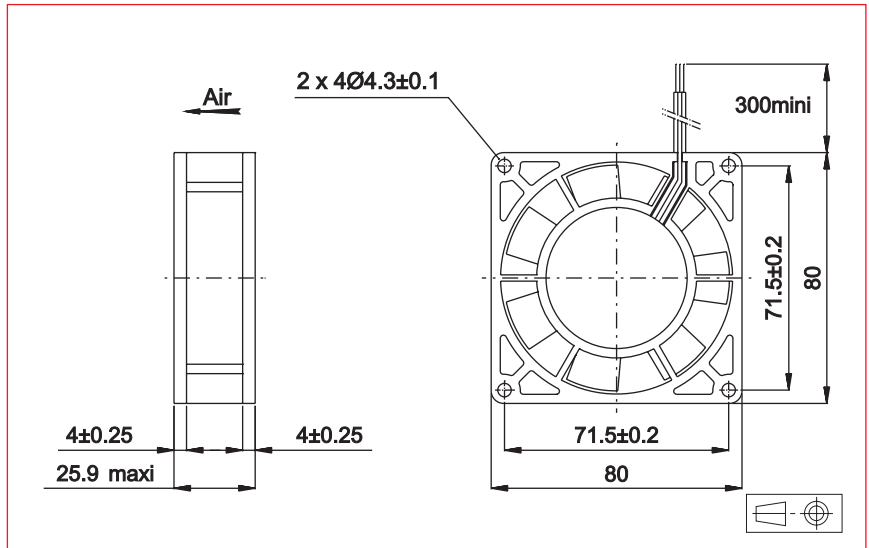
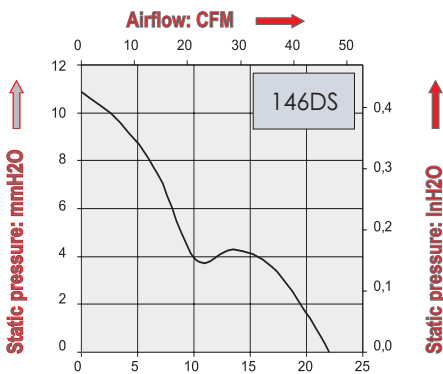


### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
80 000 hours



### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 144 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- Non RoHS on request
- Connection: terminals

Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
146DS1LP11000	12	22,0	44	5585	7	(6-13,8)	-15	55
146DS2LP11000	24	22,0	44	5585	7	(15-28)	-15	55
146DS4LP11000	48	22,0	44	5585	7	(28-56)	-15	55

**Additional versions:**  
Other speeds  
IP 54: consult factory



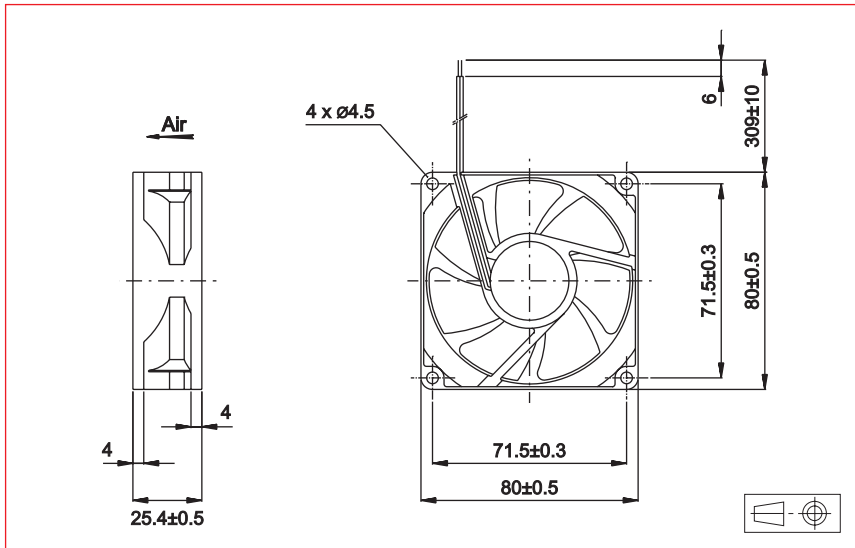
# 80 x 80 x 25 mm

**Series 246D**  
L, M, H  
speeds

**ETRI**  
DC Axial Fans



DC Axial Fans



**Approvals**



**Life expectancy**

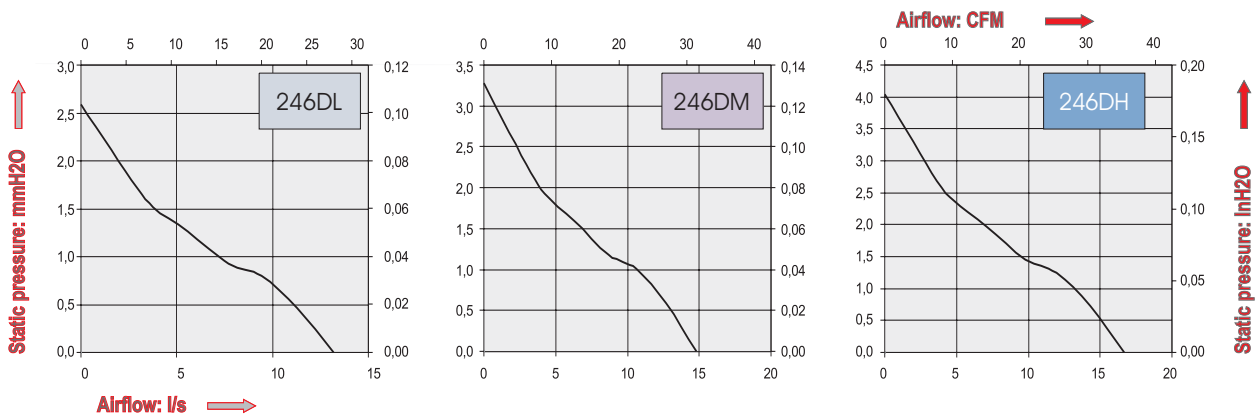
L-10 LIFE AT 40°C:  
70 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 88 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM		V	Min.°C	Max.°C
246DL5LP11000	5	13,2	25	2400	1,2	(4,5-5,5)	-10	70
246DL1LP11000	12	13,2	25	2400	1,1	(7-13,8)	-10	70
246DL2LP11000	24	13,2	25	2400	1,1	(14-27,6)	-10	70
246DL4LP11000	48	13,2	25	2400	2,4	(38-56)	-10	70
246DM5LP11000	5	14,8	28	2700	1,7	(4,5-5,5)	-10	70
246DM1LP11000	12	14,8	28	2700	1,4	(7-13,8)	-10	70
246DM2LP11000	24	14,8	28	2700	1,4	(14-27,6)	-10	70
246DM4LP11000	48	14,8	28	2700	2,9	(38-56)	-10	70
246DH5LP11000	5	16,7	31	3000	2,2	(4,5-5,5)	-10	70
246DH1LP11000	12	16,7	31	3000	1,9	(7-13,8)	-10	70
246DH2LP11000	24	16,7	31	3000	1,7	(14-27,6)	-10	70
246DH4LP11000	48	16,7	31	3000	3,4	(38-56)	-10	70

**Additional versions:**

Higher speeds (refer to page 17)

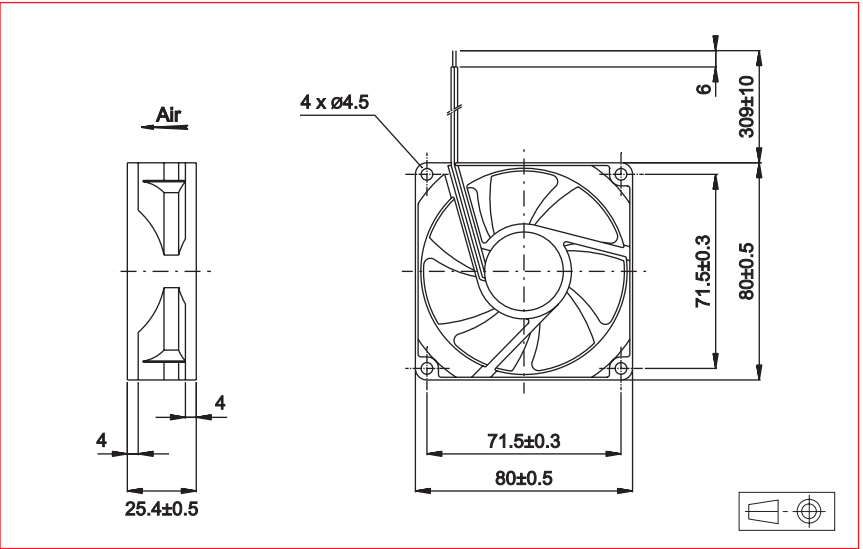


**Approvals**



**Life expectancy**

L-10 LIFE AT 40°C:  
70 000 hours

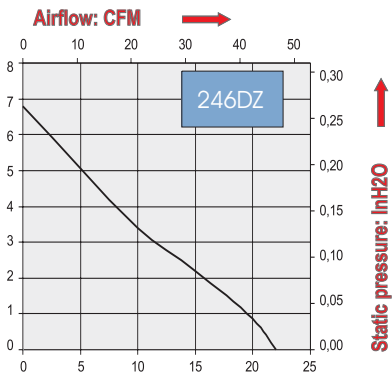
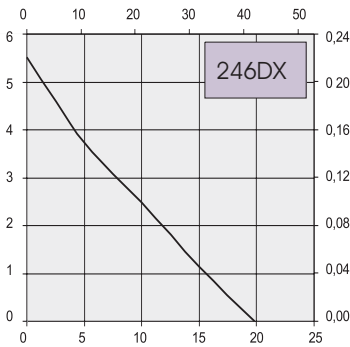
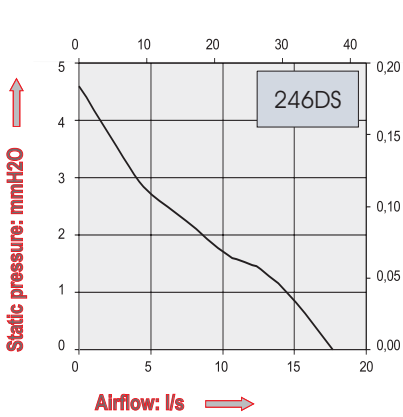


**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 88 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
246DS1LP11000	12	17,7	34	3250	2,4	(7-13,8)	-10	70
246DS2LP11000	24	17,7	34	3250	2,2	(14-27,6)	-10	70
246DX1LP11000	12	19,8	39	3600	3,1	(7-13,8)	-10	70
246DX2LP11000	24	19,8	39	3600	3,4	(14-27,6)	-10	70
246DZ1LP11000	12	22,0	40	4000	4,1	(7-13,8)	-10	70
246DZ2LP11000	24	22,0	40	4000	3,8	(14-27,6)	-10	70

**Additional versions:**

Lower speeds (refer to page 16)



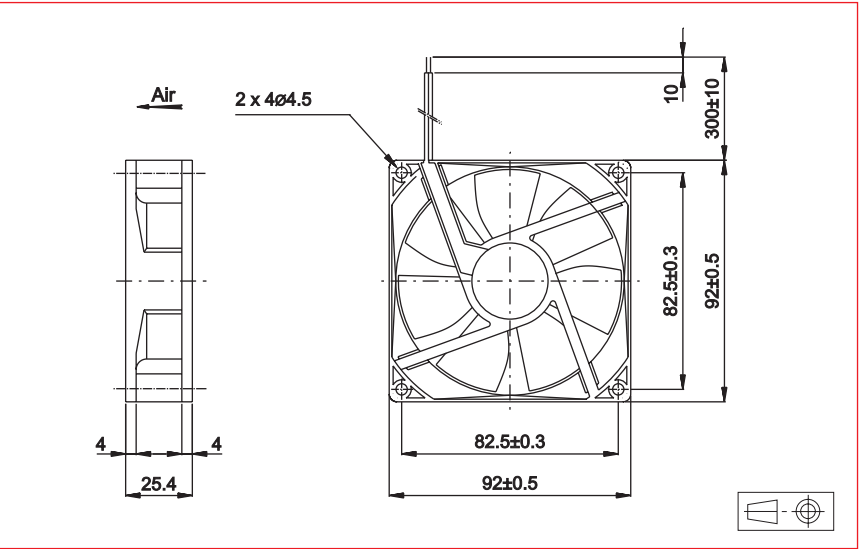


**Approvals**



**Life expectancy**

L-10 LIFE AT 40°C:  
70 000 hours

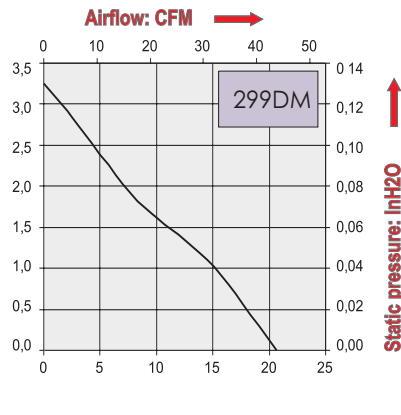
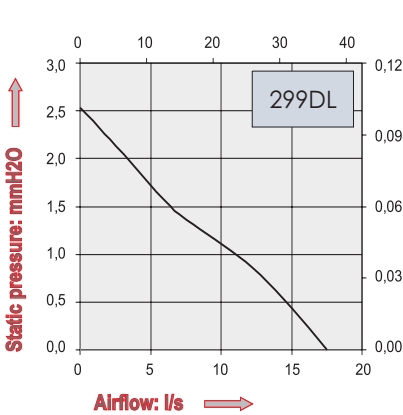


**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 99 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM			Min.°C	Max.°C
299DL1LP11000	12	17,5	25	2100	0,8	(7-13,8)	-10	70
299DL2LP11000	24	17,5	25	2100	1,4	(14-27,6)	-10	70
299DL4LP11000	48	17,5	25	2100	2,4	(38-56)	-10	70
299DM1LP11000	12	20,7	30	2400	1,3	(7-13,8)	-10	70
299DM2LP11000	24	20,7	30	2400	1,9	(14-27,6)	-10	70
299DM4LP11000	48	20,7	30	2400	2,4	(38-56)	-10	70

**Additional versions:**

Higher speeds (refer to page 20)

# 92 x 92 x 25 mm

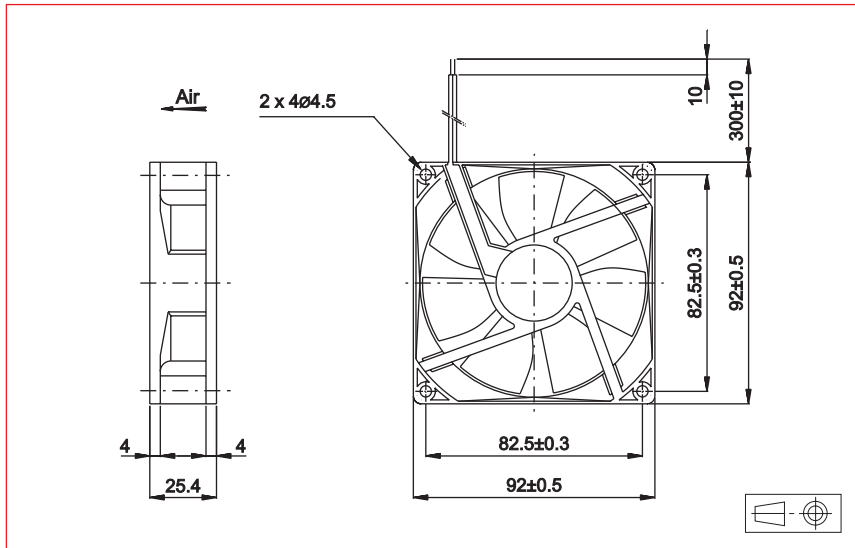
Series  
**299D**  
H, S, X  
speeds

**ETRI**

DC Axial Fans



DC Axial Fans



**Approvals**



**Life expectancy**

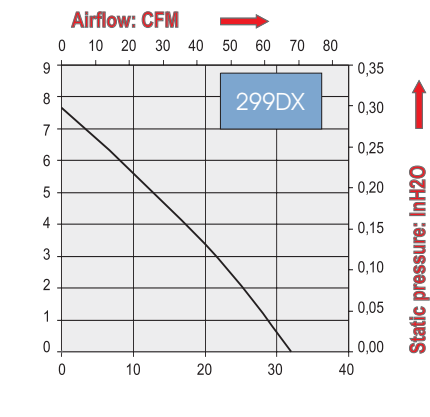
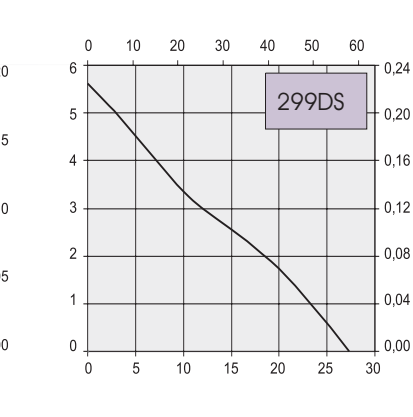
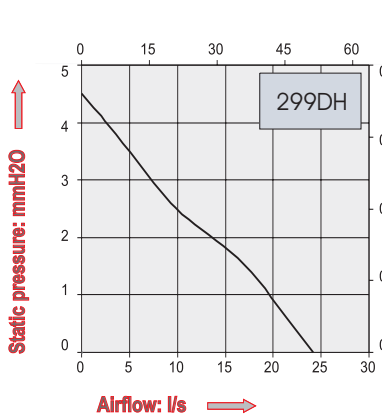
L-10 LIFE AT 40°C:  
70 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 99 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



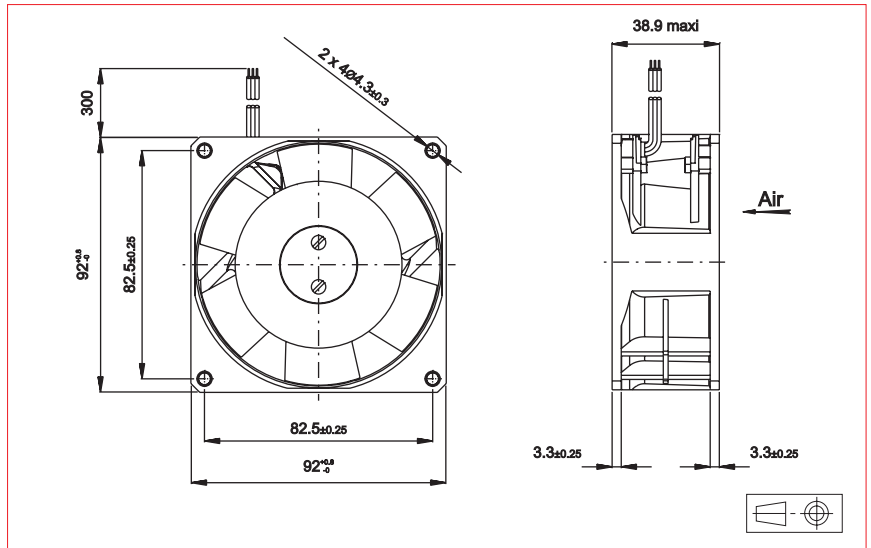
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM		V	Min.°C	Max.°C
299DH1LP11000	12	24,2	34	2850	1,9	(7-13,8)	-10	70
299DH2LP11000	24	24,2	34	2850	2,4	(14-27,6)	-10	70
299DH4LP11000	48	24,2	34	2850	2,9	(38-56)	-10	70
299DS1LP11000	12	27,3	38	3200	3,0	(7-13,8)	-10	70
299DS2LP11000	24	27,3	38	3200	3,1	(14-27,6)	-10	70
299DS4LP11000	48	27,3	38	3200	3,8	(38-56)	-10	70
299DX1LP11000	12	32,0	45	3800	4,8	(7-13,8)	-10	70
299DX2LP11000	24	32,0	45	3800	5,3	(14-27,6)	-10	70

**Additional versions:**

Lower speeds (refer to page 19)



DC Axial Fans



### Approvals



### Life expectancy

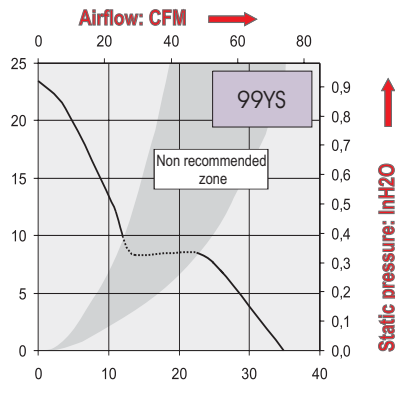
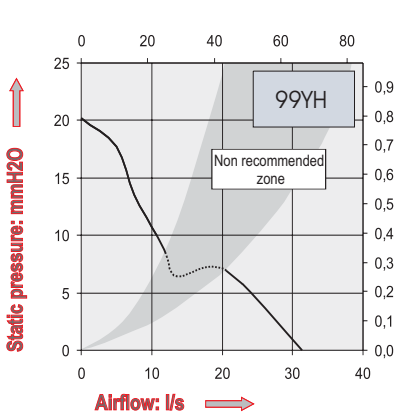
L-10 LIFE AT 40°C:  
25 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 370 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- Non RoHS on request



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
99YH2LP11000	24	31,4	52	5500	7,8	(21,6-26,4)	-10	70
99YS2LP11000	24	35,3	54,6	6060	11,7	(21,6-26,4)	-10	70

**Additional versions:**  
Other speeds - other voltages  
Salt spray protected - shock and vibration protected - marine specifications

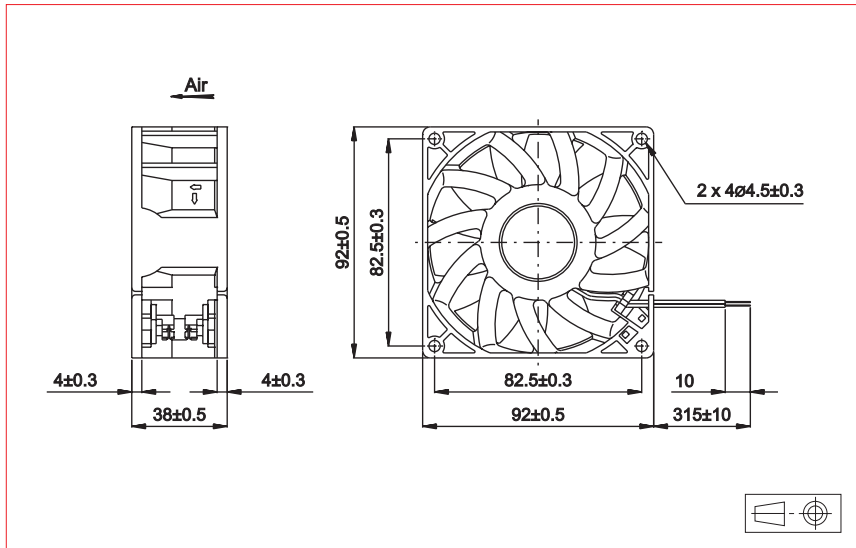


# 92 x 92 x 38 mm

Series  
**341D**

**ETRI**<sup>®</sup>

DC Axial Fans



DC Axial Fans

**Approvals**



**Life expectancy**

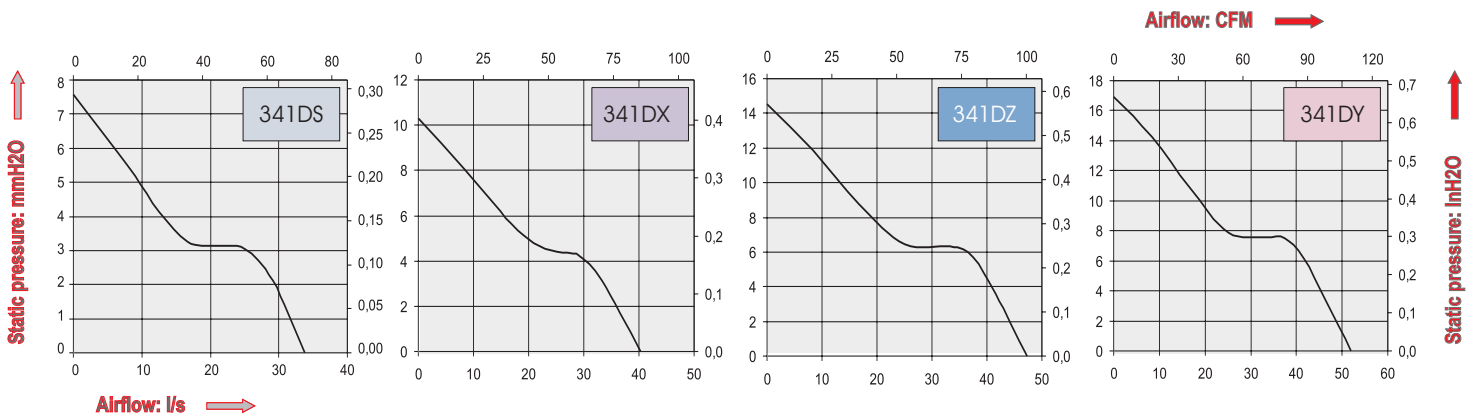
L-10 LIFE AT 40°C:  
70 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 198 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
341DS1LP11000	12	33,8	42,5	3200	4,2	(7-13,8)	-10	70
341DS2LP11000	24	33,8	42,5	3200	4,3	(14-27,6)	-10	70
341DS4LP11000	48	33,8	42,5	3200	4,8	(28-56)	-10	70
341DX1LP11000	12	40,3	47,5	3800	6,0	(7-13,8)	-10	70
341DX2LP11000	24	40,3	47,5	3800	6,7	(14-27,6)	-10	70
341DX4LP11000	48	40,3	47,5	3800	6,7	(28-56)	-10	70
341DZ1LP11000	12	47,3	52,5	4400	9,0	(7-13,8)	-10	70
341DZ2LP11000	24	47,3	52,5	4400	9,6	(14-27,6)	-10	70
341DZ4LP11000	48	47,3	52,5	4400	9,6	(28-56)	-10	70
341DY1LP11000	12	52,0	55,0	4800	12,0	(7-13,8)	-10	70
341DY2LP11000	24	52,0	55,0	4800	12,0	(14-27,6)	-10	70

DC Axial Fans



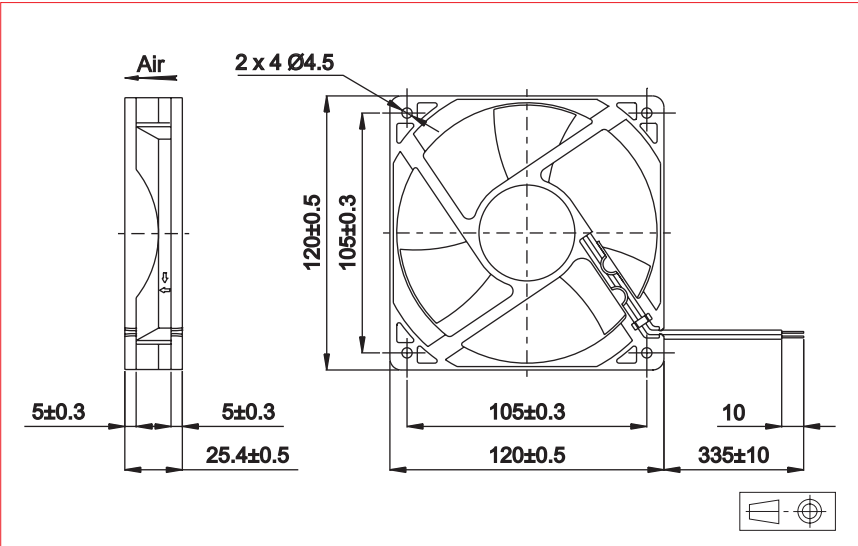
DC Axial Fans

### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
70 000 hours

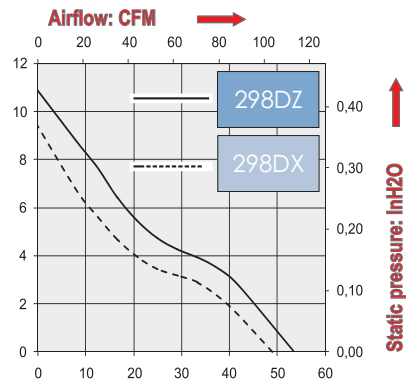
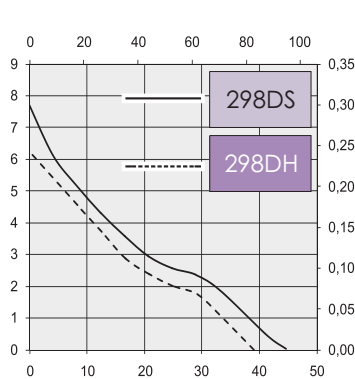
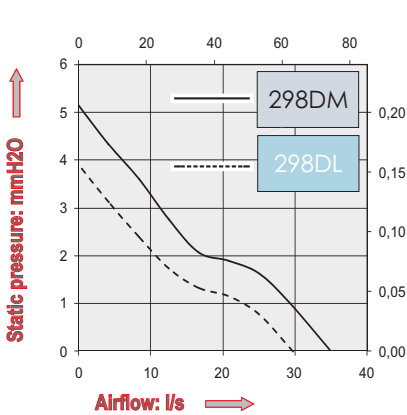


### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 198 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM			Min.°C	Max.°C
298DL1LP11000A	12	29,7	32,5	1900	1,68	(7-13,8)	-10	60
298DL2LP11000A	24	29,7	32,5	1900	2,16	(14-27,6)	-10	60
298DM1LP11000A	12	34,9	35,5	2200	2,16	(7-13,8)	-10	60
298DM2LP11000A	24	34,9	35,5	2200	2,88	(14-27,6)	-10	60
298DH1LP11000A	12	39,0	38,5	2500	2,76	(7-13,8)	-10	60
298DH2LP11000A	24	39,0	38,5	2500	3,36	(14-27,6)	-10	60
298DS1LP11000A	12	44,9	41,5	2800	3,96	(7-13,8)	-10	60
298DS2LP11000A	24	44,9	41,5	2800	4,32	(14-27,6)	-10	60
298DX1LP11000A	12	49,0	44,5	3100	4,80	(7-13,8)	-10	60
298DX2LP11000A	24	49,0	44,5	3100	5,52	(14-27,6)	-10	60
298DZ1LP11000A	12	53,4	46,5	3400	6,36	(7-13,8)	-10	60
298DZ2LP11000A	24	53,4	46,5	3400	6,72	(14-27,6)	-10	60

# 120 x 120 x 32 mm

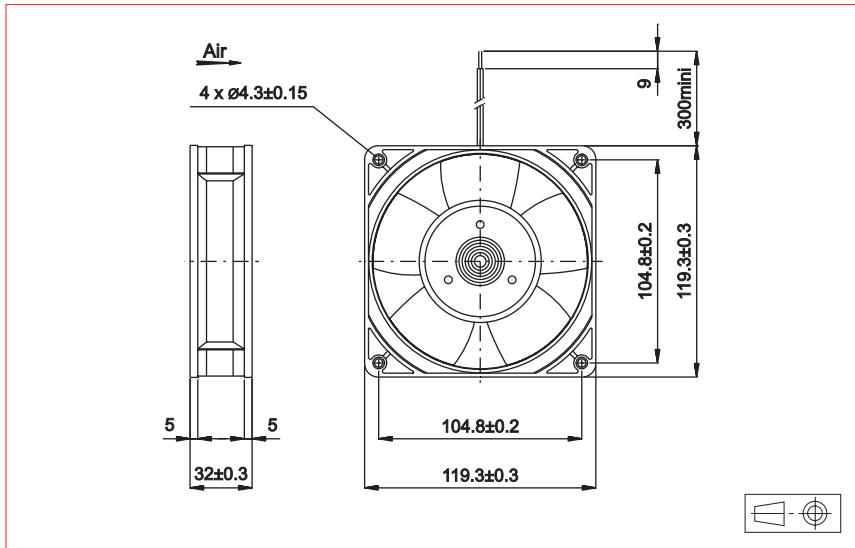
Series  
**158D**

**ETRI**<sup>®</sup>

DC Axial Fans



DC Axial Fans



**Approvals**



**Life expectancy**

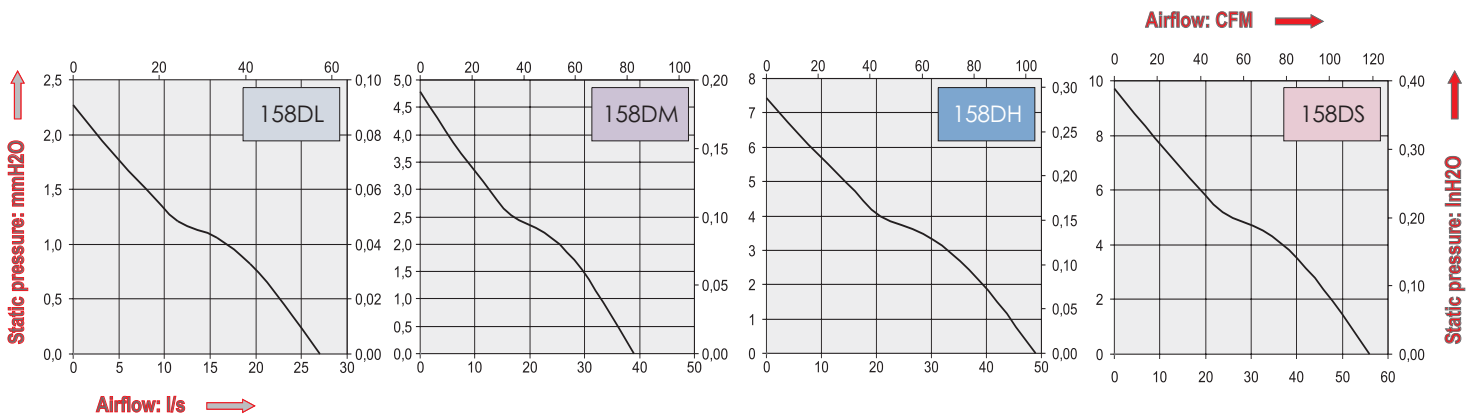
L-10 LIFE AT 40°C:  
80 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 230 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54
- Non RoHS on request
- Connection: terminals



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
158DL1LP11000	12	27,0	29,5	1680	1,6	(6-15)	-20	70
158DL2LP11000	24	27,0	29,5	1680	1,8	(15-28)	-20	70
158DL4LP11000	48	27,0	29,5	1680	2,1	(22-56)	-20	70
158DM1LP11000	12	39,0	37,5	2450	3,3	(6-15)	-20	70
158DM2LP11000	24	39,0	37,5	2450	3,5	(15-28)	-20	70
158DM4LP11000	48	39,0	37,5	2450	3,7	(22-56)	-20	70
158DH1LP11000	12	49,0	42,5	3050	6,2	(6-15)	-20	70
158DH2LP11000	24	49,0	42,5	3050	6,2	(15-28)	-20	70
158DH4LP11000	48	49,0	42,5	3050	6,2	(22-56)	-20	70
158DS1LP11000	12	55,9	45,5	3480	10	(6-13,2)	-20	55
158DS2LP11000	24	55,9	45,5	3480	8,7	(15-28)	-20	70
158DS4LP11000	48	55,9	45,5	3480	8,7	(22-56)	-20	70

**Additional versions:**

Other voltages

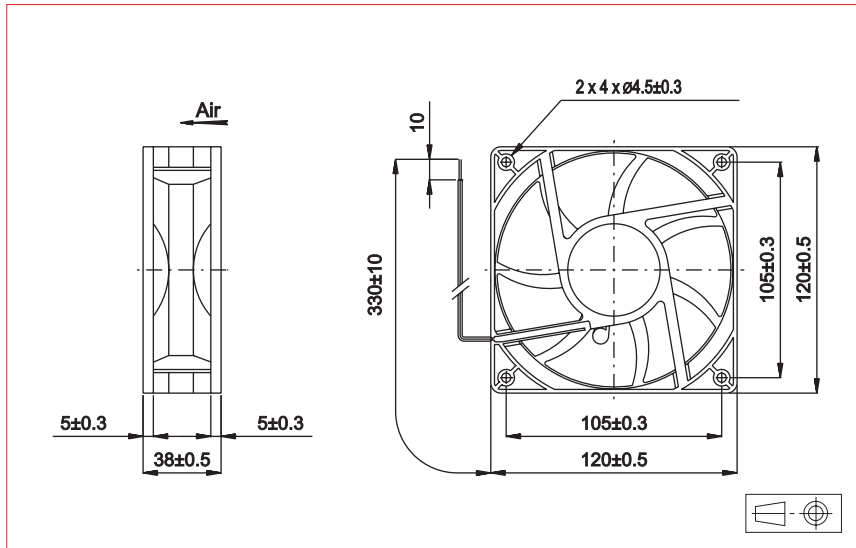


# 120 x 120 x 38 mm

Series  
**235D**

**ETRI**<sup>®</sup>

DC Axial Fans



DC Axial Fans

**Approvals**



**Life expectancy**

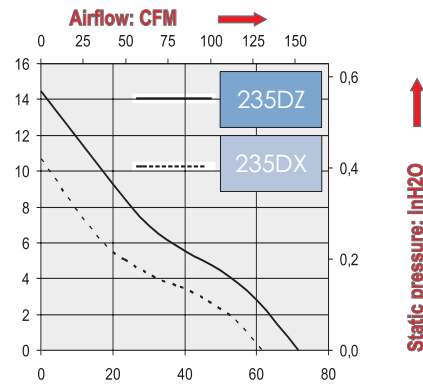
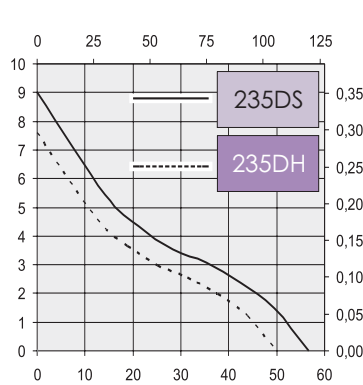
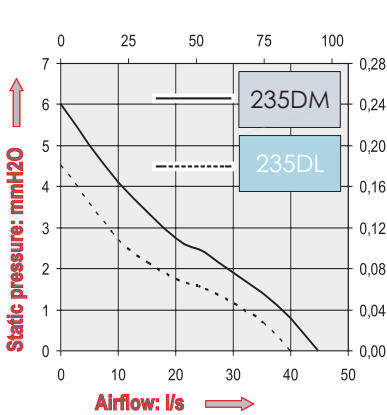
L-10 LIFE AT 40°C:  
70 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 256 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
235DL1LP11000	12	40,0	34	2000	2,3	(4-13,8)	-10	60
235DL2LP11000	24	40,0	34	2000	3,6	(7-27,6)	-10	60
235DL4LP11000	48	40,0	34	2000	2,9	(28-56)	-10	60
235DM1LP11000	12	44,8	38	2300	3,1	(4-13,8)	-10	60
235DM2LP11000	24	44,8	38	2300	4,6	(7-27,6)	-10	60
235DM4LP11000	48	44,8	38	2300	3,8	(28-56)	-10	60
235DH1LP11000	12	50,0	41	2600	3,8	(4-13,8)	-10	60
235DH2LP11000	24	50,0	41	2600	5,8	(7-27,6)	-10	60
235DH4LP11000	48	50,0	41	2600	5,8	(28-56)	-10	60
235DS1LP11000	12	56,7	44	2900	5,5	(4-13,8)	-10	60
235DS2LP11000	24	56,7	44	2900	7,2	(7-27,6)	-10	60
235DS4LP11000	48	56,7	44	2900	7,2	(28-56)	-10	60
235DX1LP11000	12	61,3	48	3200	7,2	(4-13,8)	-10	60
235DX2LP11000	24	61,3	48	3200	9,1	(7-27,6)	-10	60
235DZ1LP11000	12	71,7	53	3700	12,6	(4-13,8)	-10	60
235DZ2LP11000	24	71,7	53	3700	12,0	(7-27,6)	-10	60

**Additional versions:**

235DX in 48 V



DC Axial Fans

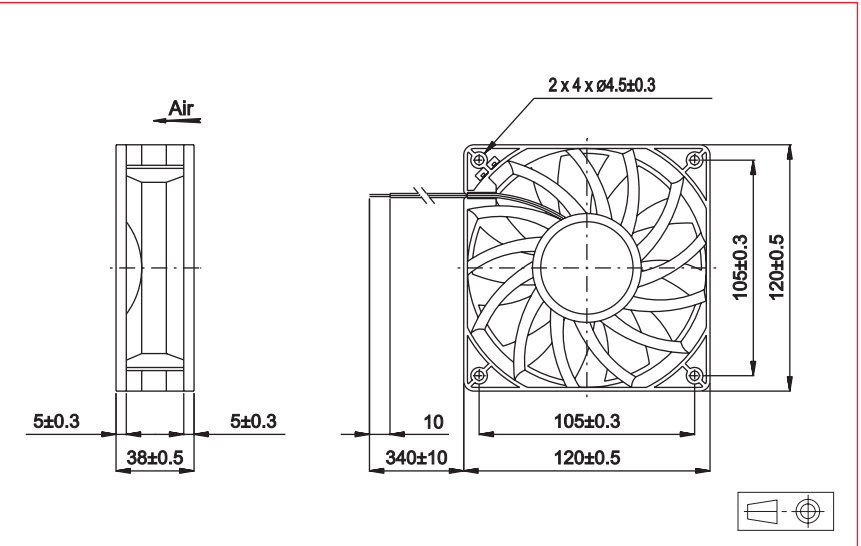


### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
70 000 hours

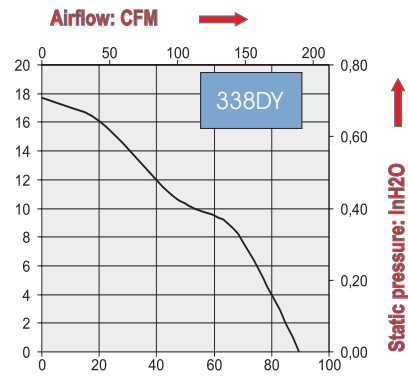
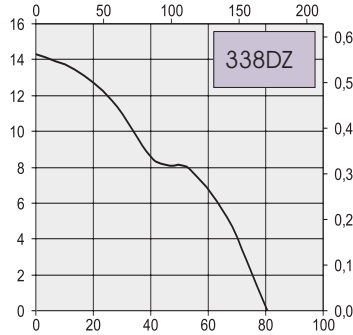
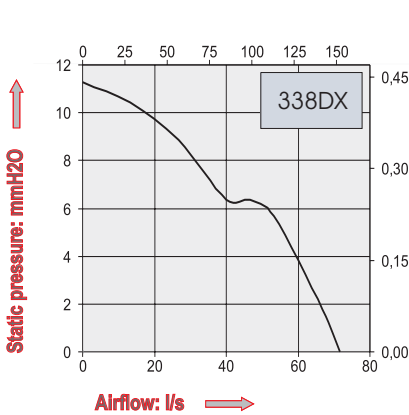


### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 370 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55



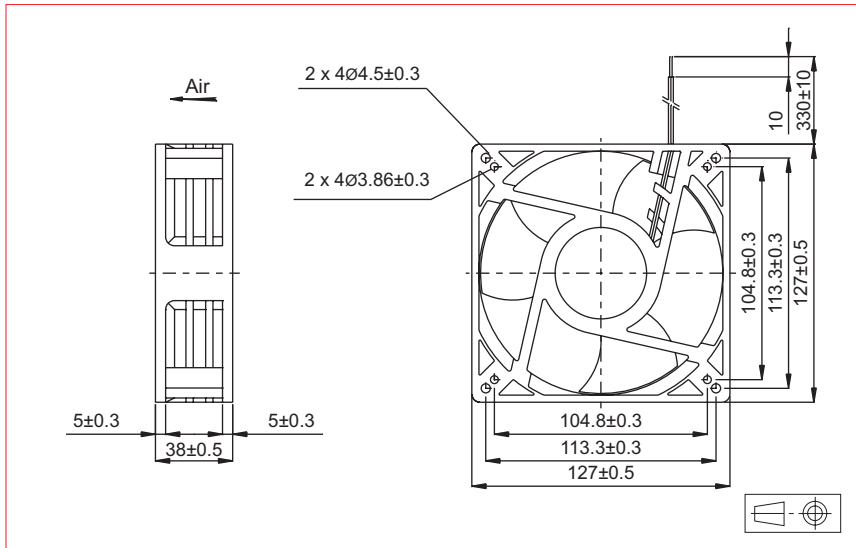
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
338DX1LP11000	12	71,7	53	3200	12,0	(7-13,2)	-10	60
338DX2LP11000	24	71,7	53	3200	13,4	(14-26,4)	-10	60
338DX4LP11000	48	71,7	53	3200	13,4	(28-56)	-10	60
338DZ1LP11000	12	80,7	56,5	3600	18,0	(7-13,2)	-10	60
338DZ2LP11000	24	80,7	56,5	3600	19,2	(14-26,4)	-10	60
338DZ4LP11000	48	80,7	56,6	3600	18,2	(28-56)	-10	60
338DY1LP11000	12	89,7	59	4000	24,0	(7-13,2)	-10	60
338DY2LP11000	24	89,7	59	4000	24,0	(14-26,4)	-10	60
338DY4LP11000	48	89,7	59	4000	24,0	(28-56)	-10	60

# 127 x 127 x 38 mm

Series  
**337D**

**ETRI**

DC Axial Fans



DC Axial Fans

**Approvals**



**Life expectancy**

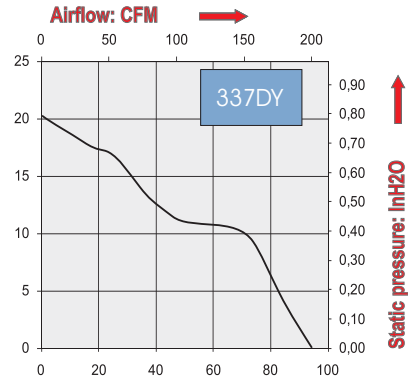
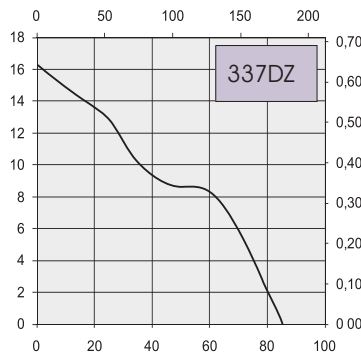
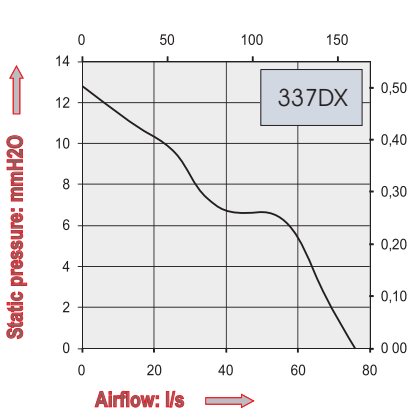
L-10 LIFE AT 40°C:  
70 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 370 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

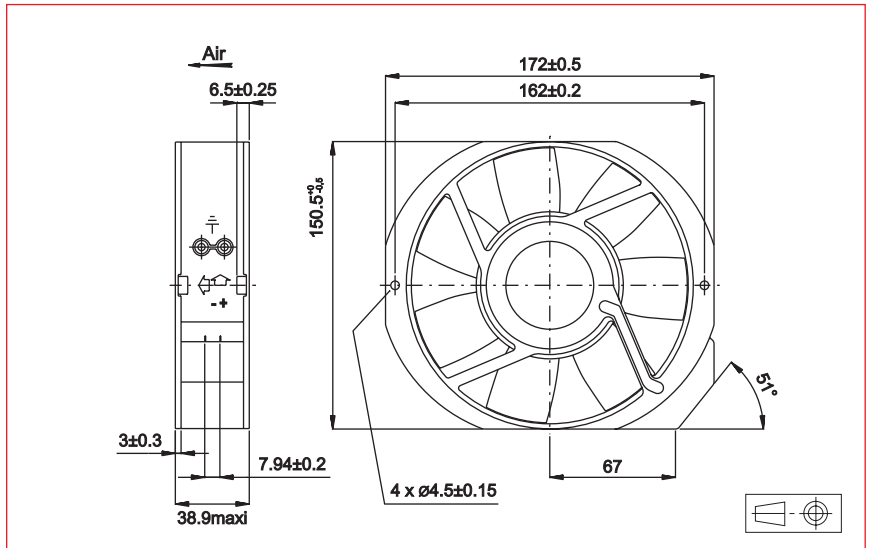
**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM			Min.°C	Max.°C
337DX1LP11000A	12	75,5	53,0	3050	15,8	(7-13,2)	-10	70
337DX2LP11000A	24	75,5	53,0	3050	14,4	(14-26,4)	-10	70
337DX4LP11000A	48	75,5	53,0	3050	15,8	(28-56)	-10	60
337DZ1LP11000A	12	85,0	56,5	3450	22,2	(7-13,2)	-10	70
337DZ2LP11000A	24	85,0	56,5	3450	20,2	(14-26,4)	-10	70
337DZ4LP11000A	48	85,0	56,5	3450	21,6	(28-56)	-10	60
337DY1LP11000A	12	94,4	59,5	3850	32,9	(8,5-13,2)	-10	70
337DY2LP11000A	24	94,4	59,5	3850	28,8	(14-26,4)	-10	70
337DY4LP11000A	48	94,4	59,5	3850	32,2	(28-56)	-10	60

DC Axial Fans



### Approvals



### Life expectancy

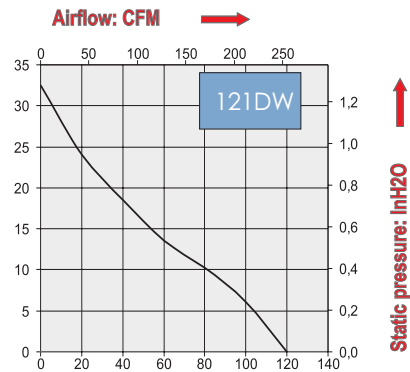
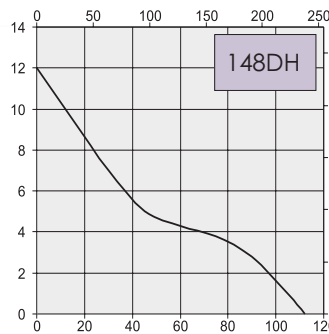
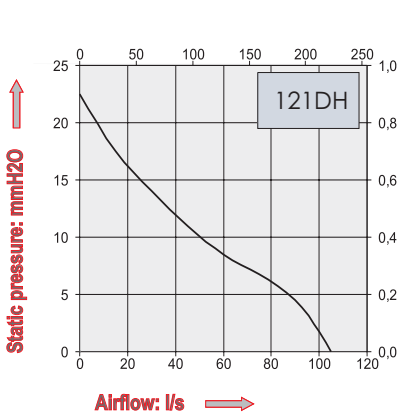
L-10 LIFE AT 40°C:  
80 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 770 g  
Bearing system: ball bearings  
Connection: terminals  
IP 20

### Available with:

- Speed sensor
- Alarm
- Connection: flying leads
- IP 54
- UL, CSA and C-UL approvals: 148D models
- Non RoHS on request



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
121DH2TM11200	24	105	62	4000	23	(19-28)	-10	55
148DH1TM11000	12	110	57	3100	13	(9-15)	-10	70
148DH2TM11000	24	112	58	3100	16,4	(19-28)	-10	55
148DH4TM11000	48	112	58	3100	16,3	(40-57)	-10	55
148DH9TM11207	110	112	58	3100	13,4	(76-140)	-25	70
121DW2TM11200	24	120	66	4650	30	(19-26,5)	-10	55
121DW9TM11200	28	120	66	4650	30	(19-31)	-10	55

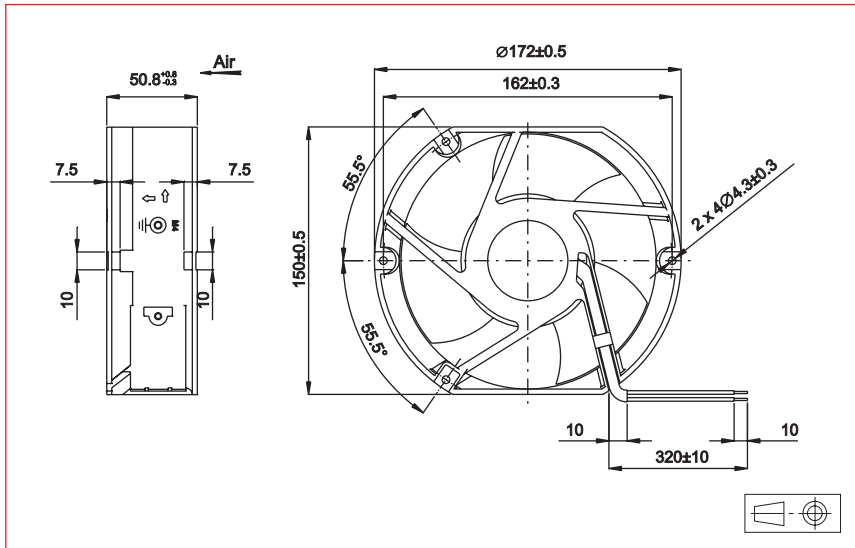
### Additional versions:

Salt spray protection  
Other speeds - other voltages

# 172 x 150 x 50 mm

Series  
**352D**  
L, M, H  
speeds

**ETRI**<sup>®</sup>  
DC Axial Fans



DC Axial Fans

### Approvals



### Life expectancy

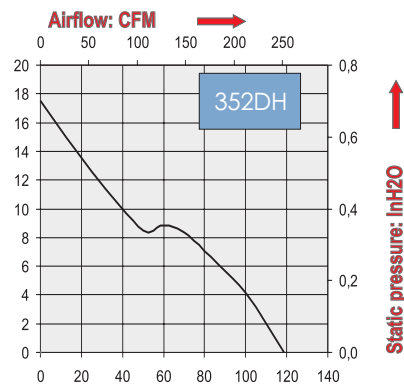
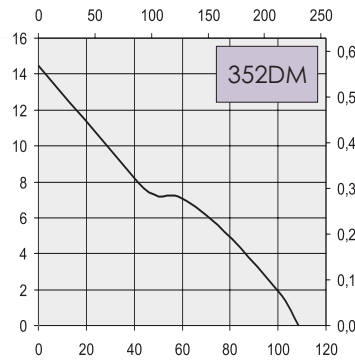
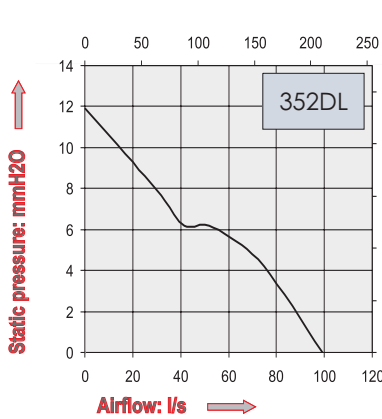
L-10 LIFE AT 40°C:  
80 000 hours

### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: aluminium  
Impeller material: plastic UL 94 V0  
Maximum weight: 840 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

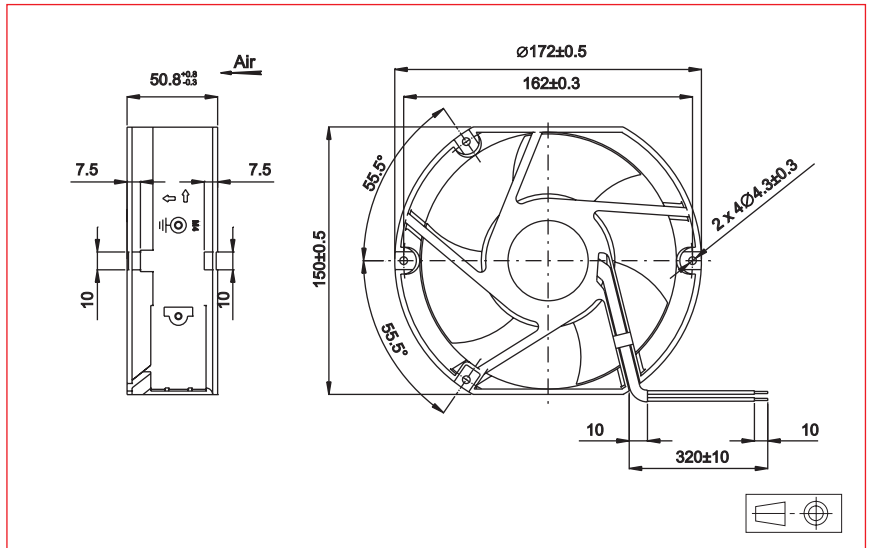
- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
352DL1LM11000	12	99,2	50	2800	10,1	(8-14)	-10	70
352DL2LM11000	24	99,2	50	2800	10,1	(12-28)	-10	70
352DL4LM11000	48	99,2	50	2800	11,5	(24-56)	-10	70
352DM1LM11000	12	108,7	52	3050	12,6	(8-14)	-10	70
352DM2LM11000	24	108,7	52	3050	11,8	(12-28)	-10	70
352DM4LM11000	48	108,7	52	3050	13,9	(24-56)	-10	70
352DH1LM11000	12	118,8	55	3350	16,8	(8-14)	-10	70
352DH2LM11000	24	118,8	55	3350	15,1	(12-28)	-10	70
352DH4LM11000	48	118,8	55	3350	16,8	(24-56)	-10	70

### Additional versions:

Higher speeds (see page 31)



**Approvals**



**Life expectancy**

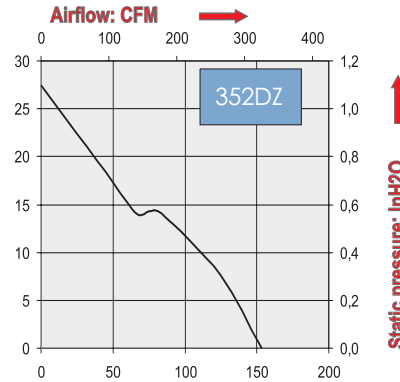
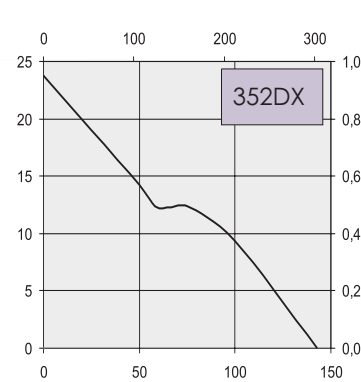
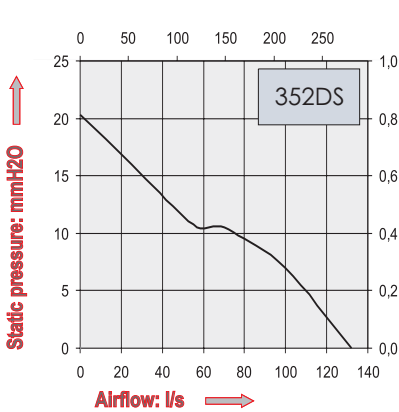
L-10 LIFE AT 40°C:  
80 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: aluminium  
Impeller material: plastic UL 94 V0  
Maximum weight: 840 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Connection type		Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Leads	Terminals	Min.°C	Max.°C
352DS1LM11000	12	132,0	57,5	3700	25,3	(8-14)	X		-10	70
352DS2LM11000	24	132,0	57,5	3700	20,4	(12-28)	X		-10	70
352DS4LM11000	48	132,0	57,5	3700	23,5	(24-56)	X		-10	70
352DX2LM11000	24	142,7	60	4000	30,7	(12-28)	X		-10	70
352DX4LM11000	48	142,7	60	4000	30,7	(28-53)	X		-10	70
352DZ2LM11000	24	153,3	63	4300	32,9	(12-28)	X		-10	70

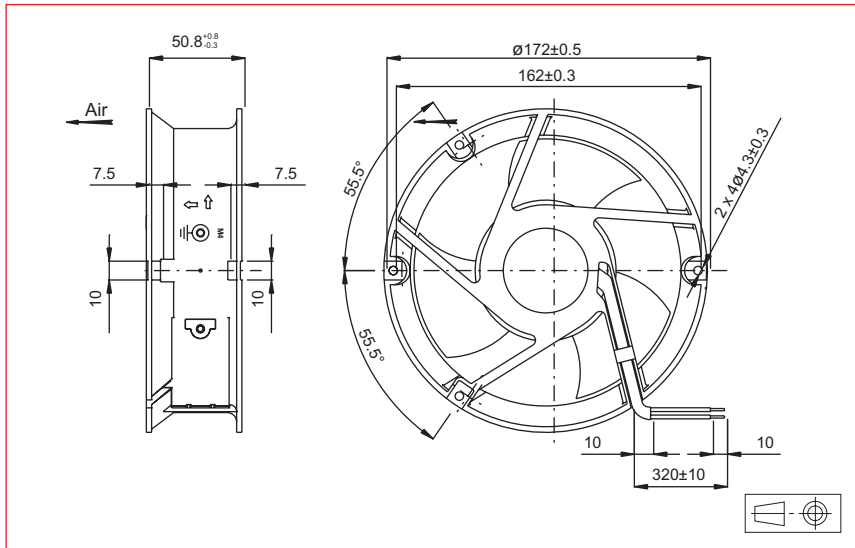
**Additional versions:**  
Lower speeds (see page 30)



**Ø 172 x 50 mm**

**Series 354D**  
L, M, H  
speeds

**ETRI**  
DC Axial Fans



DC Axial Fans

**Approvals**



**Life expectancy**

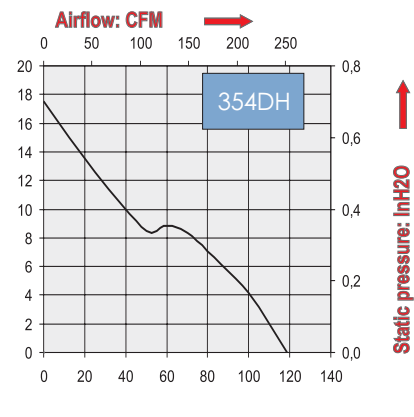
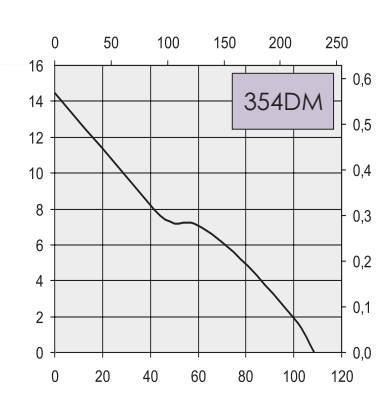
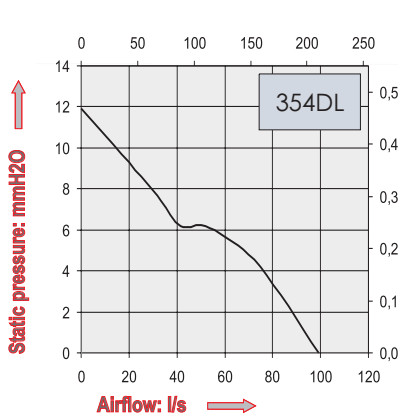
L-10 LIFE AT 40°C:  
80 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: aluminium  
Impeller material: plastic UL 94 V0  
Maximum weight: 840 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55

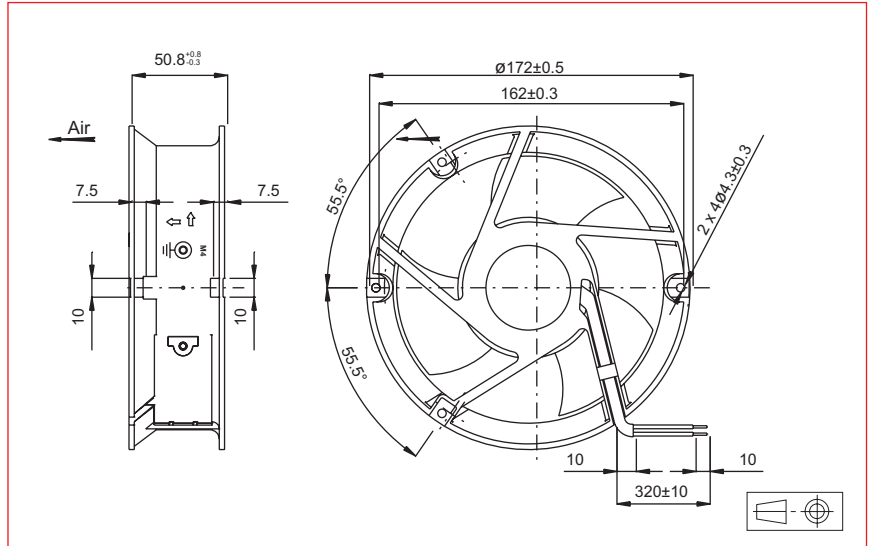


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
354DL1LM11000	12	99,2	50	2800	10,1	(8-14)	-10	70
354DL2LM11000	24	99,2	50	2800	10,1	(12-28)	-10	70
354DL4LM11000	48	99,2	50	2800	11,5	(24-56)	-10	70
354DM1LM11000	12	108,7	52	3050	12,6	(8-14)	-10	70
354DM2LM11000	24	108,7	52	3050	11,8	(12-28)	-10	70
354DM4LM11000	48	108,7	52	3050	13,9	(24-56)	-10	70
354DH1LM11000	12	118,8	55	3350	16,8	(8-14)	-10	70
354DH2LM11000	24	118,8	55	3350	15,1	(12-28)	-10	70
354DH4LM11000	48	118,8	55	3350	16,8	(24-56)	-10	70

**Additional versions:**

Higher speeds (refer to page 33)





**Approvals**



**Life expectancy**

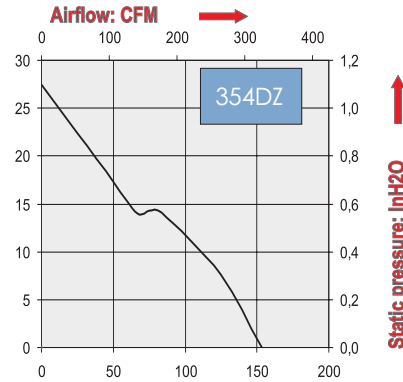
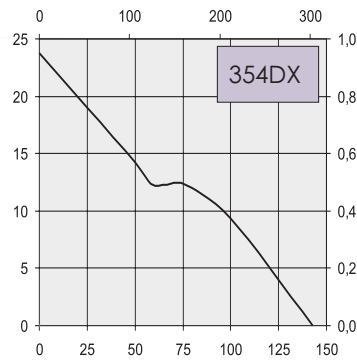
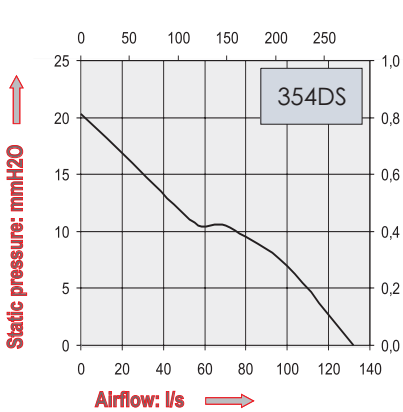
L-10 LIFE AT 40°C:  
80 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: aluminium  
Impeller material: plastic UL 94 V0  
Maximum weight: 840 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
354DS1LM11000	12	132,0	57,5	3700	25,3	(8-14)	-10	70
354DS2LM11000	24	132,0	57,5	3700	20,4	(12-28)	-10	70
354DS4LM11000	48	132,0	57,5	3700	23,5	(24-56)	-10	70
354DX2LM11000	24	142,7	60	4000	26,4	(12-28)	-10	70
354DX4LM11000	48	142,7	60	4000	30,7	(24-56)	-10	70
354DZ2LM11000	24	153,3	63	4300	32,9	(12-28)	-10	70

**Additional versions:**

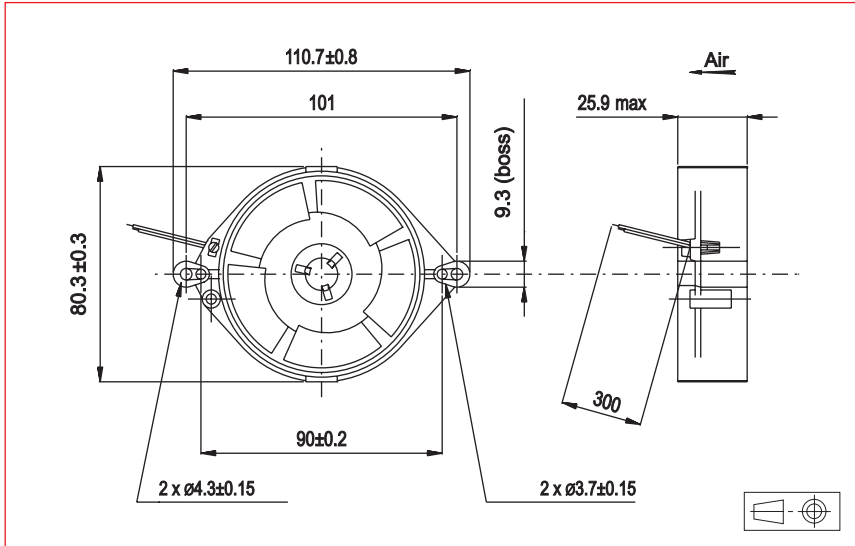
Lower speeds (Refer to page 32)

**Ø 80 x 25 mm**

**146DF**

**ETRI®**

AC Axial Fans



**Approvals**



**Life expectancy**

L-10 LIFE AT 40°C:  
80 000 hours

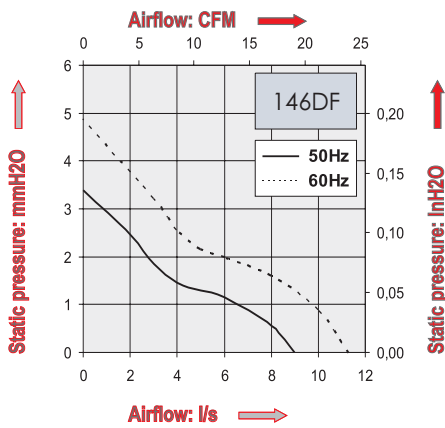
**AC Motor**

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 300 g  
Bearing system: ball bearings  
Connection: flying leads

Single phase  
IP 20

**Available with:**

- IP 54
- Non RoHS on request



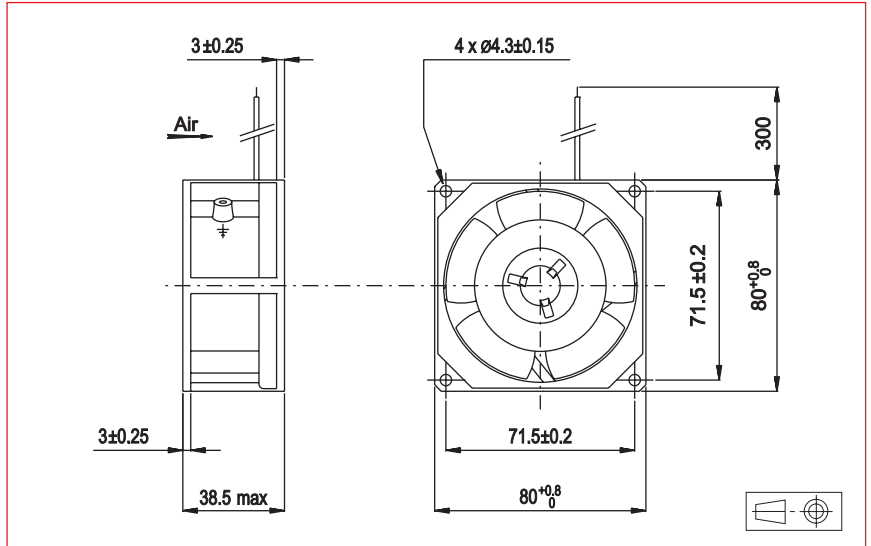
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V								l/s	dB(A)
146DF0182001	115	9	26	2500	50	10	105	120	-10	70
		11	32	3100	60	8	90	110	-10	70
146DF0181001	208-240	9	26	2500	50	11	60	70	-10	70
		11	32	3100	60	9	50	60	-10	70

**Additional versions:**

Shock and vibration protected - salt spray protected - marine specifications - wide temperature range

AC Axial Fans

### AC Axial Fans



### Approvals



### Life expectancy

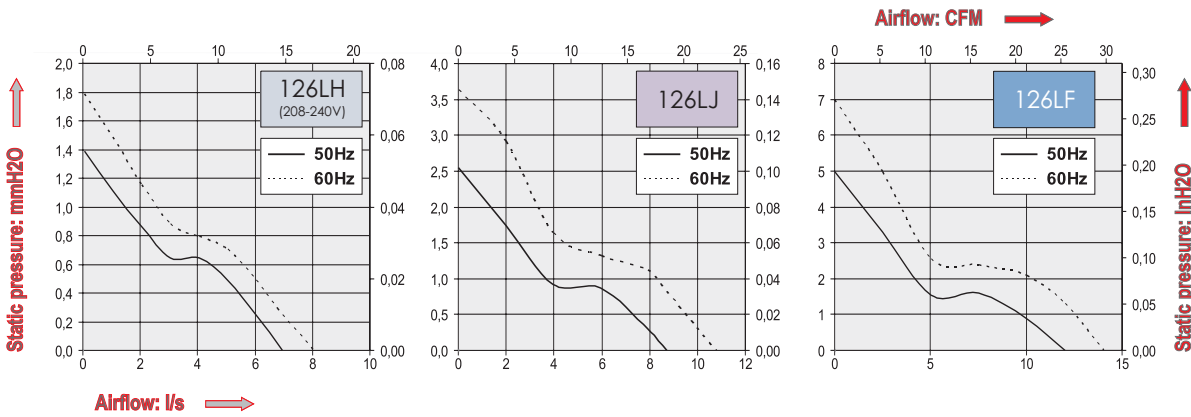
L-10 LIFE AT 40°C:  
80 000 hours

### AC Motor

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 400 g  
Bearing system: ball bearings  
Connection: flying leads

Single phase  
IP 20

Available with:  
- IP 54



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V								l/s	dB(A)
126LH0182001	115	6,0	10	1350	50	5	50	60	-10	70
		7,0	11	1550	60	4	50	60	-10	70
126LH0181001	208-240	6,5	14	1550	50	7	35	40	-10	70
		8,0	18	1850	60	6	30	35	-10	70
126LJ0182001	115	9,0	22	2000	50	7	75	80	-10	70
		11,0	25	2400	60	6	65	70	-10	70
126LJ0181001	208-240	9,0	22	2000	50	8	45	50	-10	70
		11,0	25	2400	60	7	40	45	-10	70
126LF0182001	115	12,5	30	2750	50	10	130	170	-10	70
		15,0	35	3250	60	8	100	140	-10	70
126LF0181001	208-240	12,5	30	2750	50	12	75	90	-10	70
		15,0	35	3550	60	9	60	70	-10	70

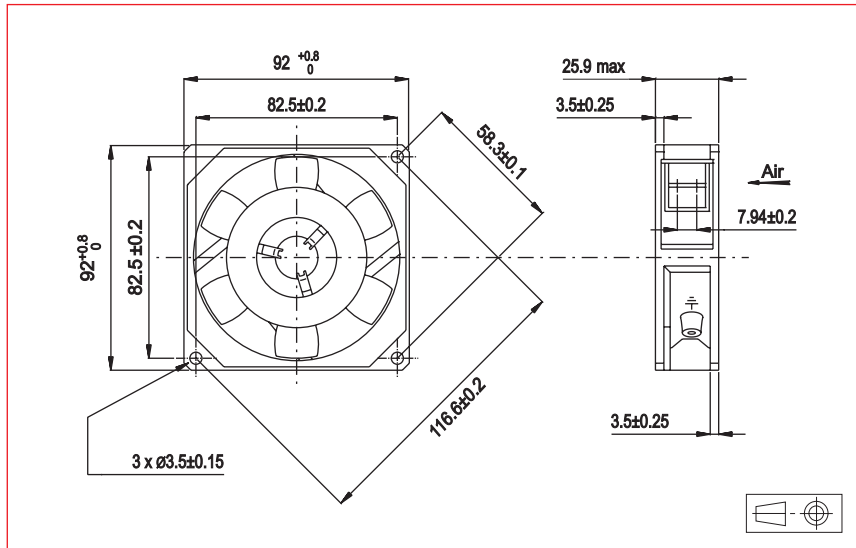
**Additional versions:**  
Shock and vibration protected - wide temperature range

# 92 x 92 x 25 mm

Series  
**99X**

# ETRI®

AC Axial Fans



### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
80 000 hours

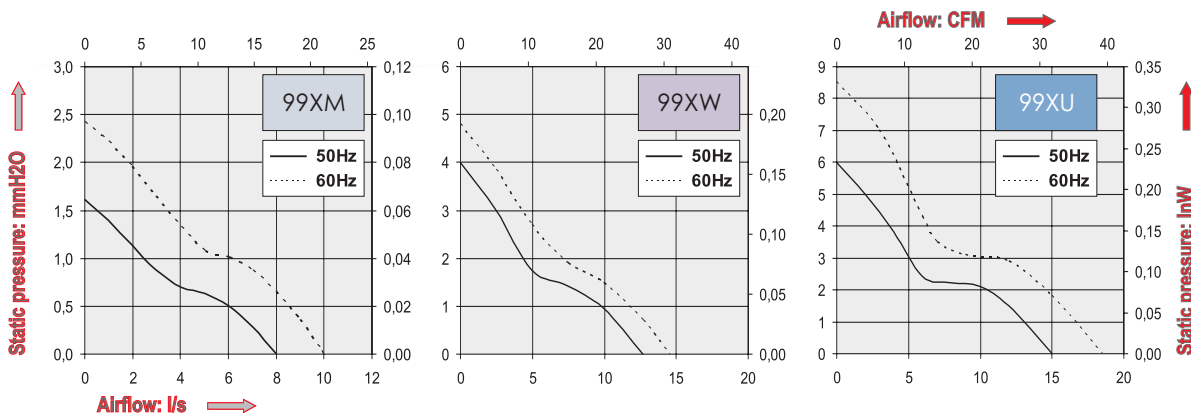
### AC Motor

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 395 g  
Bearing system: ball bearings  
Connection: terminals

Single phase  
IP 20

### Available with:

- Speed sensor - IP 54
- Flying leads

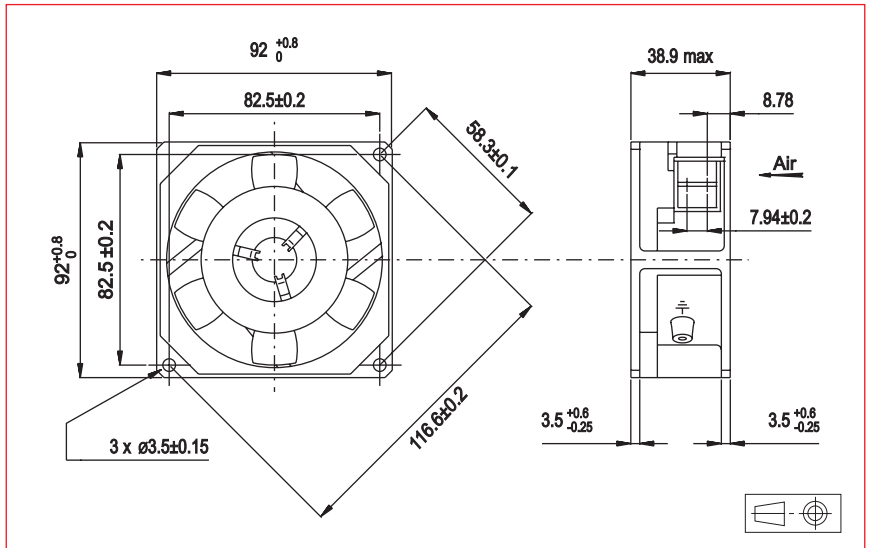


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V								l/s	dB(A)
99XM0182001	115	8,0	21,0	1500	50	7	75	80	-10	70
		10,0	25,5	1800	60	6	65	70	-10	70
99XM0181001	208-240	8,0	21,0	1500	50	8	40	45	-10	70
		10,0	25,5	1800	60	7	35	40	-10	70
99XW0182001	115	12,0	32,0	2200	50	8	85	100	-10	70
		14,0	35,5	2500	60	6	70	90	-10	70
99XW0181001	208-240	12,0	32,0	2200	50	9	50	60	-10	70
		14,0	35,5	2500	60	7	40	50	-10	70
99XU0182001	115	15,0	38,0	2700	50	14	70	100	-10	70
		18,5	42,0	3200	60	11	60	90	-10	70
99XU0181001	208-240	15,0	38,0	2700	50	14	70	100	-10	70
		18,5	42,0	3200	60	11	60	90	-10	70

### Additional versions:

Salt spray protected - Shock and vibration protected - marine specifications - wide temperature range

AC Axial Fans



### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
80 000 hours

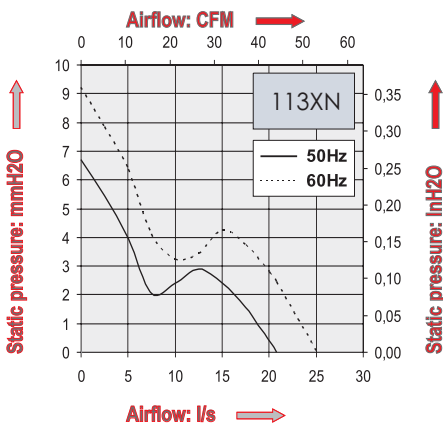
### AC Motor

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 615 g  
Bearing system: ball bearings  
Connection: terminals

Single phase  
IP 20

### Available with:

- Flying leads
- IP 54



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V	l/s	dB(A)	RPM	Hz	W	mA	mA	Min.°C	Max.°C
113XN0182001	115	21	36	2850	50	10	140	270	-10	70
		25	41	3300	60	9	115	220	-10	70
113XN0181001	208-240	21	36	2850	50	12	85	160	-10	70
		25	41	3300	60	11	75	140	-10	70

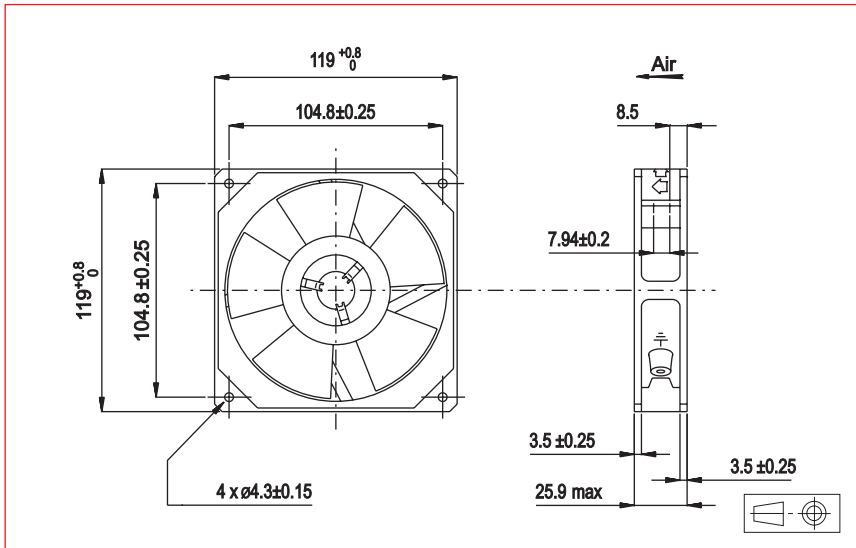
### Additional versions:

Shock and vibration protected - salt spray protected - marine specifications - wide temperature range

# 120 x 120 x 25 mm

Series  
**98X**  
C, Y, H  
speeds

**ETRI**<sup>®</sup>  
AC Axial Fans



### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
80 000 hours

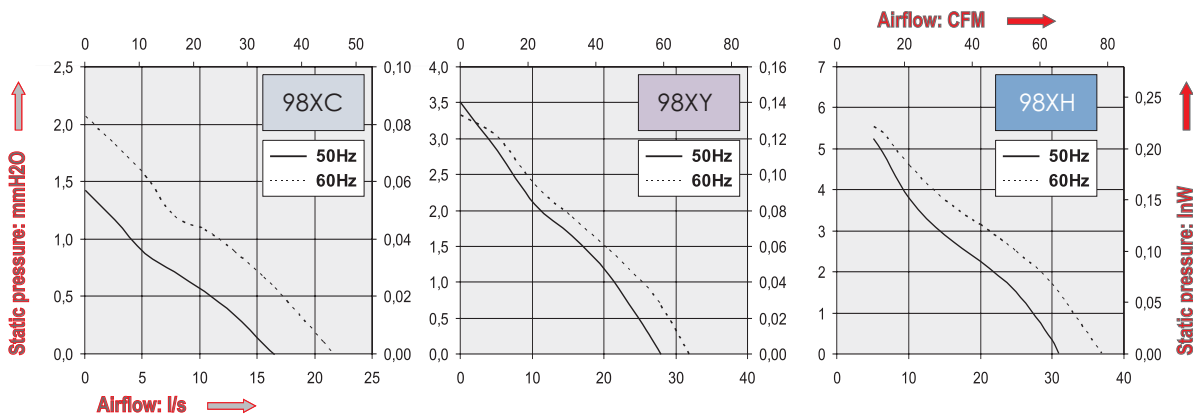
### AC Motor

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 465 g  
Bearing system: ball bearings  
Connection: terminals

Single phase  
IP20

### Available with:

- Speed sensor
- IP 54
- Flying leads



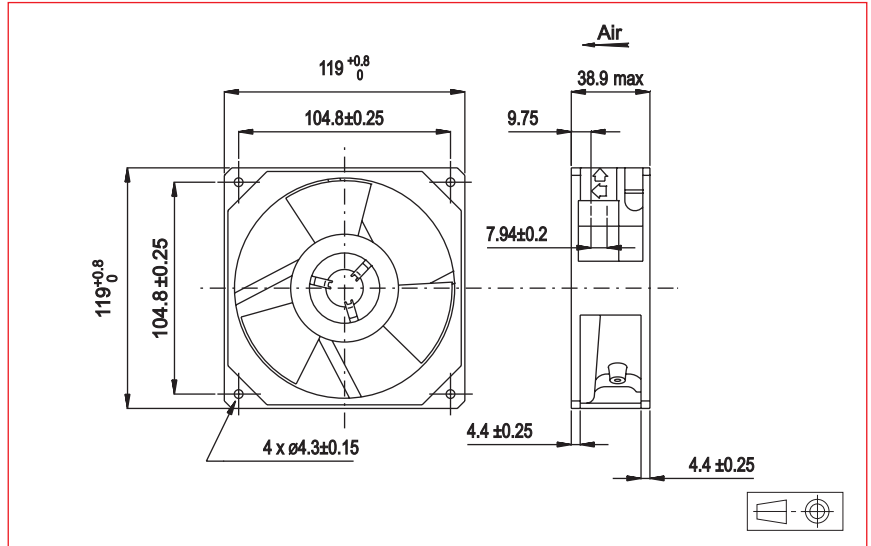
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V								l/s	dB(A)
98XC0182001	115	16	32	1300	50	12	130	150	-10	70
		21	35	1700	60	10	110	130	-10	70
98XC0181001	208-240	16	32	1300	50	14	80	90	-10	70
		21	35	1700	60	12	70	75	-10	70
98XY0182001	115	27	36	2100	50	10	120	140	-10	70
		31	38	2400	60	9	100	120	-10	70
98XY0181001	208-240	27	36	2100	50	12	65	80	-10	70
		31	38	2400	60	10	65	80	-10	70
98XH0182001	115	31	41	2555	50	13	135	200	-10	70
		37	44	3000	60	11	110	180	-10	70
98XH0181001	208-240	31	41	2550	50	15	80	100	-10	70
		37	44	3000	60	13	65	90	-10	70

### Additional versions:

Salt spray protected - shock and vibration protected -  
marine specifications - wide temperature range



### AC Axial Fans



### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
80 000 hours

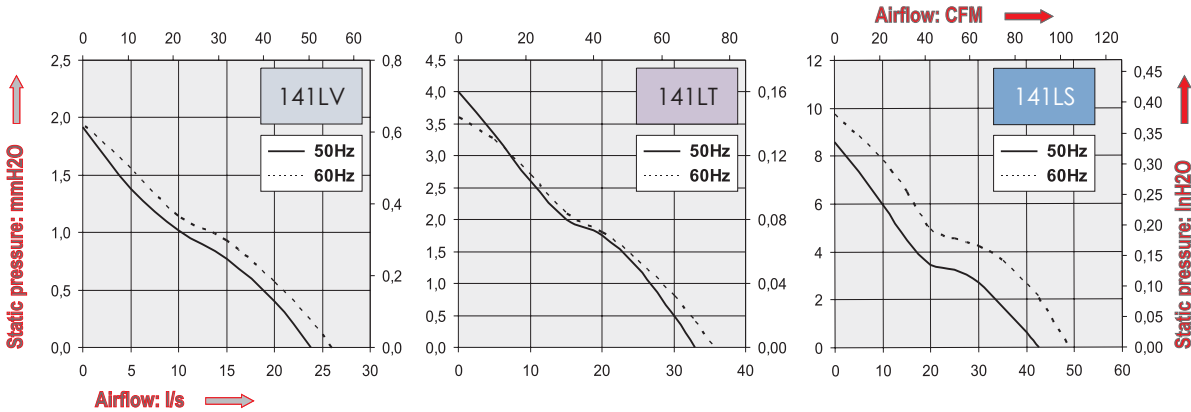
### AC Motor

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 725 g  
Bearing system: ball bearings  
Connection: terminals

Single phase  
IP 20

### Available with:

- Flying leads
- IP 54
- Speed sensor



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V	l/s	dB(A)	RPM	Hz	W	mA	mA	Min.°C	Max.°C
141LV0182001	115	23,5	27,5	1600	50	9	110	125	-10	70
		26,0	28,0	1700	60	8	100	110	-10	70
141LV0181001	208-240	23,5	27,5	1600	50	10	60	70	-10	70
		26,0	28,0	1700	60	9	55	65	-10	70
141LT0182001	115	33,0	35,0	2200	50	10	125	160	-10	70
		35,0	38,5	2400	60	9	110	140	-10	70
141LT0181001	208-240	33,0	35,0	2200	50	12	75	90	-10	70
		35,0	38,5	2400	60	10	65	75	-10	70
141LS0182001	115	42,0	44,5	2800	50	13	160	275	-10	70
		48,0	49,5	3200	60	12	140	240	-10	70
141LS0181001	208-240	42,0	44,5	2800	50	14	95	150	-10	70
		48,0	49,5	3200	60	12	80	130	-10	70

### Additional versions:

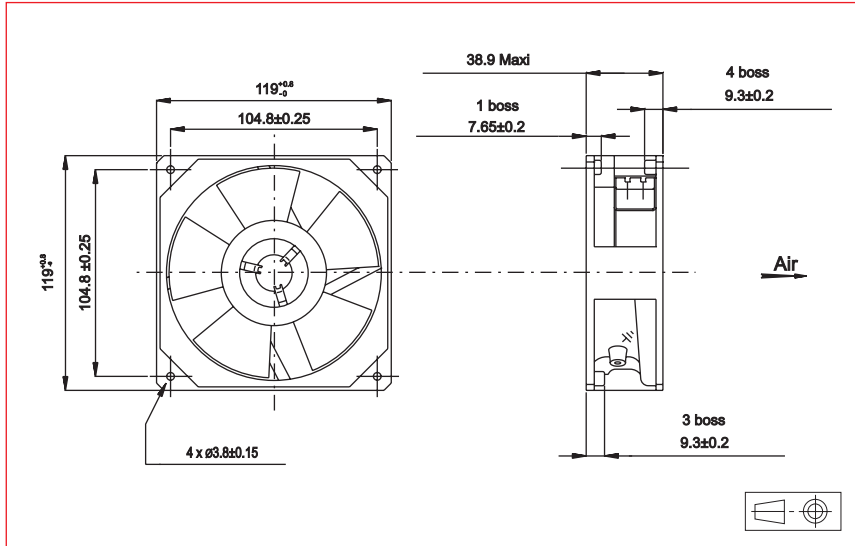
Other voltages  
Shock and vibration protected - salt spray protected - marine specifications - wide temperature range

# 120 x 120 x 38 mm

Series  
**129**

# ETRI®

AC Axial Fans



### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
80 000 hours

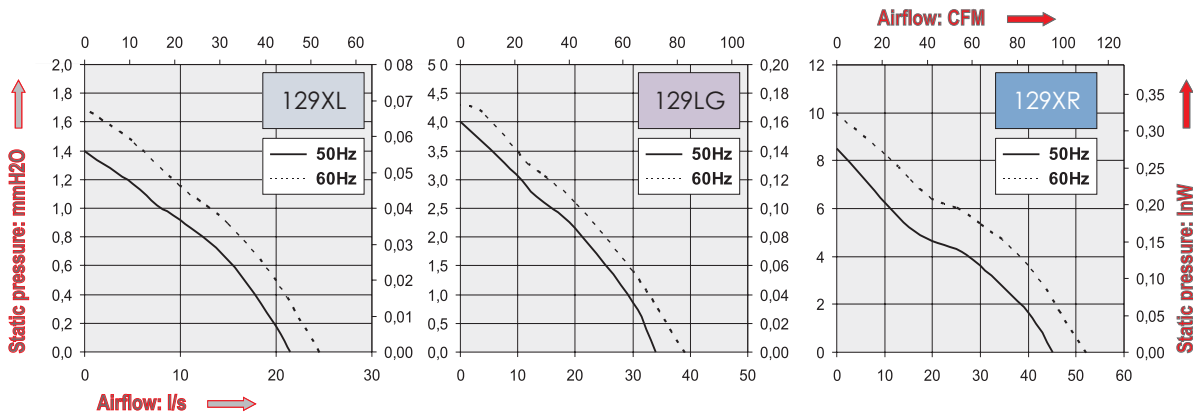
### AC Motor

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 725 g  
Bearing system: ball bearings  
Connection: terminals

Single phase  
IP 20

### Available with:

- Flying leads
- IP 54
- Speed sensor

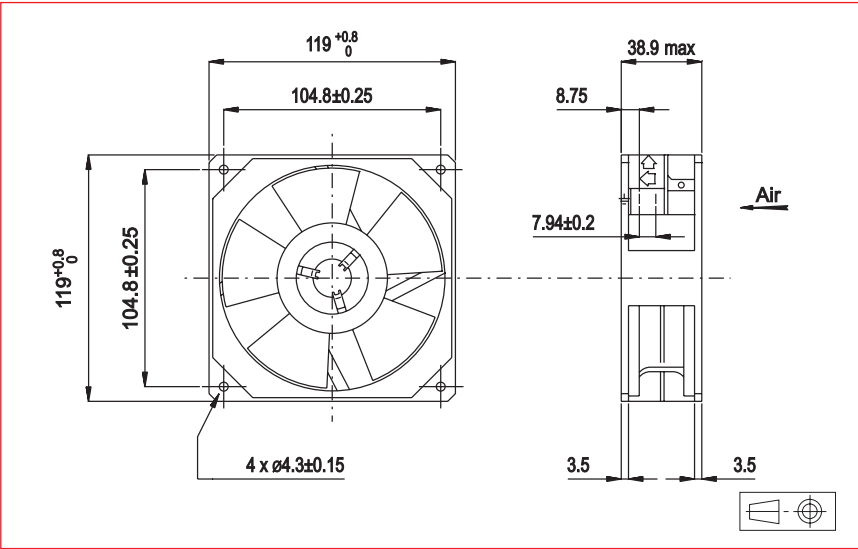


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V	l/s	dB(A)	RPM	Hz	W	mA	mA	Min.°C	Max.°C
129XL0282010	115	21,5	31,0	1350	50	12	135	145	-10	70
		24,5	33,5	1550	60	10	115	125	-10	70
129XL0281010	208-240	21,5	31,0	1350	50	12	75	90	-10	70
		24,5	33,5	1550	60	10	65	75	-10	70
129LG0282010	115	34,0	44,5	2200	50	16	200	250	-10	70
		39,0	47,5	2400	60	13	160	200	-10	70
129LG0281010	220	34,0	44,5	2200	50	18	110	140	-10	70
		39,0	47,5	2400	60	15	90	120	-10	70
129XR0282010	115	45,0	49,0	2800	50	16	200	310	-10	70
		52,0	54,0	3200	60	15	180	260	-10	70
129XR0281010	220	45,0	49,0	2800	50	18	125	170	-10	70
		52,0	54,0	3200	60	15	105	150	-10	70

### Additional versions:

Other voltages  
Salt spray protected - shock and vibration protected - marine specifications

### AC Axial Fans



### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
80 000 hours

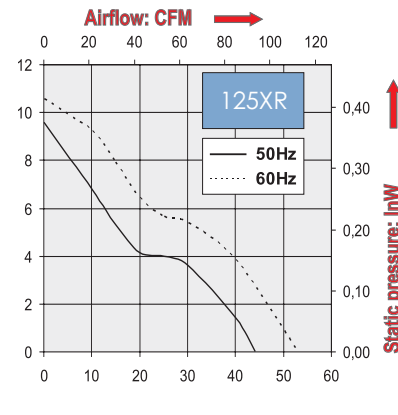
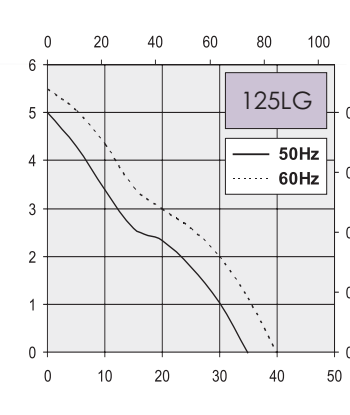
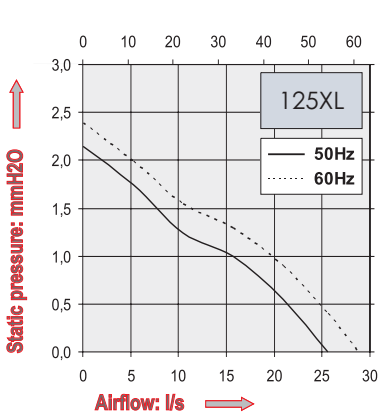
### AC Motor

Electrical protection: impedance protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 725 g  
Bearing system: ball bearings  
Connection: terminals

Single phase  
IP 20

### Available with:

- Flying leads
- IP 54
- Speed sensor



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V	l/s	dB(A)	RPM	Hz	W	mA	mA	Min.°C	Max.°C
125XL0182001	115	25	30,0	1600	50	12	135	145	-10	70
		27	32,0	1750	60	10	115	125	-10	70
125XL0181001	208-240	25	30,0	1600	50	12	75	90	-10	70
		27	32,0	1750	60	10	65	75	-10	70
125LG0182001	115	35	38,0	2200	50	16	200	260	-10	70
		40	40,5	2500	60	13	160	120	-10	70
125LG0181001	208-240	35	38,0	2200	50	18	110	140	-10	70
		40	40,5	2500	60	15	90	120	-10	70
125XR0182001	115	44	44,0	2800	50	16	200	310	-10	70
		53	48,0	3200	60	15	180	260	-10	70
125XR0181001	208-240	44	44,0	2500	50	18	125	170	-10	70
		53	48,0	3200	60	15	105	150	-10	70

### Additional versions:

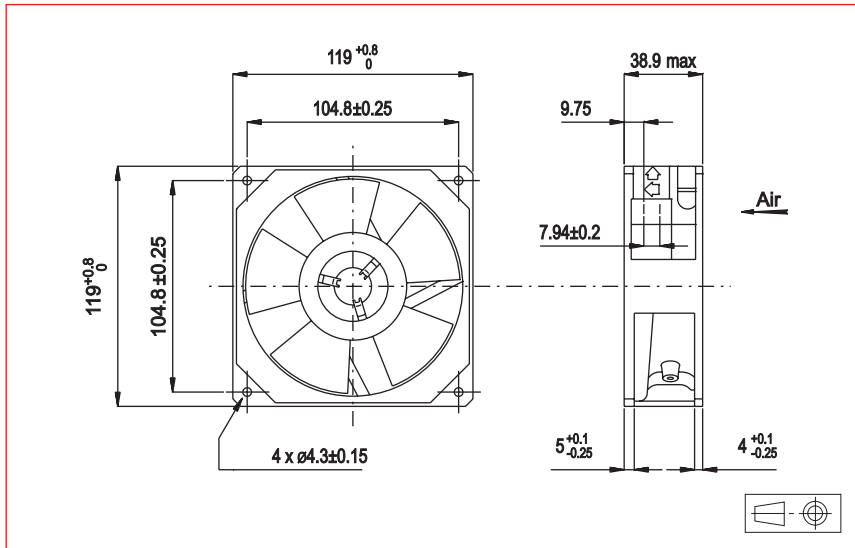
Other weight: 560g with aluminium housing - Dual voltage 115V - 230V - other voltages  
Salt spray protected - shock and vibration protected - marine specifications - wide temperature range

**120 x 120 x 38 mm**

**125XR5**

**ETRI®**

AC Axial Fans



**Approvals**



**Life expectancy**

L-10 LIFE AT 40°C:  
80 000 hours

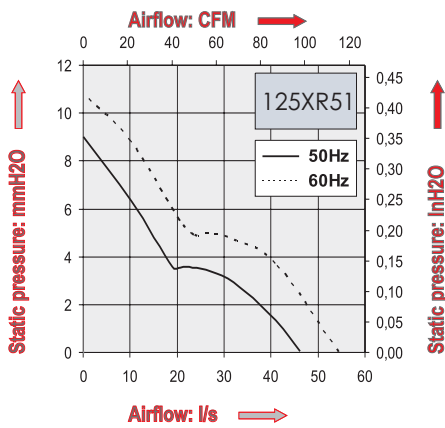
**AC Motor**

Electrical protection: impedance protected  
Housing material: aluminium  
Impeller material: plastic UL 94 V0  
Maximum weight: 560 g  
Bearing system: ball bearings  
Connection: terminals

Single phase  
IP 20

**Available with:**

- Flying leads
- IP 54
- Speed sensor

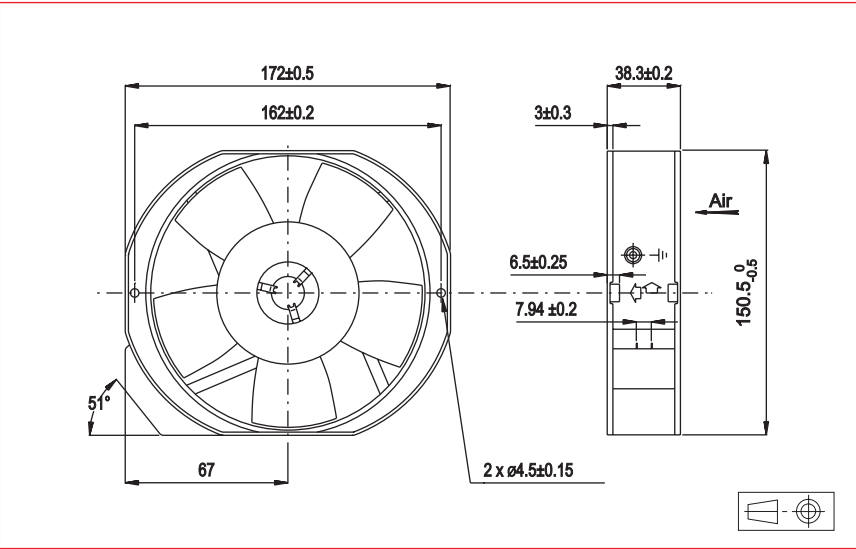


Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V								l/s	dB(A)
125XR5182002	115	44	43	2800	50	16	200	310	-54	100
		53	48	3200	60	15	180	260	-54	100
125XR5181002	208-240	44	43	2800	50	18	125	170	-54	100
		53	48	3200	60	15	105	150	-54	100

**Additional versions:**  
Dual voltage 115V - 230V - other voltages  
Shock and vibration protected - salt spray protected - marine specifications

AC Axial Fans

AC Axial Fans



**Approvals**



**Life expectancy**

L-10 LIFE AT 40°C:  
80 000 hours

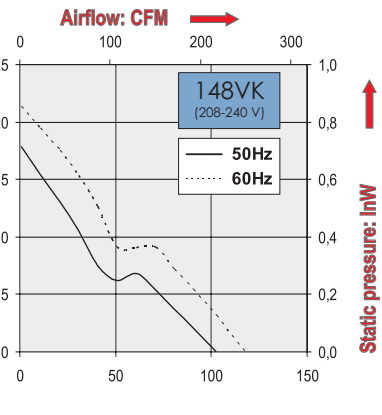
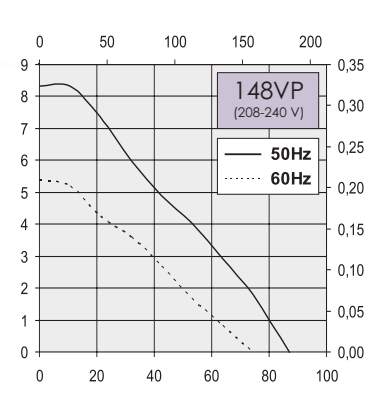
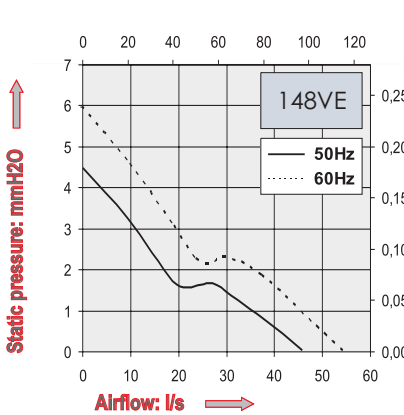
**AC Motor**

Electrical protection:  
VE-VP models: impedance protected  
VK model: thermally protected  
Housing material: zamak  
Impeller material: plastic UL 94 V0  
Maximum weight: 1,1 kg  
Bearing system: ball bearings

Connection: terminals  
Single phase  
IP 20

**Available with:**

- Flying leads
- IP 54
- Speed sensor
- Three phase



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Capacitor	Input Power	Nominal current	Starting current	Operating temperature	
	V	l/s	dB(A)	RPM	Hz	µF	W	mA	mA	Min. °C	Max. °C
148VE0282001	115	49	36	1400	50	1	11	100	140	-10	70
		58	39	1650	60	1	11	90	140	-10	70
148VE0281001	208-240	49	36	1400	50	0,32	13	60	80	-10	70
		58	39	1650	60	0,32	14	60	80	-10	70
148VP0282001	115	81	50	2350	50	2,2	14	120	170	-10	70
		70	46	2100	60	2,2	18	160	180	-10	70
148VP0281001	208-240	82	49	2400	50	0,69	16	70	100	-10	70
		70	44	2000	60	0,69	22	100	105	-10	70
148VK0282001	115	100	54	2850	50	2,7	32	300	610	-10	70
		119	57	3300	60	2,7	32	270	590	-10	70
148VK0281001	208-240	100	53	2800	50	2,2	35	200	390	-10	55
		117	57	3200	60	2,2	33	170	370	-10	55

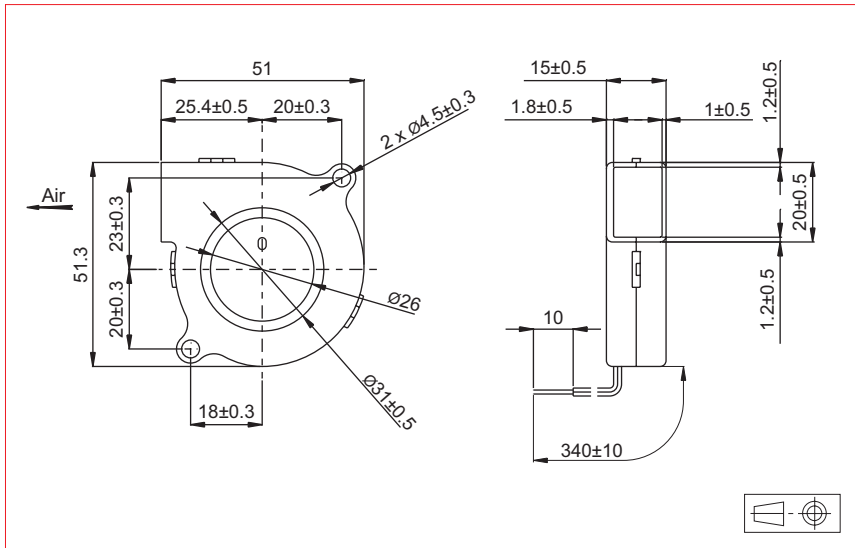
**Additional versions:**  
Other weight: 830 g with aluminium housing - other voltages  
Salt spray protected - shock and vibration protected - marine specifications - wide temperature range

**51 x 51,3 x 15 mm**

Series  
**593D**

**ETRI**<sup>®</sup>

DC Centrifugal Blowers



**Approvals**



**Life expectancy**

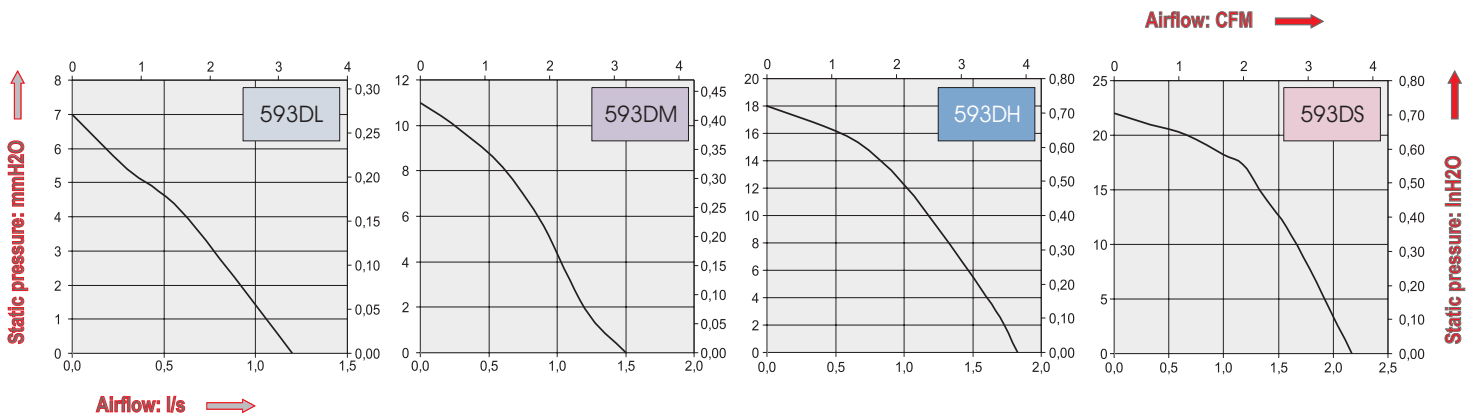
L-10 LIFE AT 40°C:  
25 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 28 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

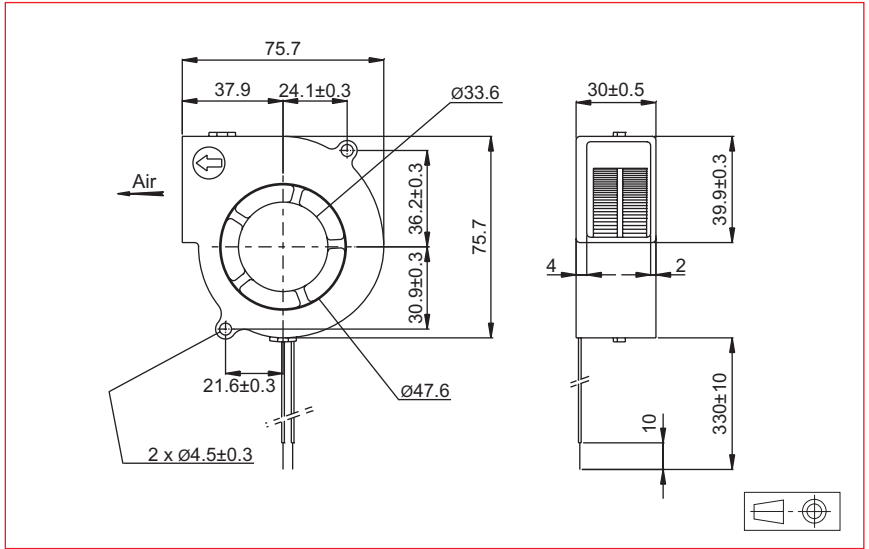
**Available with:**

- Speed sensor
- Alarm



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
593DL5LP11000	5	1,2	26,5	3500	0,7	(4-5,5)	-10	70
593DL1LP11000	12	1,2	26,5	3500	0,8	(10-13,8)	-10	70
593DL2LP11000	24	1,2	26,5	3500	1,2	(14-27,6)	-10	70
593DM5LP11000	5	1,5	32,5	4500	1,7	(4-5,5)	-10	70
593DM1LP11000	12	1,5	32,5	4500	1,2	(10-13,8)	-10	70
593DM2LP11000	24	1,5	32,5	4500	1,7	(14-27,6)	-10	70
593DH1LP11000	12	1,8	38	5500	1,9	(10-13,8)	-10	70
593DH2LP11000	24	1,8	38	5500	2,2	(14-27,6)	-10	70
593DS1LP11000	12	2,2	45	6500	2,5	(10-13,8)	-10	70
593DS2LP11000	24	2,2	45	6500	2,6	(14-27,6)	-10	70





#### Approvals



#### Life expectancy

L-10 LIFE AT 40°C:  
25 000 hours

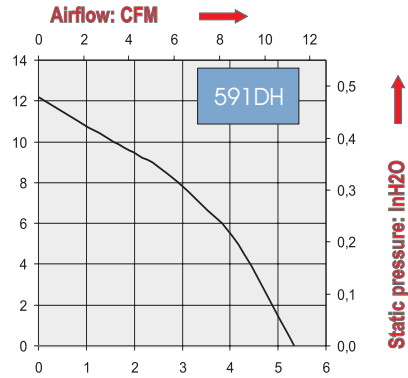
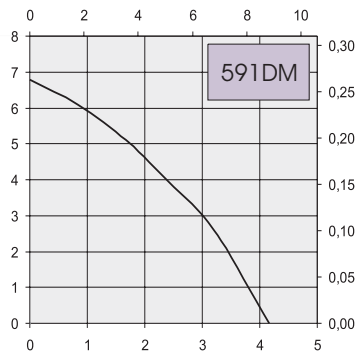
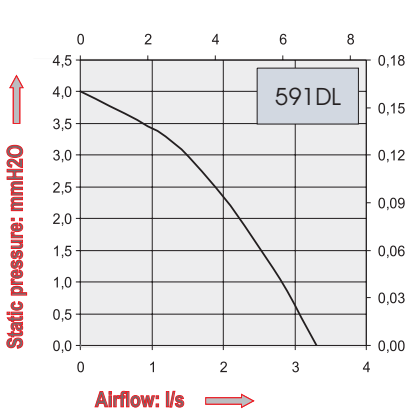
#### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 95 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

#### Available with:

- Speed sensor
- Alarm
- IP 54 / IP 55

DC Centrifugal Fans



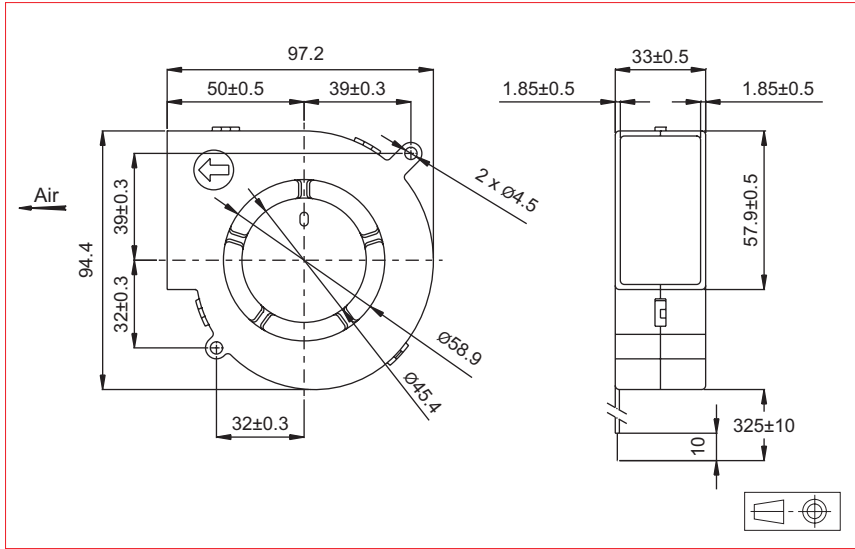
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
591DL1LP11000	12	3,3	26	1900	0,72	(7-13,8)	-10	60
591DL2LP11000	24	3,3	26	1900	1,20	(14-27,6)	-10	60
591DM1LP11000	12	4,2	32	2350	1,56	(7-13,8)	-10	60
591DM2LP11000	24	4,2	32	2350	1,68	(14-27,6)	-10	60
591DH1LP11000	12	5,3	38	2900	2,64	(7-13,8)	-10	60
591DH2LP11000	24	5,3	38	2900	2,88	(14-27,6)	-10	60

**97,2 x 94,4 x 33 mm**

**Series 595D**

**ETRI®**

DC Centrifugal Blowers



**Approvals**



**Life expectancy**

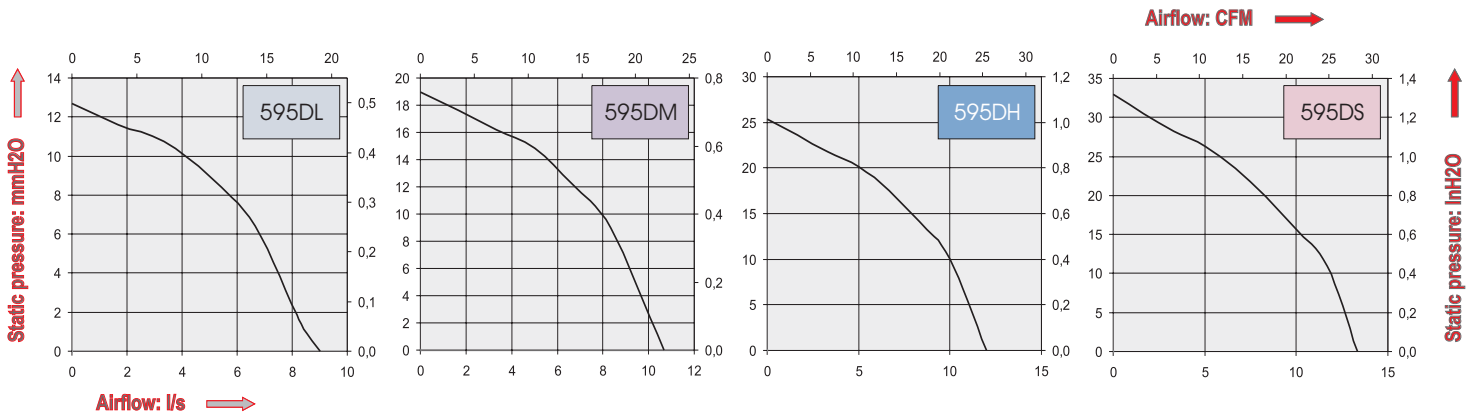
L-10 LIFE AT 40°C:  
25 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 160 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

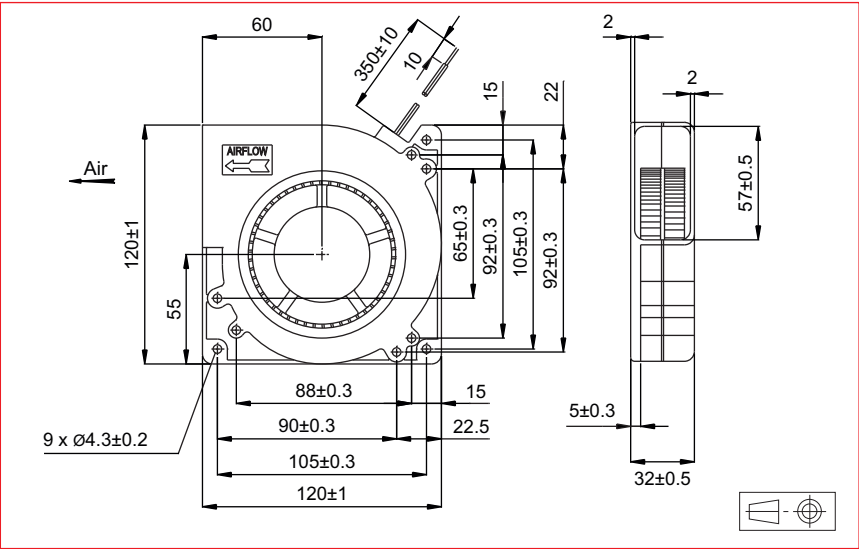
**Available with:**

- Speed sensor
- Alarm
- IP 54 / IP 55



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
595DL1LP11000	12	9,0	45	2700	3,8	(4-13,8)	-10	60
595DL2LP11000	24	9,0	45	2700	3,8	(7-27,6)	-10	60
595DM1LP11000	12	10,7	49	3200	6,8	(4-13,8)	-10	60
595DM2LP11000	24	10,7	49	3200	6,2	(7-27,6)	-10	60
595DH1LP11000	12	12,0	52	3600	9,6	(4-13,8)	-10	60
595DH2LP11000	24	12,0	52	3600	9,6	(7-27,6)	-10	60
595DS1LP11000	12	13,3	55	4000	13,2	(4-13,8)	-10	60
595DS2LP11000	24	13,3	55	4000	13,2	(7-27,6)	-10	60

DC Centrifugal Blowers



### Approvals



### Life expectancy

L-10 LIFE AT 40°C:  
25 000 hours

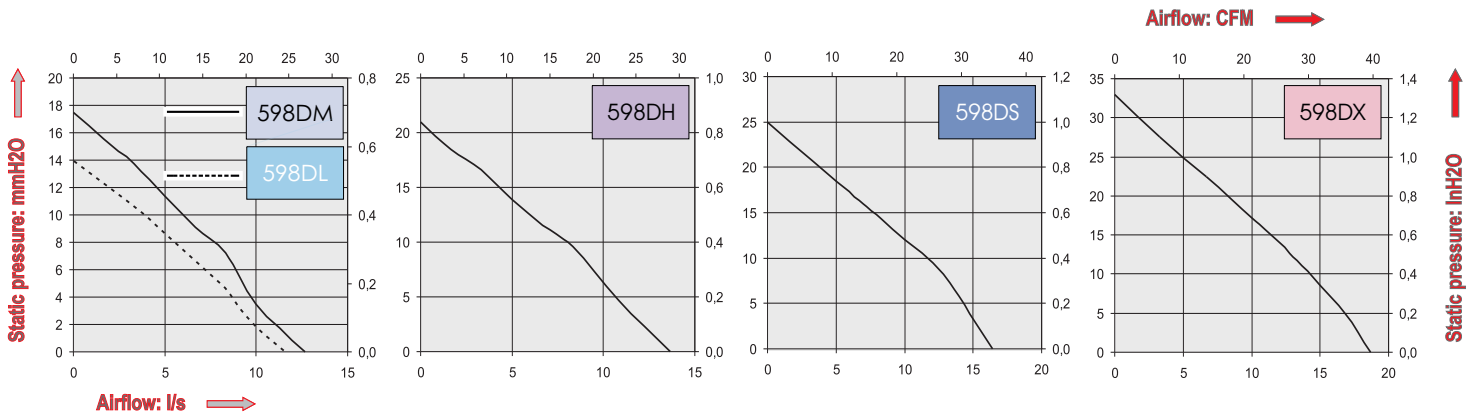
### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 230 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

### Available with:

- Speed sensor
- Alarm

DC Centrifugal Fans



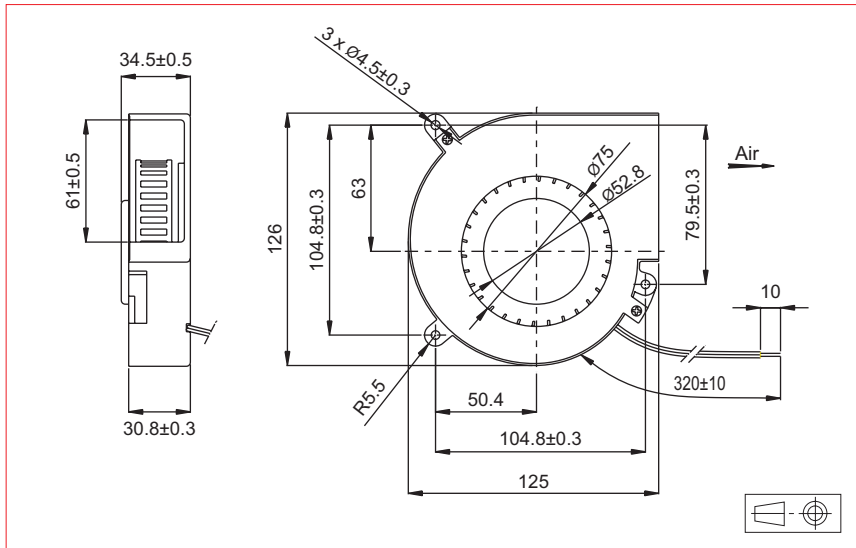
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
598DL1LP11000	12	11,7	47	2100	4,8	(4-13,8)	-10	60
598DL2LP11000	24	11,7	47	2100	5,8	(7-27,6)	-10	60
598DL4LP11000	48	12,5	47	2100	54,3	(28-56)	-10	60
598DM1LP11000	12	12,7	48,5	2300	7,0	(4-13,8)	-10	60
598DM2LP11000	24	12,7	48,5	2300	6,7	(7-27,6)	-10	60
598DM4LP11000	48	13,8	48,5	2300	5,8	(28-56)	-10	60
598DH1LP11000	12	13,7	51	2500	9,8	(4-13,8)	-10	60
598DH2LP11000	24	13,7	51	2500	8,4	(7-27,6)	-10	60
598DH4LP11000	48	14,8	51	2500	7,2	(28-56)	-10	60
598DS1LP11000	12	15,3	54	2800	13,2	(4-13,8)	-10	60
598DS2LP11000	24	16,7	54	2800	12,9	(7-27,6)	-10	60
598DS4LP11000	48	16,7	54	2800	10,6	(28-56)	-10	60
598DX1LP11000	12	18,7	56,5	3100	15,0	(4-13,8)	-10	60
598DX2LP11000	24	18,7	56,5	3100	14,4	(7-27,6)	-10	60

**126 x 125 x 34,5 mm**

**Series 596D**

**ETRI®**

DC Centrifugal Blowers



**Approvals**



**Life expectancy**

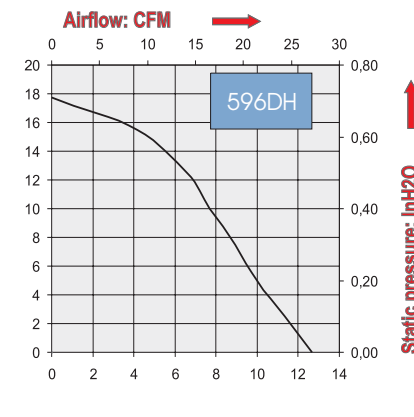
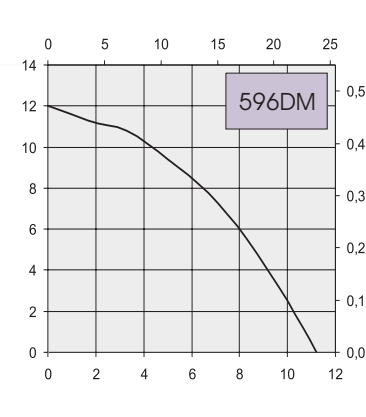
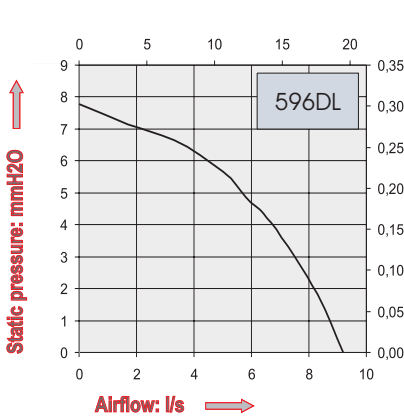
L-10 LIFE AT 40°C:  
25 000 hours

**Brushless DC Motor**

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 325 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

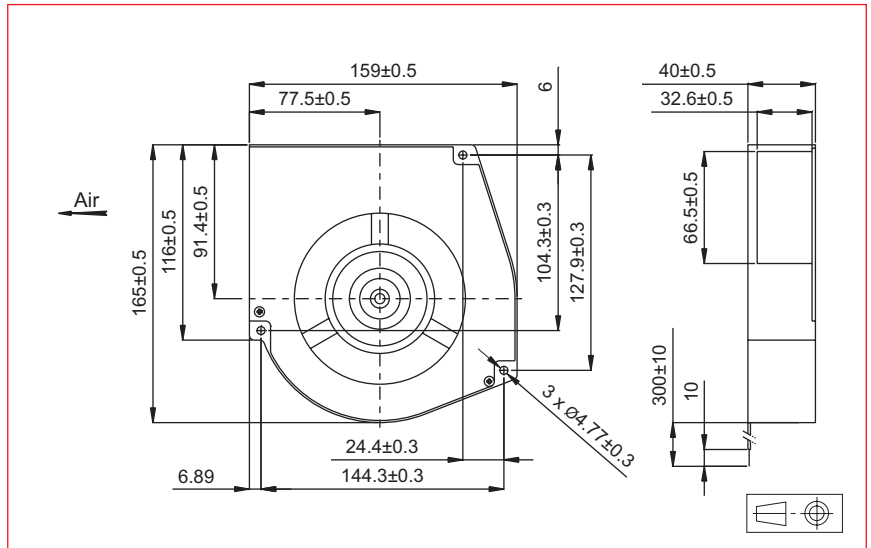
**Available with:**

- Speed sensor
- Alarm



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
596DL1LP11000	12	9,2	42,5	1700	2,9	(7-13,8)	-10	60
596DL2LP11000	24	9,2	42,5	1700	3,1	(14-28)	-10	60
596DL4LP11000	48	9,2	42,5	1700	3,8	(38-56)	-10	60
596DM1LP11000	12	11,2	46,0	2000	5,0	(7-13,8)	-10	60
596DM2LP11000	24	11,2	46,0	2000	5,5	(14-28)	-10	60
596DM4LP11000	48	11,2	46,0	2000	5,8	(38-56)	-10	60
596DH1LP11000	12	12,8	51,5	2300	8,2	(7-13,8)	-10	60
596DH2LP11000	24	12,8	51,5	2300	8,2	(14-28)	-10	60

DC Centrifugal Fans



#### Approvals



#### Life expectancy

L-10 LIFE AT 40°C:  
25 000 hours

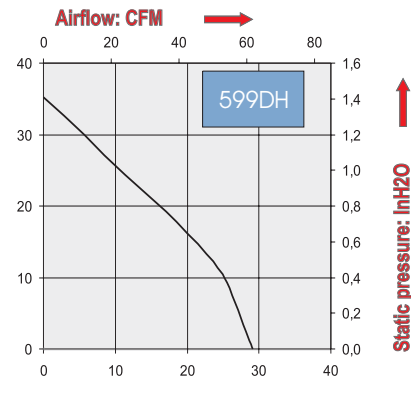
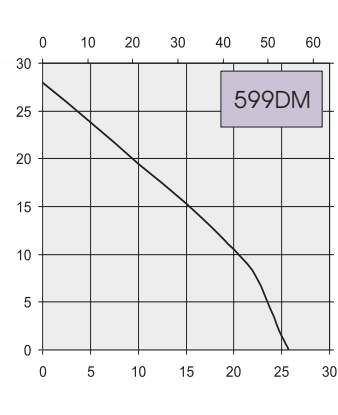
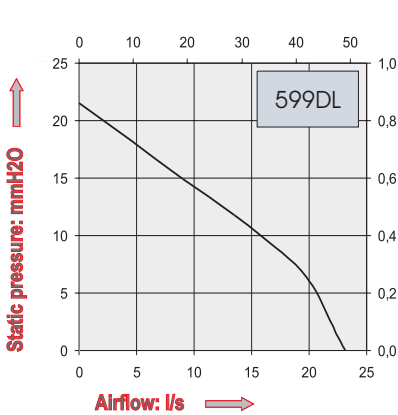
#### Brushless DC Motor

Electrical protection: integrated circuit  
Housing material: plastic UL 94 V0  
Impeller material: plastic UL 94 V0  
Maximum weight: 588 g  
Bearing system: ball bearings  
Connection: flying leads  
IP 20

#### Available with:

- Speed sensor
- Alarm

DC Centrifugal Fans



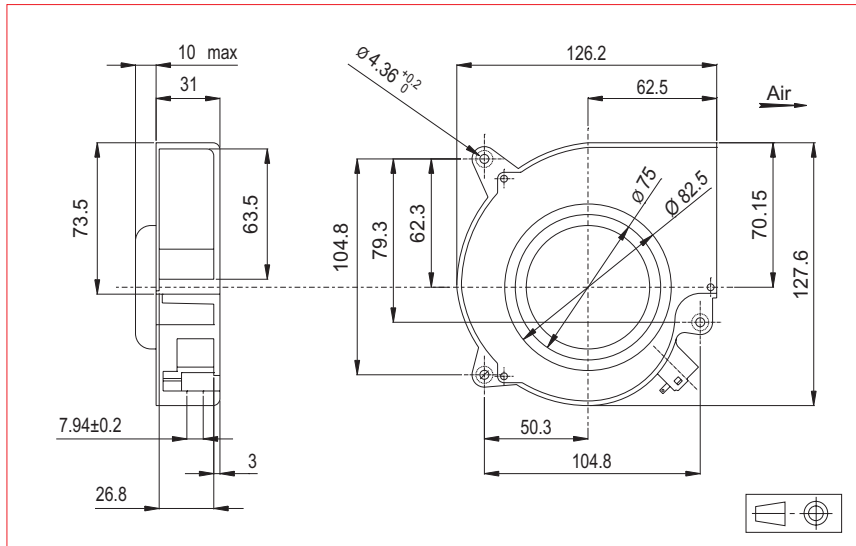
Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Input Power	Voltage range	Operating temperature	
	V	l/s	dB(A)	RPM	W	V	Min.°C	Max.°C
599DL1LP11000	12	23,2	51,5	1800	9,6	(7-13,2)	-10	60
599DL2LP11000	24	23,2	51,5	1800	9,6	(14-26,4)	-10	60
599DL4LP11000	48	23,2	51,5	1800	10,6	(28-56)	-10	60
599DM1LP11000	12	25,7	54,5	2000	13,2	(7-13,2)	-10	60
599DM2LP11000	24	25,7	54,5	2000	13,4	(14-26,4)	-10	60
599DM4LP11000	48	25,7	54,5	2000	13,4	(14-27,6)	-10	60
599DH1LP11000	12	29,2	56,5	2200	17,2	(7-13,2)	-10	60
599DH2LP11000	24	29,2	56,5	2200	17,8	(14-26,4)	-10	60

**126,2 x 127,6 x 41 mm**

**583CBA**

**ETRI®**

AC Centrifugal Blowers



Approvals



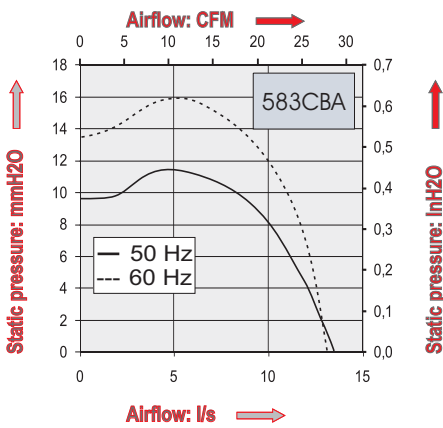
Life expectancy

L-10 LIFE AT 40°C:  
25 000 hours

**AC Motor**  
 Electrical protection: impedance protected  
 Housing material: zamak  
 Impeller material: plastic UL 94 VO  
 Weight: 800 g  
 Bearing system: ball bearings  
 Connection: terminals  
 IP 20

Single phase

Available with:  
 - Flying leads



Part Number	Nominal voltage	Airflow	Noise level	Nominal speed	Frequency	Input Power	Nominal current	Starting current	Operating temperature	
	V								l/s	dB(A)
583CBA0092000	115	13,5	49	2550	50	21	270	400	-10	55
		13,2	51	2500	60	20	250	350	-10	55
583CBA0091000	220	13,5	49	2550	50	21	140	210	-10	55
		13,2	51	2500	60	20	130	185	-10	55

AC Centrifugal Fans



## METAL MESH FILTERS

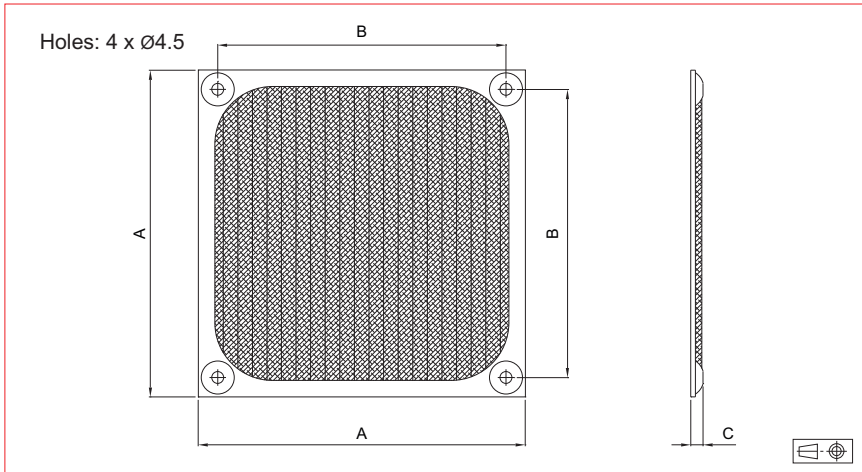


**Benefits:**

- High efficiency in filtering
- Smart finish allowing an easily accomodation to the equipment design
- Gives effective EMI/RFI protection

**Material:**

Aluminium



Part number	Fans dimensions	Dimensions (mm)		
		A (±1)	B (±1)	C (±0,5)
FLTR EMI 60-G Arg	60 x 60	63	50	4,3
FLTR EMI 80-G Arg	80 x 80	83,8	71,4	4,45
FLTR EMI 90-G Arg	92 x 92	92	82,4	4,45
FLTR EMI 120-G Arg	120 x 120	119,9	104,8	4,45

## METAL FINGER GUARDS

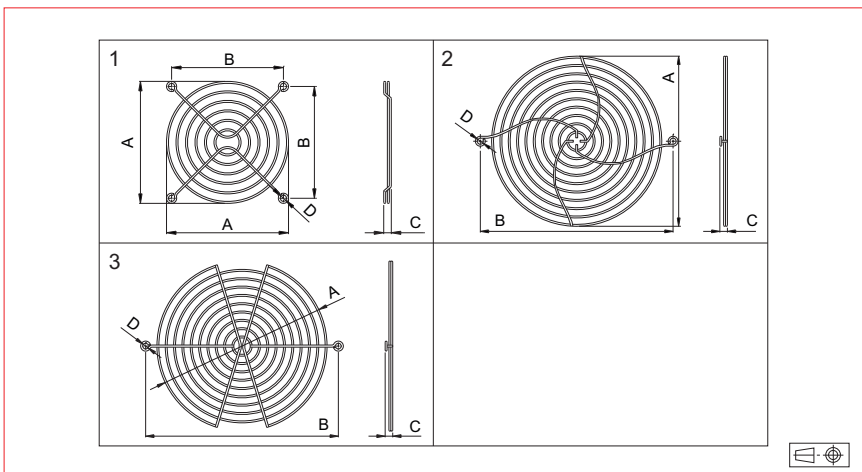


**Benefits:**

- Effective protection: the maximum space between each ellipse of the finger guard respects the values of the standards in use

**Material:**

Nickel-plated wire (UL-CSA)

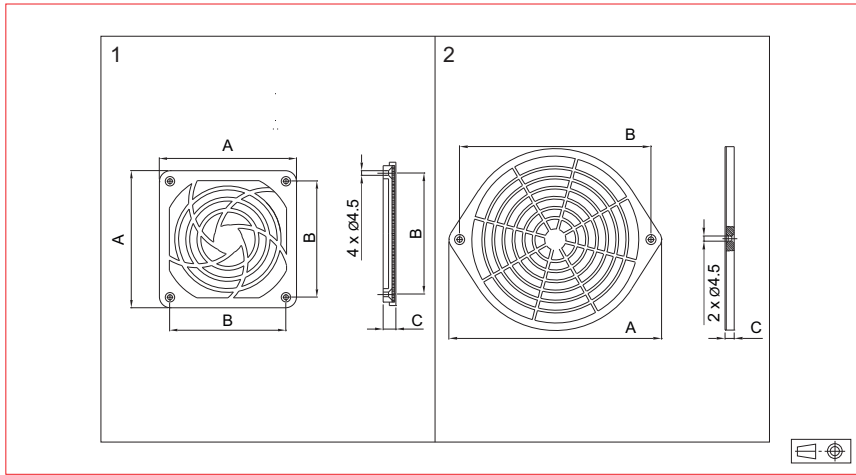


Part number	Fans dimensions	Model	Dimensions (mm)				Number of ellipses
			A (±1)	B (±1)	C (±1)	D (±0,5)	
P-DGT ME 40-43	40 x 40	1	32	31,5	4,0	4,0	2
P-DGT ME 60-43	60 x 60	1	53,2	50	4,4	4,6	4
P-DGT ME 12601-43	80 x 80	1	76,5	71,5	5,5	4,6	5
P-DGT ME 9901-43	92 x 92	1	90	82,5	5,6	4,6	6
P-DGT ME 9601-43a	120 x 120	1	117,5	105,7	6,5	4,5	8
P-DGT ME 12001-43/01	Ø 172	3	154,4	162	6,45	4,8	10
P-DGT ME 12001-43	172 x 150 and Ø 172	2	143	162	6,35	5,1	10

# PLASTIC FILTERS

# ETRI®

Accessories



The drawings of this page are for information only and are not contractual drawings.  
The shape of these filters and finger guards may be modified without prior notice.



### Benefits:

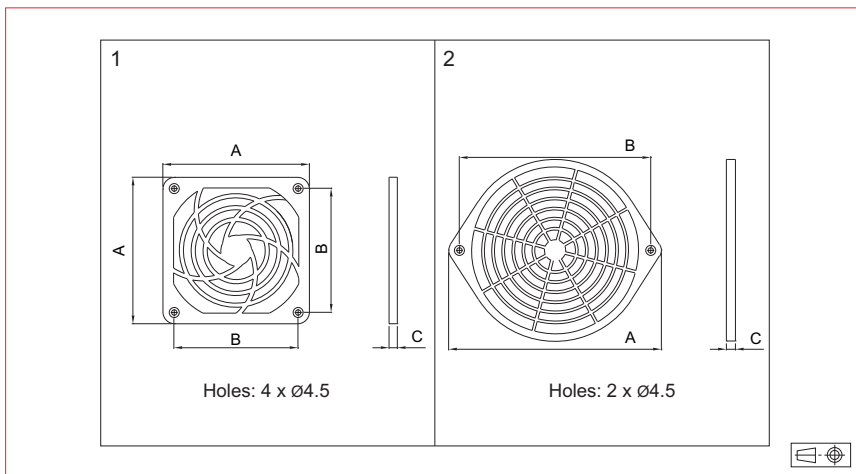
- Easy mounting
- Smart appearance
- High mechanical resistance

### Material:

Plastic UL 94 V0  
Black filter pad

Part number	Fans dimensions	Model	Dimensions (mm)			Filters pads
			A (±1)	B (±1)	C (±0,5)	
FLTR PL F60/T102	60 x 60	1	60	50	6,6	MED FLTR F60/T102-03
FLTR PL F80/T102	80 x 80	1	84	71,5	10	MED FLTR F80/T102-03
FLTR PL F90/T101	92 x 92	1	96	82,5	10	MED FLTR F90/T101-03
FLTR PL F90/T102	92 x 92	1	96	82,5	10	MED FLTR F90/T102-03
FLTR PL F120/T102	120 x 120	1	124	104,8	11	MEDIA F120/T102-03
FLTR PL F172/T102	172 x 150	2	180	162	8	MED FLT F172/T102-03

# PLASTIC FINGER GUARDS



The drawings of this page are for information only and are not contractual drawings.  
The shape of these filters and finger guards may be modified without prior notice.



### Benefits:

- Easy mounting
- Smart appearance
- High mechanical resistance

### Material:

Plastic UL 94 V0

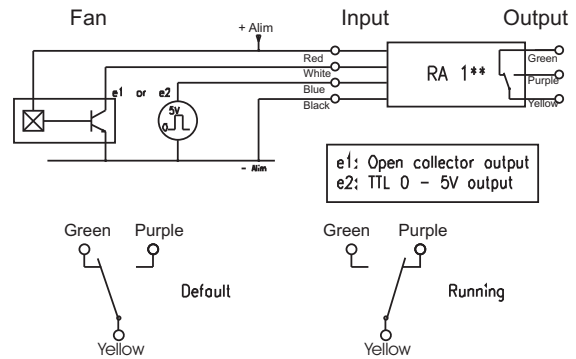
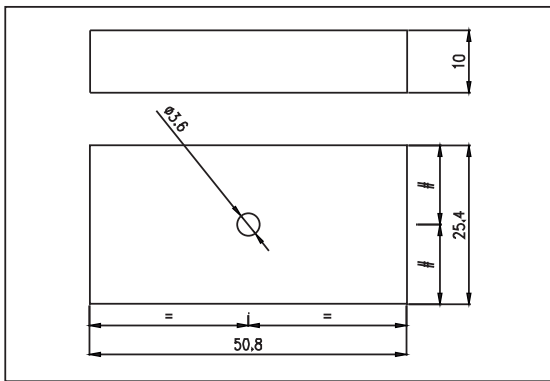
Part number	Fans dimensions	Model	Dimensions (mm)			Can be used as spare parts of plastic filters part number
			A (±1)	B (±1)	C (±0,5)	
P-DGT PL PFG-60	60 x 60	1	60	50	6,0	FLTR PL F60/T102
P-DGT PL PFG-80	80 x 80	1	81	71,5	5,5	FLTR PL F80/T102
P-DGT PL PFG-90	92 x 92	1	92	82,5	7,1	FLTR PL F90/T102
P-DGT PL PFG-120	120 x 120	1	117,4	104,9	7,1	FLTR PL F120/T102
P-DGT PL PFG-172	172 x 150	2	180,3	162	7,9	FLTR PL F172/T102

### RA104 - RA105

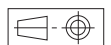
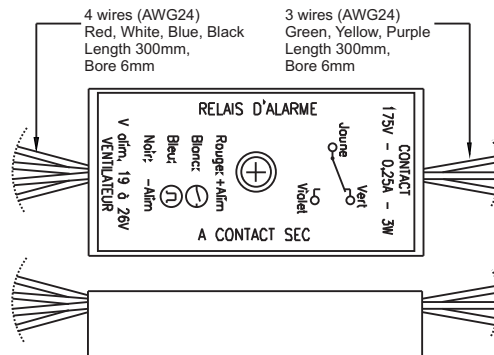
Desengaging frequency: RA104 - 25 Hz  
Desengaging frequency: RA105 - 15 Hz

Supply: 24 V DC - 19 V to 26 V  
Current: 4 mA for "Running" - 15 mA for "Default"  
Operating temperature: 0°C to +70°C

Contact:  
Switch off power: 3W  
Max. voltage: 100 V  
Max. current: 0,25 A  
Contact resistance: 150mΩ



#### WIRES OUTPUT

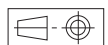
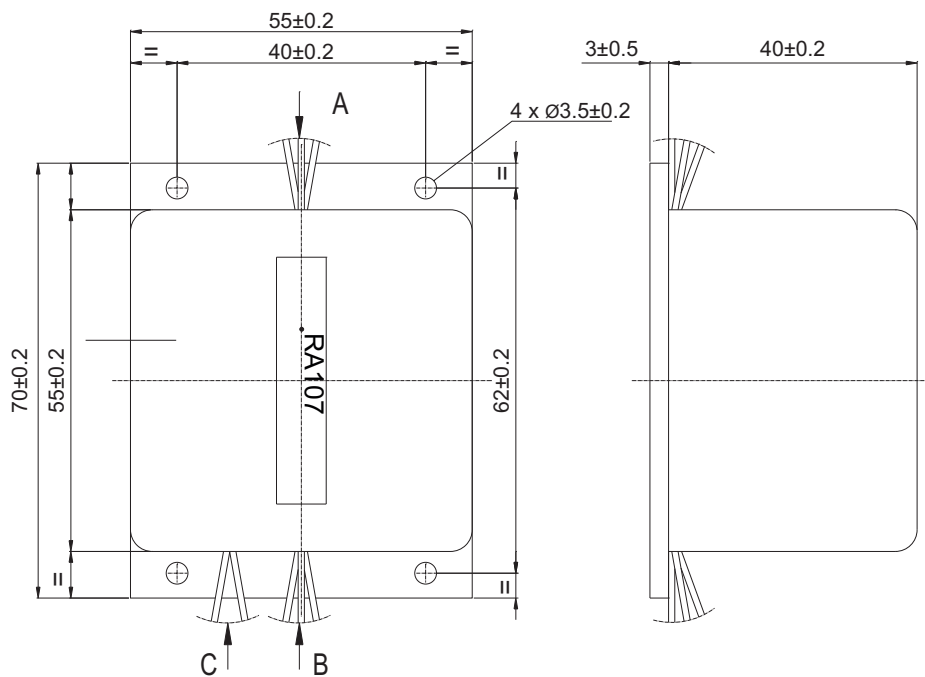
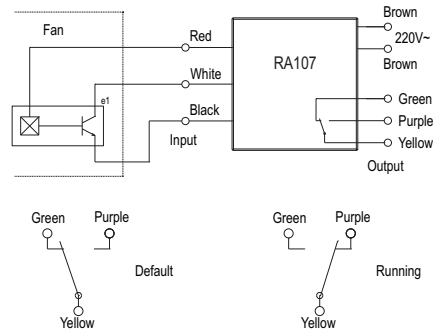


## RA107 - RA111

Desengaging frequency: 15 Hz  
 Supply RA107: 230 V - 50/60 Hz  
 Supply RA111: 115V - 50/60 Hz  
 Operating temperature: 0°C to +70°C  
 Contact:  
 Switch off power: 3W  
 Max. voltage: 100 V  
 Max. current: 0,25 A  
 Contact resistance: 150mΩ



- A: 3 wires(AWG24)  
Red, White, Black  
Length300mm - Bore 6mm
- B: 3 wires(AWG24)  
Green, Yellow,Purple  
Length300mm - Bore 6 mm
- C: 2 wires(AWG24)  
Brown  
Length300mm- Bore 6 mm



### RA109 - RA112



Three fans controlled at the same time

Desengaging frequency: 15 Hz

Supply RA109: 12 VDC

Supply RA112: 24 VDC

Operating temperature RA109: 0°C to +50°C

Operating temperature RA112 A: -40°C to +70°C

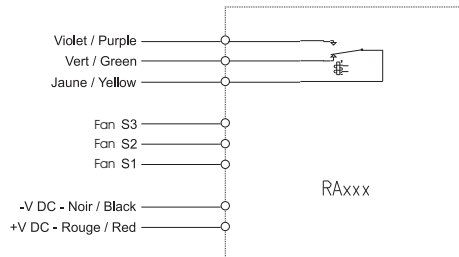
Contact:

Switch off power: 3W

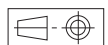
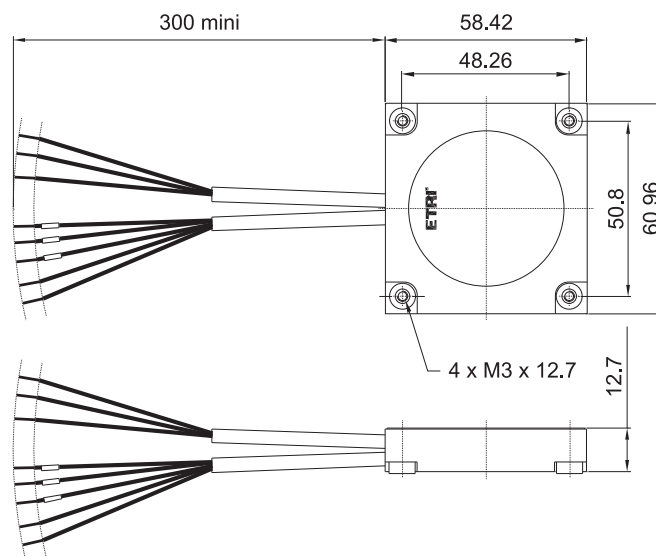
Max. voltage: 175 V

Max. current: 0,25 A

Contact resistance: 150mΩ



#### WIRES OUTPUT





#### A key partner in cooling solutions

ETRI's comprehensive fan line includes over 7000 fans which operate under a wide variety of voltages and frequencies. Thanks to extensive designing and testing equipment, our engineers are able to offer the best technical solution suitable to various applications, such as industrial, electronics, telecom, railway or military.

#### High quality fans

ETRI has been known for more than 60 years as a global leader in cooling products, and carries on its tradition of excellence using innovative designs and materials to produce high quality fans and blowers, through its ISO 9002 certified manufacturing plant. Most of ETRI fans are UL, CSA approved, and according to the European directives, they comply with EMI and electrical safety standards. Certificates are available on request.

#### An international presence

ETRI offers an international presence through its network of local offices (Europe & USA) distributors and representative offices in more than 50 countries. Complete list is available on our web site.

#### Votre partenaire en ventilation

Avec plus de 7000 références, ETRI propose une large gamme de ventilateurs répondant aux exigences les plus sévères pour des applications industrielles, électroniques, ferroviaires ou militaires. La gamme de produits standard est régulièrement complétée par des développements spécifiques réalisés sur cahier des charges.

#### Le choix de la qualité

ETRI vous apporte la réponse adaptée à vos besoins en vous proposant des solutions innovantes dans le domaine de la ventilation industrielle tout en garantissant les meilleurs niveaux de qualité. Les ventilateurs ETRI sont pour la plupart homologués UL et CSA, et conformément aux directives européennes, répondent aux normes EMI et de sécurité électrique. Les certificats sont disponibles sur simple demande.

#### Une présence internationale

Grâce à ses agences implantées en Europe et aux Etats-Unis, et à son large réseau de distributeurs, ETRI vous offre une présence internationale dans plus de 50 pays. La liste complète de nos représentants est disponible sur notre site internet.

[www.etrinet.com](http://www.etrinet.com)

Votre agence locale ou distributeur / Your local agency or distributor:



#### About Rosenberg...

Rosenberg is a competitive medium sized company with around 1400 employees worldwide.

During the last 25 years the Rosenberg group has been complemented in Europe by six additional works in France, Italy, Hungary, Czech Republic and Germany, in addition to the numerous subsidiaries and partners around the world.

Our aim is for high quality production backed by top class service for our clients. Thus a continuous flow of information and good cooperation between you, our dear customers, and us is most important, to jointly achieve a continuous evolution of our products and their quality.

#### A propos de Rosenberg...

Rosenberg est une entreprise performante à taille humaine qui emploie environ 1400 collaborateurs dans le monde entier.

Durant ces 25 dernières années, le Groupe Rosenberg s'est développé en Europe avec 6 nouvelles implantations en France, Italie, Hongrie, République Tchèque ainsi qu'en Allemagne, en plus des nombreux partenaires et distributeurs déjà présents à l'échelle mondiale.

Notre objectif est d'assurer un très haut niveau de qualité de produits doublé d'un service clients irréprochable.

De ce fait, maintenir une communication constante et une bonne coopération entre vous, nos chers clients, et nous, est la condition clé pour le développement de nos produits et de notre savoir-faire.

**Rosenberg USA**  
1010 Forsyth Avenue  
Indian Trail, North Carolina 28079  
Tel: +1-704/893-0883  
Fax: +1-704/882-0755  
E-mail: [sales@rosenbergusa.com](mailto:sales@rosenbergusa.com)

**ECOFIT - ETRI PRODUCTS**  
Z.I. Sud - Rue Marc Seguin - BP 60008  
F-41101 VENDOME  
Tel.: +33 (0)2 54 23 14 54  
Fax: +33 (0)2 54 72 22 73  
E-mail: [info@etrinet.com](mailto:info@etrinet.com)