

DC Axial Fan

PUDC



□80×25 (□3.2"×1.0")
Max. airflow: 1.58 m³/min
Max. static pressure: 100 Pa
Mass: 85 g

Fan model code

- PUDC12B4
- PUDC12B4P
- PUDC12B4R
- PUDC12B4RS
- PUDC12B4S
- PUDC12D4
- PUDC12D4R
- PUDC12H4
- PUDC12U7
- PUDC12U7P
- PUDC12U7R
- PUDC12U7RP
- PUDC12Z4
- PUDC12Z4P
- PUDC12Z4Q
- PUDC12Z4R
- PUDC12Z4RP
- PUDC12Z4RS
- PUDC12Z4S
- PUDC24B4
- PUDC24B4R
- PUDC24B4RS
- PUDC24B4S
- PUDC24D4
- PUDC24D4RS
- PUDC24D4S
- PUDC24H4
- PUDC24H4R
- PUDC24H4RS
- PUDC24U7
- PUDC24U7R
- PUDC24U7RS
- PUDC24Z4
- PUDC24Z4P
- PUDC24Z4R
- PUDC24Z4RS
- PUDC24Z4S

Standard specification

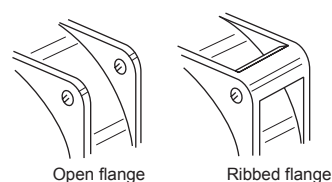
Max. Airflow		Max. Static Pressure		Noise	Speed	Input	Voltage Spec. V		Current mA		Model Code		Operating Temp. Range °C
m ³ /min	CFM	Pa	inH ₂ O	dB	min ⁻¹	W	Rating	Operating Range	Rating	Starting	Open Flange	Ribbed Flange	
1.58	56	100	0.40	47	4560	4	12	7.2-13.8	340	1080	PUDC12U7	PUDC12U7R	-20~+60
							4.3	24	12-27.6	180	510	PUDC24U7	
1.32	47	74	0.30	40	3900	3.8	12	7.2-13.8	320	730	PUDC12H4		
							24	12-27.6	160	340	PUDC24H4	PUDC24H4R	
1.2	42	59	0.24	35	3500	2.4	12	7.2-13.8	160	520	PUDC12Z4	PUDC12Z4R	-20~+70
							24	12-27.6	100	200	PUDC24Z4	PUDC24Z4R	
0.94	33	38	0.15	30	2800	1.5	12	7.2-13.8	140	320	PUDC12B4	PUDC12B4R	
							24	12-27.6	70	180	PUDC24B4	PUDC24B4R	
0.73	26	25	0.10	23	2150	1	12	8.4-13.8	80	180	PUDC12D4	PUDC12D4R	
							24	14.4-27.6	40		PUDC24D4		

- Figures in the table are average measured values. Please request the product delivery specification when preparing a purchase specification.
- The characteristics are the values at rated voltage (12 V, 24 V or 48 V), and normal temperature and humidity.

General specification

Materials Used	Venturi: ABS and PBT synthetic resins Propeller: ABS and PBT synthetic resins Bearing: Both side shielded ball bearing
Motor	Brushless DC motor, Protection type: Current shut off by detecting lock state, automatically reset
Common Elec. Spec.	See pages G-11, G-12, G-13.
Standard Carton	120 to a carton of (450 x 380 x 300) mm, mass 10 kg

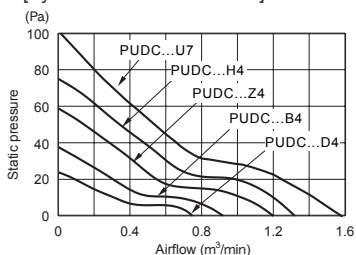
● Venturi shape



Use ribbed venturi with a reinforced corner when the venturi is mounted with screws. (The spacer is indicated in the model code by the letter 'R'.)

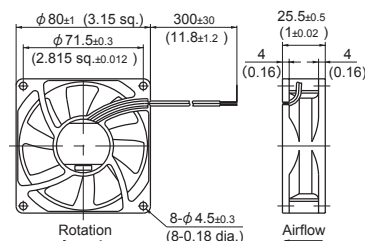
Standard airflow and static pressure characteristics (At rated voltage)

[By double chamber method]

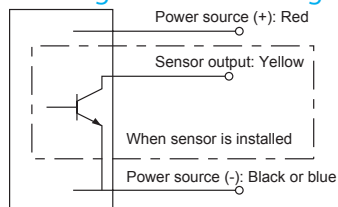


External dimensions in mm (inches)

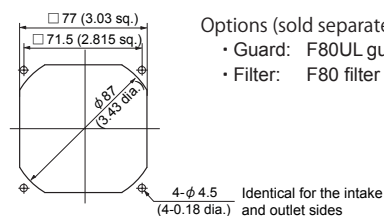
- Lead wire type Lead wire spec. AWG24 UL1007 or UL3266
- Color (+) Red (-) Black (PUDC□D4: Blue)



Wiring connection diagram



Mounting hole dimensions [Recommendation] in mm (inches)



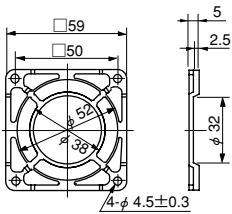
- Options (sold separately)
- Guard: F80UL guard
- Filter: F80 filter

DC axial fan with sensor

Rated Vol.	Model Code				
12 V		PUDC12B4S PUDC12B4RS PUDC12B4P	PUDC12Z4S PUDC12Z4RS PUDC12Z4P PUDC12Z4RP PUDC12Z4Q		PUDC12U7P PUDC12U7RP
24 V	PUDC24D4S PUDC24D4RS	PUDC24B4S PUDC24B4RS	PUDC24Z4Q PUDC24Z4S PUDC24Z4RS PUDC24Z4P	PUDC24H4RS	PUDC24U7RS

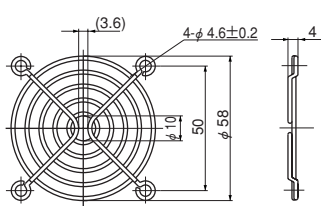
- NIDEC SERVO can meet many of your requirements for customization, such as special connectors, other sensors not listed above, variable speed specifications, and other modifications. Please contact NIDEC SERVO during your product planning and development stage.
- The listed products are registered in the following overseas standards files, UL: E48889, CSA: LR49399, TUV: R9451586
- Customized fans with sleeve bearings are also available depending on the intended purchase quantity. Contact NIDEC SERVO for further information.
- 3D data is also available at our website

F60P Guard (Mass 4 g)



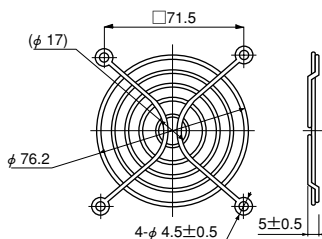
Material: Polycarbonate (black)
UL94V-2

F60UL Guard (Mass 12 g)



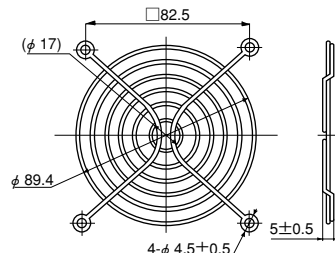
Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

F80UL Guard (Mass 14 g)



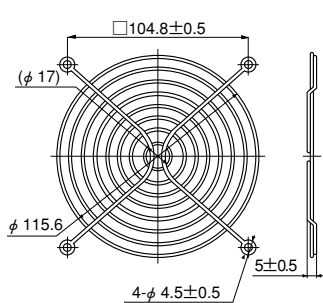
Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

F92UL Guard (Mass 16 g)



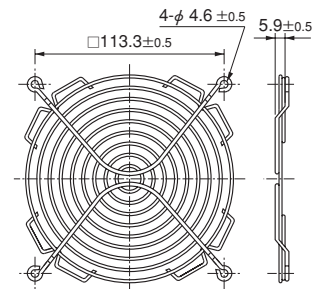
Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

F120UL Guard (Mass 29 g)



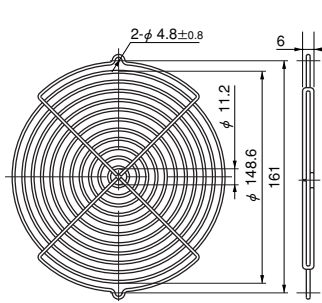
Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

F127UL Guard



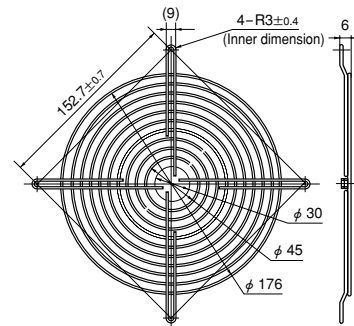
Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

GUARD 172



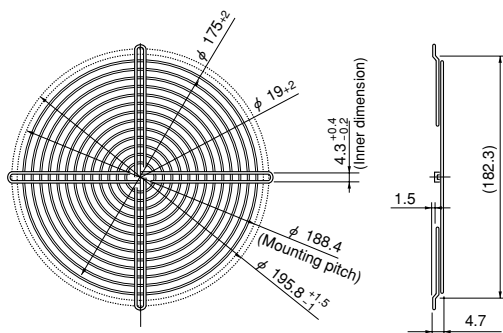
Material: Mild steel wire 2 dia.
Surface treatment:
Nickel chromium plating

F180UL Guard



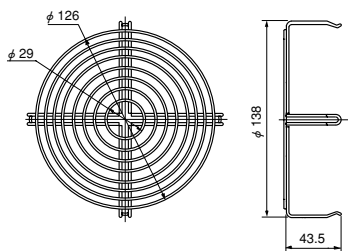
Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

F200UL Guard (Mass 82 g)



Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

SCN Guard (Mass 55 g)



Material: Mild steel wire 1.6 dia.
Surface treatment:
Nickel chromium plating

• Guard special for intake side of
SCN (metal venturi) fans.

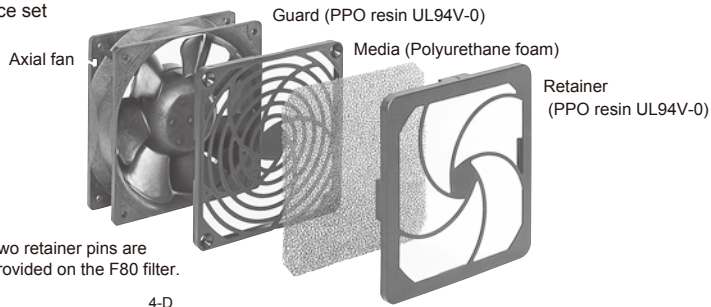
List of mating fan series

Guard	F60P	F60UL	F80UL	F92UL	F120UL	F127UL	GUARD 172	F180UL	F200UL	SCN
SCN					○*1					○*2
AC Axial Fans			○	○						
VE			○							
WE				○						
KA				○						
CU					○					
CN					○					
MA							○			
PA							○			
DC Axial Fans	○	○	○	○	○	○	○	○	○	○
TUDC	○	○								
PUDC			○							
KUDC				○						
DO925C				○						
KLDC				○						
CUDC					○					
D1225C					○					
DC Axial Fans										
CNDC					○					
D1238T					○					
D1238B					○					
D1338B						○				
D1338S						○				
D1751M							○			
D1751S							○			
G0638D		○								
G0838C			○							
G0938B				○						
G1238B					○					
G1751M								○		

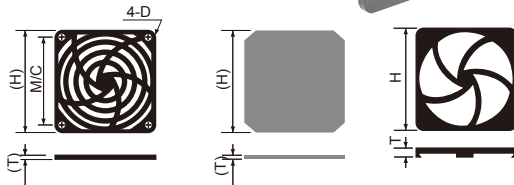
*1: Can be installed only on outlet side. *2: Can be installed only on intake side.
All guards conform to the UL standard when combined with NIDEC SERVO fans.
The installation of a filter, guard and other accessories will constitute a ventilating load, reducing the airflow. Select a suitable guard, taking into consideration the increase in air resistance. (See Figs. 12 and 13 on page G-7.)

Filter

3-piece set



Note: Two retainer pins are provided on the F80 filter.



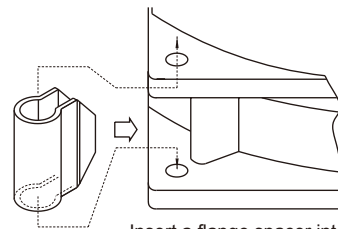
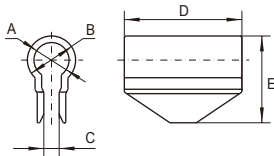
List of mating fan series

Filter	F80	F92	F120
PUDC	○		
D0925C		○	
KLDC		○	
D1225C			○
CNDC			○
D1238B			○
G0838C	○		
G0938B		○	
G1238B			○

Filter	F80	F92	F120
VE	○		
WE		○	
KA		○	
CU			○
CN			○

Component (Model Code)	H	T	M/C	D
F80 Filter	83.5	10	71.4	φ 4.5
F92 Filter	96.5	11	82.6	φ 3.8
F120 Filter	123.7	11	104.8	φ 4.4

Flange spacer



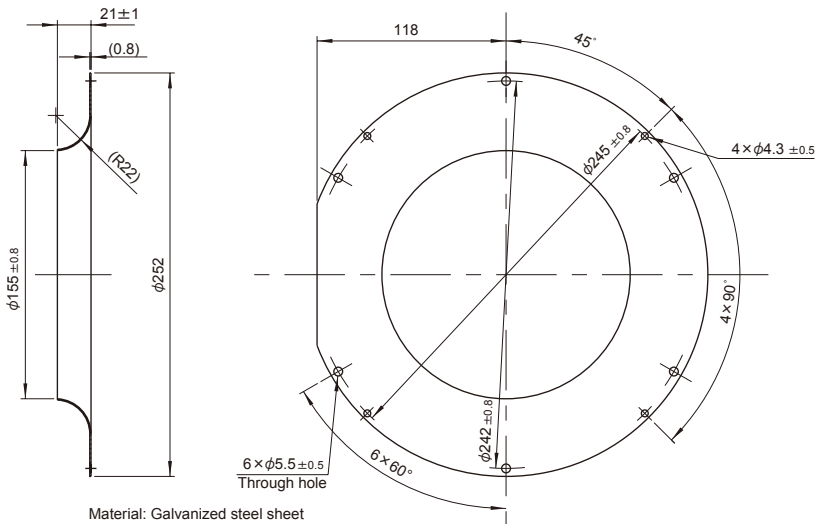
Insert a flange spacer into the ribs of a venturi.

(Installing a flange spacer)

Component (Model Code)	A mm	B mm	C mm	D mm	E mm	Mating Model Code
Flange Spacer PUDC (※)	5	8	2	17	14.5	KUDC,PUDC
Flange SpacerCNDC	8	11	3.5	28	19.8	CNDC

※Ribbed venturis (PUDC-R) are available for PUDC

Inlet ring



Material: Galvanized steel sheet

Component (Model Code)	Mating Model Code
E2271 Inlet ring	E2271Z

DC axial fans & blowers with sensors

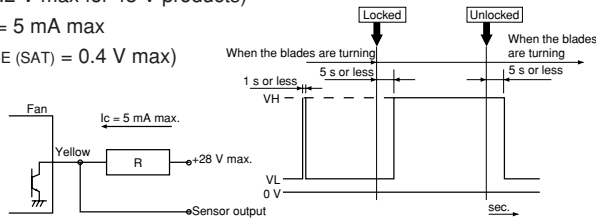
The DC fans and blowers of NIDEC SERVO have a function to send an alarm signal when the fan motor revolutions slow down. Several systems are used to cut off the system power supply by this alarm signal, with three types of sensors available. Select the right type of sensor in accordance with the purpose of use. The lead wire for the sensor is yellow. The output type is an open collector output for all three types.

■ Sensor type

1. Lock detection type (Product code: S)

The output signal indicates an [L] state (transistor is ON) while the propeller is rotating, changing to an [H] state (transistor is OFF) less than five seconds after the propeller stops rotating. The propeller automatically restarts operation within five seconds when the lock is unlocked. ([H] → [L] 5 s). If the pull-up voltage is live, the [H] state (transistor is OFF) will engage in less than five seconds, even when the power is turned off.

- Specification: $V_{CE} = 28\text{ V max}$ (55.2 V max for 48 V products)
- Output waveform
- $I_C = 5\text{ mA max}$
- ($V_{CE(SAT)} = 0.4\text{ V max}$)

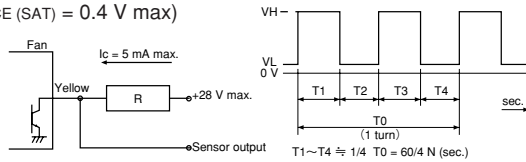


※When the power is turned on, the state sometimes becomes high [H] for several hundred ms.

2. Pulse output type (Product code: P)

A rectangular wave of two pulses will be output for each turn of the propeller while the propeller is rotating, outputting two types of signal depending on the propeller position when the propeller is locked. (See the note below ※)

- Specification: $V_{CE} = 28\text{ V max}$ (55.2 V max for 48 V products)
- Output waveform
- $I_C = 5\text{ mA max}$
- ($V_{CE(SAT)} = 0.4\text{ V max}$)



※Output signal waveform when the fan is stopped: The following two types of waveform are output, depending on the blade position when the propeller is stopped:
Pulse outputs of High - constant or restart timing (0.05 Hz to 2 Hz).

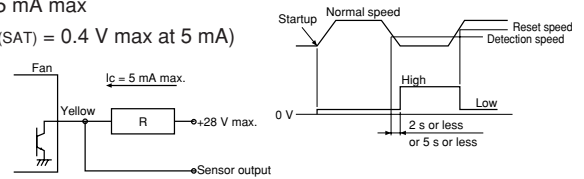
3. Speed detection type (Product code: Q)

The output signal indicates the [H] state when the propeller revolutions are slower than the preset speed, changing to the [L] state when the propeller revolutions exceed the reset speed.

[Products with a reversed output waveform are also available, suitable for a wired OR connection when several fans are installed. Contact NIDEC SERVO for further information. {Former code: SQ, new code (15 - digit code products): R}]

- Specification: $V_{CE} = 28\text{ V max}$ (55.2 V max for 48 V products)
- $I_C = 5\text{ mA max}$
- ($V_{CE(SAT)} = 0.4\text{ V max at } 5\text{ mA}$)

● Output waveform



Note: The output waveform for type SQ (R) will be reversed. The speed setting for the alarm output is about half the rated speed. For more detailed information, please request a product delivery specification from NIDEC SERVO.