MICRO BLOWERS

TF029B

FEATURES

- Compact / Light weight ※ The smallest and lightest series
- Aerodynamic bearings
- High static pressures
- Low vibration
- Long life due to aerodynamic bearings without heat dependence
- Resin in full compliance with FDA standards

STANDARD SPECIFICATIONS

- Unless otherwise specified, the environmental conditions are 23°C±5°C,Cnormal humidity, and atmospheric pressure range 90 to 106kPa.

No.	Item \ Part number	TF029B-1000-F	Remarks
1	Rated Voltage	DC 12～27 V	
2	Direction of Rotation	CCW (Counter-Clockwise)	Looking down from the air inlet.
3	Kind of Gas	Air	Noncorrosive gas
4	Configuration	Motor with Centrifugal Blade	Without driving circuit
5	Type of Motor	DC Brushless Motor	
6	Number of Poles	4 Poles (2 pole pairs)	
7	Drive System	3 Phase, Bipolar	
8	Bearings	Aerodynamic Bearings	
9	Impeller	Centrifugal Turbo Blade	
10	Mounting Direction	Shaft vertical to ground, air inlet facing upwards	No vibration, shock, or gyration is to be applied during operation.
11	Rated Rotation Speed	36,000 r/min (Reference value)	at 2.0kPa, 100L/min
12	Maximum Input Coil Current	2.0 A rms max.	
13	Rated Power Supply Current	0.62 A max.	at 2.0kPa, 100L/min, at 24V
14	Rated Power Consumption	14.9 W max.	
15	Rated Air Flow	100 L/min (at 2.0kPa)	at 2.0 kPa
16	Minimum Air Flow	10 L/min	

No.	Item \ Part number	TF029B-1000-F	Remarks
17	Rated Pressure	2.0 kPa	at 100 L/min
18	Maximum Pressure	3.5 kPa	absolute maximum pressure. at 24VDC
19	Torque Constant	0.0014～0.0020 N·m/A (Reference value)	
20	Min. Rotation Speed	10,000 r/min	
21	Maximum Rotation Speed	50,000 r/min	Within the "Area of use"
22	Acoustic Audible Noise	65.0 dB(A)max.	at 2.0kPa, at 100L/min measured at 1m from air inlet Include background noise 15dB(A)
23	Coil Resistance	0.37～0.49Ω (Reference value)	at 20°C (Between 2 phase)
24	Coil Inductance	22～29 μH (Reference value)	at 20°C, 10kHz (Between 2 phase)
25	Insulation Class	Class E	JIS C 4003
26	Insulation Resistance	1MΩ min. DC500V (between terminal pins and shaft holder)	JIS C 4003
27	Dielectric Strength	Leak current to be less than 1mA.(AC600V for 1sec. between terminal pins and shaft holder.)	JIS C 4003
28	Weight	55 g (reference value)	
29	Rotor Inertia	10 g·cm^2 (reference value)	
30	Axial Loading	3N max.	maximum axial force applying to the intake (upper housing)
31	Operating Temperature Range	0～50 °C	
32	Operating Humidity Range	10～95%RH	No condensation
33	Storage Temperature Range	-20～60 °C	
34	Storage Humidity Range	10～95%RH	No condensation
35	Resistance to Vibration	The Blower shall satisfy Specification No.11～27 after the following test. Kind of Vibration: frequency veering Frequency Range: 10～22Hz amplitude 1mm; 22～50Hz 19.6m/s^2 (2G) (acceleration) Sweep: to-and-fro, approx. 5min. Test Time: X, Y, Z directions, 60min. each	Non-operating
36	Resistance to Shock	The Blower shall satisfy Specification No.11～27 after the following test. Acceleration: 294m/s^2(30G) Pulse Width: 6ms Shock Waven: emi-sinusoidal wave Number of Shock: X, Y, Z, directions, once per each direction	Non-operating

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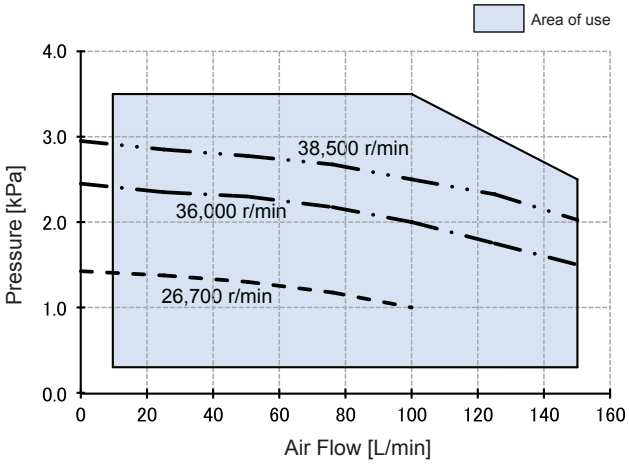
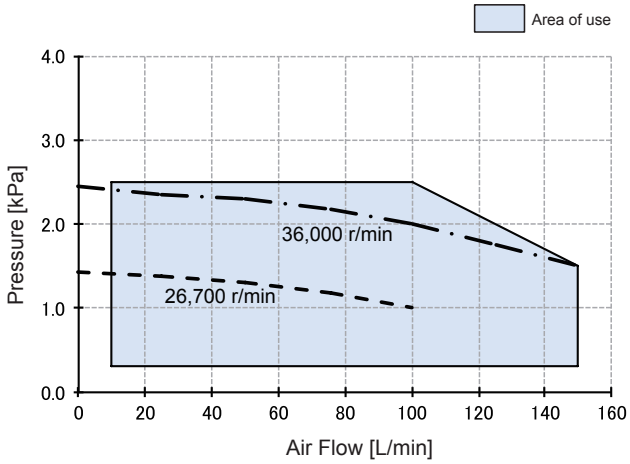
■ P-Q CURVE CHARACTERISTICS

● Operating Range at DC 24V (1atm)

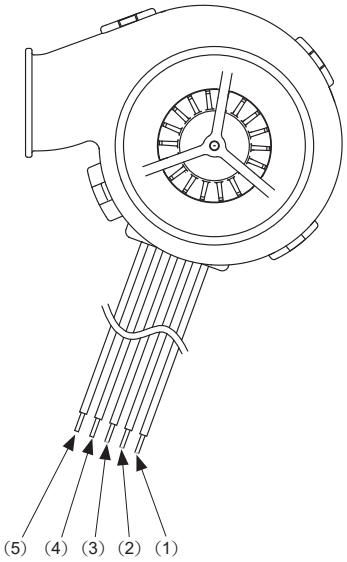


● Operating Range at DC 12V (1atm)



※ Conditions: Ambient temperature 23±5°C, normal humidity, atmospheric pressure (100±2kPa).
The graphs above is provided for reference only. Values are not guaranteed.
※ Make sure the thermistor temperature does not exceed 80°C during blower operation. (Thermistor resistance value R(80 deg C)=1.177kΩ).

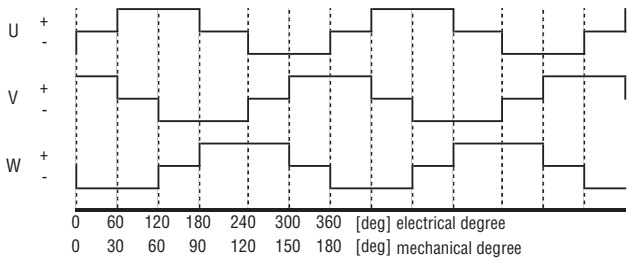
■ INTERFACE



Pin No.	Symbol	Wire Color	Signal
1	U	Brown	Motor Coil (U)
2	V	Red	Motor Coil (V)
3	W	Orange	Motor Coil (W)
4	TH(-)	Yellow	Thermistor Output(−)
5	TH(+)	Green	Thermistor Output(+)

※Parts used for thermistor output:
Manufacture TDK Corp. Part No. NTCG164BH103JT

● TIMING CHART



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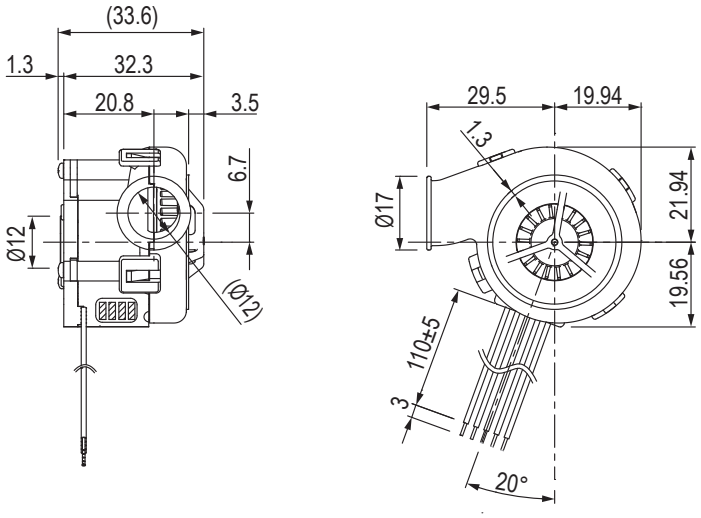
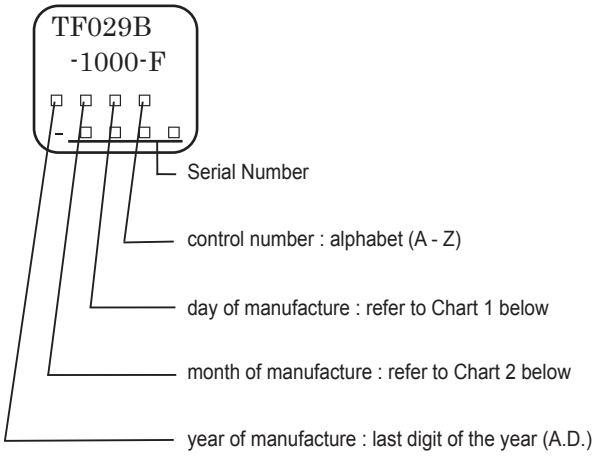
OUTLINE DIMENSIONS

Unless otherwise specified, tolerance : ± 0.5(Unit: mm)



MARKING



【Chart 1】

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Code	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	J	K	L

Day	21	22	23	24	25	26	27	28	29	30	31
Code	M	N	P	Q	R	T	U	V	W	X	Y

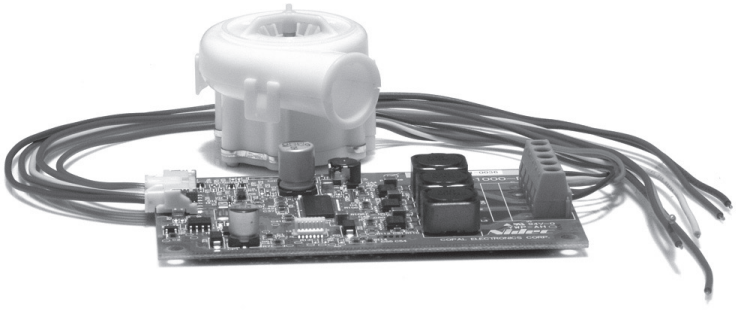
【Chart 2】

Month	1	2	3	4	5	6	7	8	9	10	11	12
Code	1	2	3	4	5	6	7	8	9	O	N	D

Micro Blower Kit with driver

For the series, Kits with driver and wire harness for the blower available.They will help customers shorten their evaluation and product development times.

● Kit Part Number : TF029B-1000-P



List of the kit	
1	Micro Blower (TF029B-1000-F)
2	Driver (for TF029B)
3	Wire Harness (for Driver-Power connection)

The Drivers are sold separately as an optional item.