New

MICRO BLOWERS

TF037E

■FEATURES

- Aerodynamic bearings
- Compact / Light weight
- High static pressures
- Low vibration
- Long life due to aerodynamic bearings without heat dependence
- Quick Fastener P14 (Air Inlet / Air Outlet)
- Resin in full compliance with UL94 V0



■STANDARD SPECIFICATIONS

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

No.	Item / Part number	TF037E-2000-F	Remarks
1	Operating Voltage Range	10～30 V	
2	Direction of Rotation	(Counterclockwise viewing from the air vent side)	
3	Kind of Gas	Normal Air	Do not use to any corrosive gas.
4	Type of Motor	3 phase 8 pole Brushless (Y Connection)	
5	Number of Poles	8 Poles (4 pole pairs)	
6	Bearing Type	Aero Dynamic Bearing	
7	Recommended Mounting Position	Axis Vertical (Plate Downward)	Avoid vibration and shock while the product is operating. It may damage product
8	Maximum Input Coil urrent	3.0 A Max.	In case, the rotor is lock up, the coil may be destroyed by surge current. The protection circuit to prevent surge current must be installed for safety.
9	Power Supply Current	0.9 A Max.	at 3.0 kPa 100 L/min Temperature：23±5°C, Humidity：45～85%RH, Air Pressure：101.3 kPa
10	Power Consumption	21.6 W Max.	
11	Minimum Flowrate	5 L/min	
12	Torque Constant	0.0025 N·m/A	

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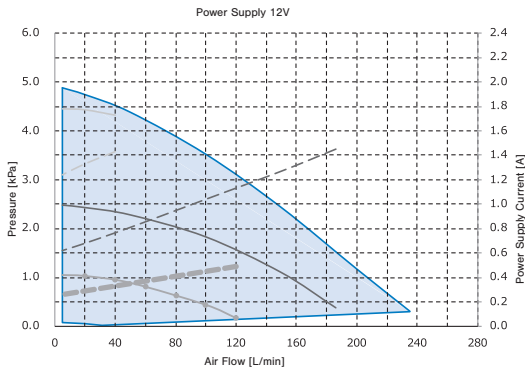
No.	Item / Part number	TF037E-2000-F	Remarks
13	Rotation Speed Range	6,000～45,000 rpm	Rotation Speed = Hole Sensor Frequency×15
14	Acoustic Audible Noise	at 3.0 kPa 100 L/min Temperature:23±5°C, Humidity:45～85%RH, Air Pressure:101.3 kPa	Measured 1 m away from the intake vent (Including dark noise as 15 dB)
15	Coil Resistance	0.5 Ω	at 20°C (Between 2 phase)
16	Coil Inductance	20 μH	at 20°C, 10 kHz (Between 2 phase)
17	Insulation Class	E grade (JIS C 4003 Cable for Coil)	JIS C 4003
18	Insulation Resistance	20 MΩ Min. between Coil terminal and Plate at 500 VDC(JIS C 4003)	JIS C 4003
18	Insulation Pressure Resistance	Leak Current: 1 mA Max.	JIS C 4003
20	Fixing Leg	With	
21	Weight	165 g (reference value)	
22	Rotor Inertia	1.9×10^{-6} kg·m²	
23	Operating Temperature And Humidity	-10～60℃、10～95%RH	Condensation may cause damage to product.
24	Storage Temperature Range	-20～60°C	Condensation may cause damage to product.
25	Storage Humidity Range	10～90%RH	

■OPERATING RANGE IN P-Q & Q-I RATING

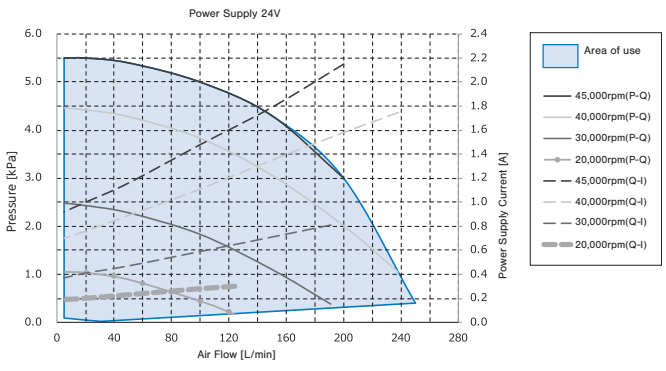
- P-Q and Q-I conditions must not exceed the ratings listed below.
- The general purpose driver TF037E-1000-D is setup to the configuration for general use. In using the general purpose driver, the output may not reach the maximum ratings listed below.
- P-Q and Q-I characteristics are for reference purpose only. The driver must be configured properly by measuring the actual condition before use.

※ The characteristics below are measured with our company's driver at axis vertical position.
※ Ambient Temperature：25°C,Barometric Pressure: 101.3 kPa

● Characteristics at 12 V P-Q/Q-I



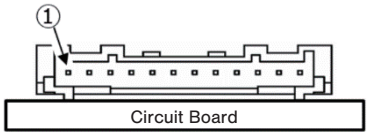
● Characteristics at 24 V P-Q/Q-I



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■CONNECTOR

SM12B-PASS
J.S.T.MFG.CO.,JTD



■HARNESS SIDE

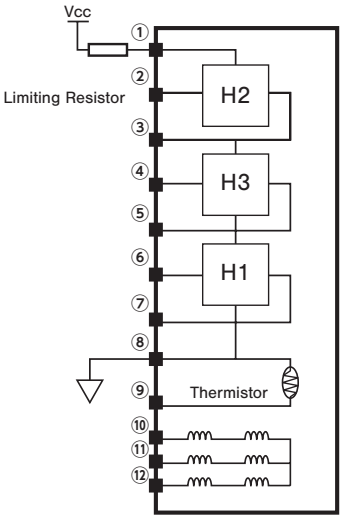
J.S.T.MFG.CO.,JTD SM12B-PASS	
Pressure Welding	12PAF-6S (Retainer：PAFS-12V-S)
Crimping	PAP-12V-S (Contact：SPHD-001T-P0.5)

・Both pressure welding and crimping are available.
・Recommended size： AWG#22

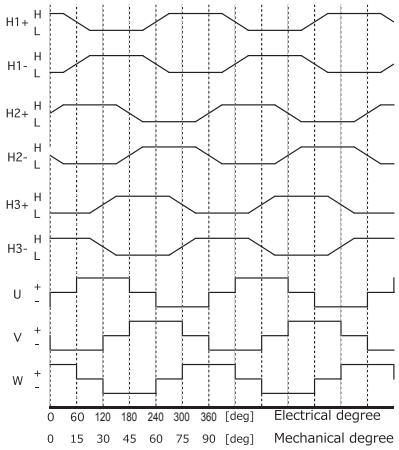
■TERMINAL ARRAY

Pin No.	Symbol	Content
①	Vcc	Power for Hall Sensor
②	H2-	Output of Hall 2
③	H2+	
④	H3-	Output of Hall 3
⑤	H3+	
⑥	H1-	Output of Hall 1
⑦	H1+	
⑧	GND	GND
⑨	TH	Thermistor
⑩	V	Coil (V)
⑪	W	Coil (W)
⑫	U	Coil (U)

● INTERNAL CIRCUIT / LIMITING RESISTOR



● TIMING CHART



・The current into the hall sensor must be restricted within the rating listed below by using a resistor.

■HALL SENSOR CHARACTERISTIC

Input Current	10 mA Max.	At maximum operating load at temperature 60°C
Input Resistance	250 ～ 450 Ω	Per one Hall sensor
Differential Output	300 mV p-p Min.	VH = (VH+)-(VH-) at 10 mA in Input current

・Equivalent of ASAHI KASEI Electronics HW-105A

■THERMISTOR CHARACTERISTIC

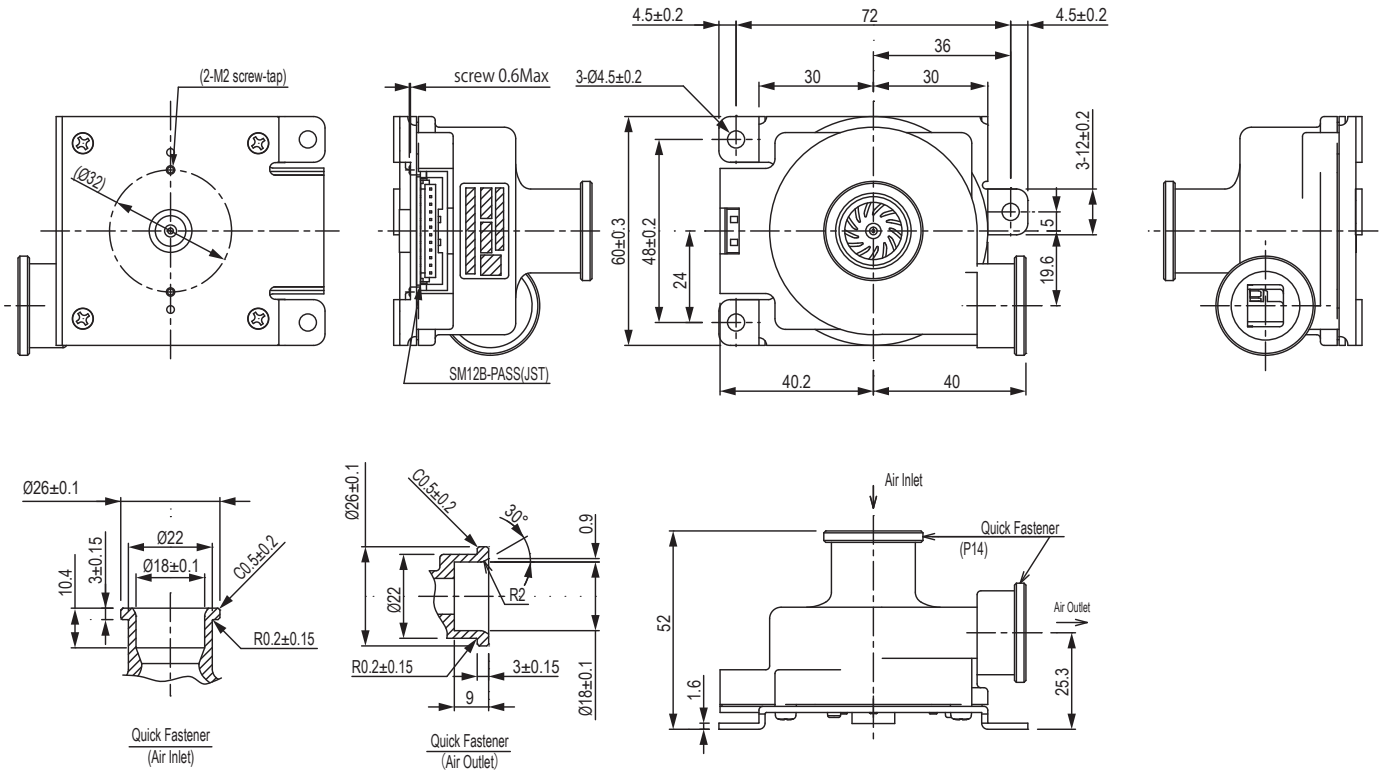
Reference Resistance 25°C	10 kΩ
Operating Current 25°C	0.31 mA
B Constant[25/85°C]	4,100 K
Maximum Temperature	86°C (Thermistor Resistance： 0.97 kΩ)

・Equivalent of TDK NTCG164BH103JT

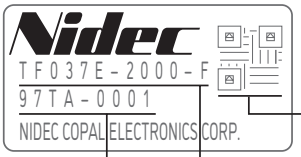
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■OUTLINE DIMENSIONS

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



■Marking



QR code : Part Number, Lot No, Serial No

Part Number : TF037C-2000-F, TF037C-2100-F
TF037E-2000-F, TF037F-2000-F

Lot No. : Year (Last two digit of year)
Month (Table 1)
Day (Table 2)
Control Number (A to Z)

Serial No. : Index by LOT

【Table 1】

Month	1	2	3	4	5	6	7	8	9	10	11	12
No.	1	2	3	4	5	6	7	8	9	O	N	D

【Table 2】

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
No.	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
No.	M	N	P	Q	R	T	U	V	W	X	Y

The Drivers are sold separately as an optional item. (Ref.P430)

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

NIDEC COMPONENTS CORPORATION:

ATE1G-2M3-10-Z CFS-0201MB ET115C12-Z HG37-010-AB-00 ST5EW204 FT63ES503 ATE2E2M310Z ST-32ETB103 8A4011-Z MFS101D-10-Z SM-31TW104 SM-42X205 CHS-02TA CMS-2302B ET110F-Z ST-32ETA202 CFP2-1FC4-AW CL-SB-13A-11 CLDA1CB4A2T CT-6EW102 8A3011-Z 8B2012-Z CHS-06MB CT-94EW203 ST-4ETB503 ST-5ETW501 8R1021-N-Z CL-SB-23A-02T MG16B-120-AB-00 ST-32ETB202