

Micro Blower TF037series/TF029B

Instruction Manual Ver.1

Thank you very much for purchasing our Product. In order to use the product correctly and most appropriately, please completely read this manual before use and keep them manual for future reference.

Handling Instructions

- ①All values are measured with NIDEC COPAL ELECTRONICS's standard equipments unless otherwise specified. ②The PRODUCT is compliant with RoHS directives which went into effect July, 2011.
- Designated hazardous substances are lead, mercury, cadmium, hexavalent chrome, brominated flame retardants (PBB, PBDE) and its compounds.

 3 The PRODUCT is compliant with Directive 2006/122/EC of the European Parliament (Council Directive 76/769/EEC (30th amendment)) which restricts the use
- of PFOS.

 Contents of this document may be changed without notice. The production of the PRODUCT may be discontinued without notice. Please confirm with your local
- contact before ordering.

 ⑤Please check if the PRODUCT operates normally at every start-up and during operation.
- ©Please provide safety measures in case of product failures.

 ②Performance cannot be guaranteed in case the PRODUCT is used beyond the specification or the PRODUCT is modified.
- ®Depending on the conditions, environment, and equipment used, functions or performances of the PRODUCT may be vary.

 Please do not use the PRODUCT in applications to protect the body.
- @Please protect the PRODUCT from condensation.

 @Please use the correct supply voltage to operate the PRODUCT
- @Do not disassemble or modify the PRODUCT.

 @Turn off the power immediately and stop using the PRODUCT in the following cases.
- In cases where water or foreign substances get into the PRODUCT.
 In cases where the PRODUCT is dropped or the housing is broken.
- In cases where unusual odor, abnormal noise, or smoke is generated from the PRODUCT.
 Do not use or store in the following conditions;
- Areas with high humidity, dust, or poor-ventilation.
 Areas where the temperature is expected to rise (direct sunlight, etc.).
- Areas with corrosive gas or flammable gas in the surrounding air.
 Areas where vibration, shock, or rocking motion is applied directly to the PRODUCT
- Areas where the PRODUCT may be splashed with water, oil, or chemicals.
 Areas where there is or can be high static electricity.
- ®Make sure the wiring is done properly.

 ®Turn off the power of the PRODUCT and any equipment attached to the PRODUCT when putting on or taking off the cables.
- (In addition to the PRODUCT, please install cushioning materials such as dampers to reduce vibration effects. Please contact NIDEC COPAL ELECTRONICS for any questions or concerns regarding installation.
- (B) Do not block the air inlet and outlet (3 places). Please contact NIDEC COPAL ELECTRONICS if you have any questions regarding the air inlet and outlet.

 (B) Vibration or audible noise level may change over time due to contamination of the blade. Please provide dust-proof constructions around the PRODUCT.
- @Please advise us beforehand if a custom driving circuit (separate from the one provided) is going to be used.

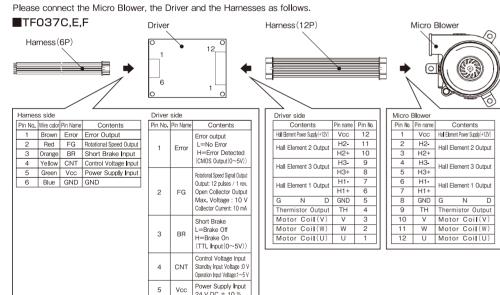
 The Micro Blowers (TF037E) are manufactured using simple coating processes for preventing moisture and moisture build-up. However, we cannot guarantee the
- performance of the Micro Blowers (as per specification) under circumstances which differ from the stated specification ratings.

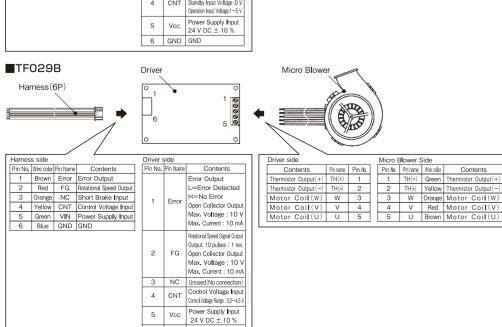
 ©Do not use the air inlet and outlet (2 places) connected in series.
- aDo not use the PRODUCT for suction use.
 aDo not use the PRODUCT in cases where there is an open flame.
- BDo not insert your finger or other objects into the PRODUCTS's air inlet or outlet.

Included Items

- ①Micro Blower(TF037C-2100-F/TF037F-2000-F/TF029B-1000-F) 1pc ③Harness (12P) *TF037C-2100-P/TF037F-2000-P only
- (5) Instruction manual (This paper)

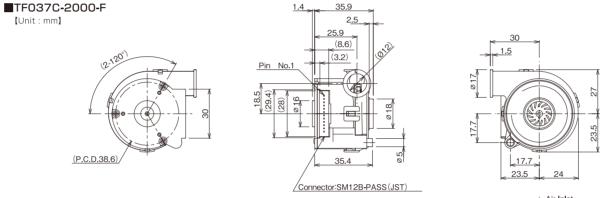
Connection

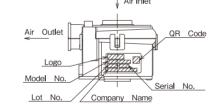


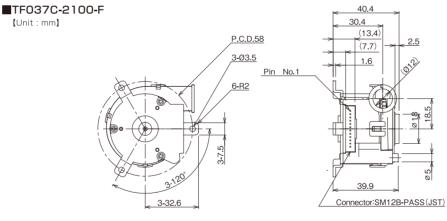


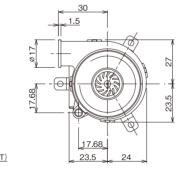
Vot	e: The following	g specs are based on rated volta	age 24 V DC±10%				
No.	Part Numbers Items	TF037C-2000-F/-2100-F	TF037E-2000-F	TF037F-2000-F	TF029B-1000-F	Remarks	
1	Rated Voltage	24 V D0	±10%	12 ~ 24 V DC	12 ~ 27 V DC		
2	Direction of Rotation	CCW (Counter-Clockwise)				Looking down from the air inlet	
3	Kind of Gas	Air				Noncorrosive gas	
4	Configuration	Motor with Centrifugal Turbo Blade				Driving circuit required separately	
	Type of Motor	DC Brushless Motor					
	Number of Poles	8 poles 4 poles					
	Drive System	3 Phase, Bipolar					
	Bearings		Aero-Dynam				
	Impeller		Centrifugal Turbo Blade				
	Outline		Please refer to the following outline dimensions.				
	Mounting Direction	rease retent to the outward goulding outline universities. Shaft vertical to ground, air intel facing upwards				No vibration, shock, or guration is to be applied to the product during operati	
	Mounting Direction	40,000 - ((no violation, shook or Blitation is in ne applied in the brooms more object.	
12	Rated Rotation Speed	at 4.0 kPa,100 L/min	at 3.0 kPa,100 L/min	31,000 r/min (reference value) at 2.0 kPa,100 L/min	at 2.0 kPa,100 L/min		
13	Max. Input Coil Current		3.0 A max. (rms)		2.0 A max. (rms)		
	Rated Power Supply	1.2 A max.	0.86 A max.	0.67 A max.	0.62 A max.		
141	Current	at 4.0 kPa,100 L/min, at Rated	at 3.0 kPa,100 L/min, at Rated	at 2.0 kPa.100	L/min, at Rated		
	Rated Power	29 W max.	22.7 W max.	16.1 W max. 14.9 W max.		Voltage=24 V DC	
15	Consumption	at 4.0 kPa,100 L/min, at Rated	at 3.0 kPa,100 L/min, at Rated	at 2.0 kPa,100			
	Rated Air Flow	100 L/min (at 4.0 kPa)	100 L/min (at 3.0 kPa)				
	Minimum Air Flow	10 L/min	5 L/min	100 L/min (at 2.0 kPa) 10 L/min			
\rightarrow	Rated Pressure	4.0 kPa (at 100 L/min)	3.0 kPa (at 100 L/min)	2.0 kPa (at 100 L/min)			
		4.0 KPa (at 100 L/Min)		2.0 KPa (at		About to marious and a 0.4 MD.	
	Maximum Pressure	4.5 kPa 3.5 kPa		Absolute maximum pressure,at 24 VD			
	Torque Constant		0.0020~0.0026 N·m/A (reference value)	0.0014~0.0020 N·m/A			
21	Min. Rotation Speed	10,000 r/min	6,000 r/min	10,000 r/min			
22	Acoustic Audible Noise	67.0 dB(A) max. at 4.0 kPa,100 L/min at 3.0 kPa,100 L/min				Measured at 1 mm from air inlet Background noise 15 dB (A)	
23	Coil Resistance		0.36~0.66 Ω(reference value)		0.37~0.49 Ω (reference value)	at 20 °C (Between 2 phase)	
	Coil Inductance		$17\sim23~\mu\text{H}(\text{reference value})$ 22~29 $\mu\text{H}(\text{reference value})$		at 20 °C, 10 kHz (Between 2 phas		
	Insulation Class	Class E				JIS C 4003, Wire for coil	
	Insulation Resistance - Dielectric Strength -	1 MΩ min.	20 MΩ min.	1 MC) min	0.0 0 4000, 11110 101 0011	
6			500 V DC, between terminal pins and plate		500 V DC, between terminal pins and shaft holder	IIS C 4003	
\dashv		Soo V BC, between remining pins and breather the source of				013 C 4003	
7		600 V AC for 1 sec. Between terminal pins and plate 600 V AC for 1sec. Between terminal pins and shaft holder.					
20							
	Weight	94 g max (reference value)	165 g(reference value)	72 g(reference value)	55 g(reference value)		
	Rotor Inertia	21 g·cm² (reference value) 19 g·cm² (reference value) 10 g·cm² (reference value)				Martine and form and other hands of the control of	
	Max. Axial Loading	3 N max.				Maximum axial force applied to the intake (upper housing	
	Operating Temperature Range	0~50 °C	-10~60 °C	0 ~ 50 °C			
	Operating Humidity Range	10~80 %RH	10~90 %RH	10~9	5 %RH	No condensation	
	Storage Temperature Range	-20 ~ 60 °C					
4	Storage Humidity Range	10~90 %RH 10~95 %RH				No condensation	
35	Resistance to Vibration	Satisfy Spec No.12 ~ 27 after the following test				Non-operating	
		Kind of Vibration frequency veering					
		Frequency Range 10~22 Hz amplitude 1 mm					
		Trequesty have 22~50 Hz acceleration 19.6 m/s² (2 G)					
		Sweep to and fro, approx. 5 min.					
		Test time X-Y-Z directions, 60 min. each					
\neg		Satisfy Spec No.12—27 after the following test					
36	Resistance to Shock	Acceleration 294 m/s²(30 G)				Non-operating	
		Acceleration 6 ms					
~		Production of the Charles and Single Charles and Si					

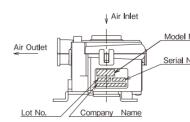


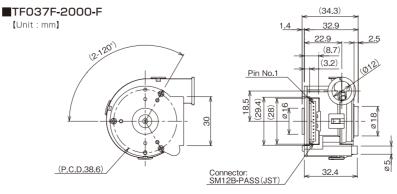


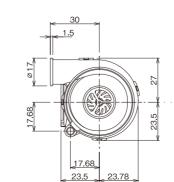


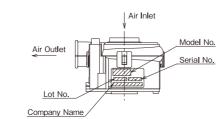












R0.2±0.15 Quick Fastener 32.3 Side air passage

| Air Inlet

■TF037E-2000-F

■TF029B-1000-F [Unit:mm]

φ26±0.1

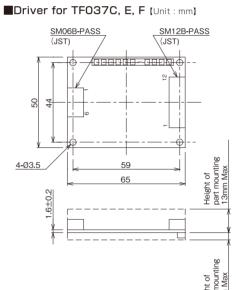
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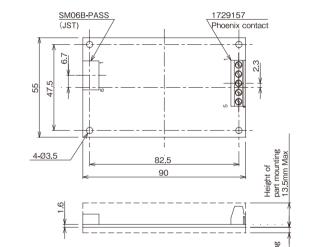
7 H Ø 18±0,1

(2-M2 screw-tap)

screw 0.6Max 3-04.5±0.2

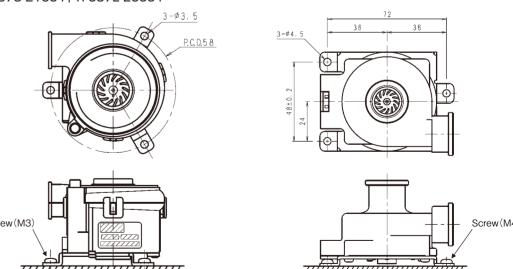
SM12B-PASS(JST)





■Driver for TF029B [Unit:mm]

■TF037C-2100-F, TF037E-2000-F



Warranty

Warranty period of the PRODUCT is 1 year from delivery.

- Illn case a defect is found in the PRODUCT during the above warranty period and NIDEC COPAL ELECTRONICS is responsible for the defect, NIDEC COPAL ELECTRONICS will either repair or replace the defected PRODUCT free of charge. However, in the following cases, the PRODUCT will not be covered by warranty. ①Defects caused by inappropriate conditions, environments, handlings, and use which are not specified in this specification.
- ②Defects caused by your equipments and/or software.
- 3 Defects caused by modifications and/or repairs which were not done by NIDEC COPAL ELECTRONICS. Defects which could have been avoided if the PRODUCT was used accordingly to this specification.
- ⑤Defects which were unpredictable with the scientific or technical level of NIDEC COPAL ELECTRONICS at the time of shipment.
- ®Defects caused by external factors such as natural hazards (fire, earthquakes, floods) or electrical surges. 2NIDEC COPAL ELECTRONICS will be responsible for the PRODUCT only in which the coverage will be limited to Clause 1. NIDEC COPAL ELECTRONICS shall not be liable for customer's equipment damages, opportunity losses, or lost earnings caused by defects of the PRODUCTS. The user shall indemnify NIDEC COPAL ELECTRONICS and hold NIDEC COPAL ELECTRONICS harmless from any liability or damage whatsoever arising out of any action not in accordance with this specification.

For more information please contact:

NIDEC COPAL ELECTRONICS CORPORATION

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