

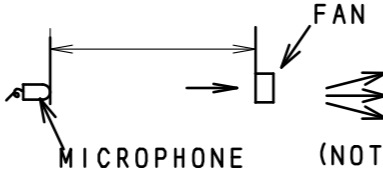
SPECIFICATIONS

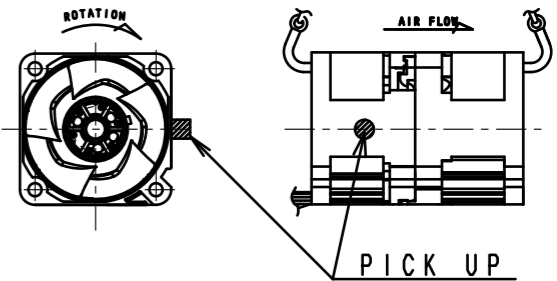
THESE SPECIFICATIONS ARE DEFINED FOR MODEL:R40W12BS7NK9-07Z99 OF THE DC BRUSHLESS VANE AXIAL FAN.

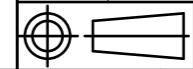
1. MECHANICAL SPECIFICATIONS

- 1-1 EXTERNAL DIMENSIONS :REFER TO END PAGE OF THIS DRAWING
- 1-2 HOUSING MATERIAL :PLASTIC (UL V-0)
- IMPELLER MATERIAL :PLASTIC (UL V-0)
- 1-3 BEARING :TWO BALL BEARINGS
- 1-4 MASS :SINGLE FAN ABOUT 100g
- 1-5 MOTOR PHASE :3 PHASE MOTOR

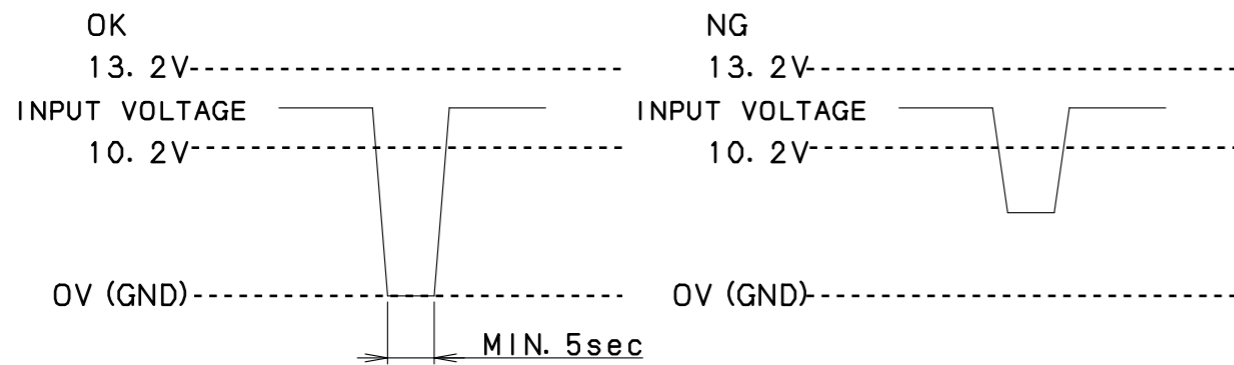
2. ELECTRICAL SPECIFICATIONS

No	ITEMS	STANDARD	REMARKS
2-1	RATED VOLTAGE	12 VDC	
2-2	OPERATING RANGE	10.8 ~13.2VDC	(NOTE 1, 4, 5, 8)
2-3	CONSUMING CURRENT	MAX. 3.42 A 3.11 A (NOMINAL)	IN FREE AIR AT RATED VOLTAGE (NOTE 4, 6)
2-4	CONSUMING POWER	MAX. 41.0 W 37.3 W (NOMINAL)	IN FREE AIR AT RATED VOLTAGE (NOTE 4, 6)
2-5	RATED SPEED (INLET)	MIN. 23400 min <sup>-1</sup> 26000min <sup>-1</sup> (NOMINAL) MAX. 28600 min <sup>-1</sup>	IN FREE AIR AT RATED VOLTAGE (NOTE 4)
	RATED SPEED (OUTLET)	MIN. 21330 min <sup>-1</sup> 23700min <sup>-1</sup> (NOMINAL) MAX. 26070 min <sup>-1</sup>	
2-6	MAX. AIRFLOW	MIN. 0.88 m <sup>3</sup> /min (31.0CFM) 1.03 m <sup>3</sup> /min (36.3CFM) (NOMINAL)	AT RATED VOLTAGE AT ZERO STATIC PRESSURE (NOTE 4)
2-7	MAX. STATIC PRESSURE	MIN. 1207 Pa (4.84 inch-H <sub>2</sub> O) 1581 Pa (6.35 inch-H <sub>2</sub> O) (NOMINAL)	AT RATED VOLTAGE AT ZERO AIRFLOW (NOTE 4)
2-8	SOUND LEVEL	MAX. 77.5 dB(A) 72.5 dB(A) (NOMINAL)	IN FREE AIR AT RATED VOLTAGE (A SCALE, SLOW)  (NOTE 4, 8)

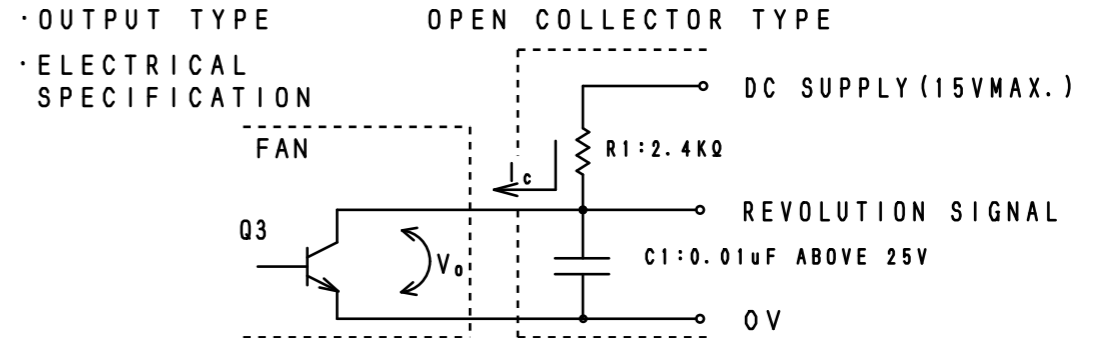
No	ITEMS	STANDARD	REMARKS
2-9	OPERATING TEMPERATURE	-10℃~70℃ (NORMAL HUMIDITY)	
2-10	STORAGE TEMPERATURE	-40℃~75℃ (NORMAL HUMIDITY)	STANDARDS FOR ITEMS 2-3~2-8 SHOULD BE MET WHEN MEASURED AFTER HAVING SAT FOR 24 HOURS AT ROOM TEMPERATURE FOR FANS SUBJECTED TO SPECIFIED TEMPERATURE RANGE FOR 100 HOURS.
2-11	DIRECTION OF ROTATION	INLET: CW, OUTLET: CCW FROM EXHAUST SIDE	
2-12	DIRECTION OF AIRFLOW	EXHAUST SIDE DISCHARGE	
2-13	INSULATION RESISTANCE	MIN. 10 Mega Ohm	AT 500 VDC BETWEEN FRAME AND LEADS
2-14	DIELECTRIC STRENGTH	MUST WITHSTAND 500VAC 1min	MAX. 1mA BETWEEN FRAME AND LEADS (USUALLY INSPECT AT 600V AC, 1sec, 1mA)
2-15	PROTECTION	CURRENT LIMIT PROTECTION	(NOTE 2)
		REVERSE POLARITY PROTECTION	(NOTE 3)
		HOT SWAP	
2-16	VIBRATION	RADIAL DIRECTION MAX 19m/s <sup>2</sup> *FUNDAMENTAL FREQUENCY	 PICK UP: PV-90B (RION) VIBRATION METER: VM-83 (RION) NOTE: FAN SHALL BE MEASURED BY HANGING IT UP BY HOLE. THE CONDITION OF VIBRATION METER. ·HPF: 10Hz ·LPF: 1000Hz ·EQPEEK

No.	PART No.	PART NAME	NOTE	Q'ty	UNIT	MARKS/MTL
ISSUE	0	Fig.	TOLERANCE			MTL.
ECO No.			UNLESS OTHERWISE SPECIFIED			MODEL
APPROVED			LINEAR			R40W12BS7NK9-07Z99
DESIGNED			~ ±			PARTS
APPROVED	H. KAWAKAMI	2021-01-28	~ ±			DC Fan
CHECKED	M. KATO	2021-01-28	~ ±			DC Fan
DESIGNED	M. KATO	2021-01-27	ANGULAR ±			DWG.
DRAWN	K. TODO	2021-01-27	CORNER			Specification of DC Fan
			OUTSIDE: C			
			INSIDE: R			
			UNIT mm	SCALE	N	A3
				DWG. No.	K98	0388500

- NOTE1: THE ABOVE STANDARDS SHOULD BE THE SPECIFIED VALUE AT NORMAL TEMPERATURE (-10°C~70°C), NORMAL HUMIDITY (5~90%) AND FREE AIR UNLESS OTHERWISE NOTICE.
- NOTE2: IN THE CASE THAT POWER IS TURNED ON DURING FAN ROTOR IS LOCKED, THE FAN SHALL ATTEMPT TO RESTART AT A TYPICAL REPETITION RATE (TEMPERATURE RISE WILL BE PREVENTED). THE FAN WILL AUTOMATICALLY RESTART WHEN THE LOCKED ROTOR CONDITION IS RELEASED.
- NOTE3: POWER SUPPLY VOLTAGE MUST NOT BE APPLIED BETWEEN SIGNAL OUTPUT LINE AND ANY OTHER LINE DIRECTLY. REVERSE POLARITY PROTECTION IS EFFECTIVE TO JUST SWITCH THE POSITIVE AND NEGATIVE POWER LINE.
- NOTE4: CONTROL SIGNAL (BLUE AND GREEN LEAD WIRE) SHOULD BE APPLIED -0.5 TO 0.8V, OR SHOULD BE OPEN.
- NOTE5: 10.8~13.2 OPERATING VOLTAGE RANGE IS FOR CONTINUOUS DC VOLTAGE. POWER SUPPLY VOLTAGE RIPPLE 5% MAXIMUM.
- NOTE6: THE MAX VALUE OF CONSUMING CURRENT DOES NOT REPRESENT THE PEAK VALUE.
- NOTE7: RANDOM SAMPLING TEST SHOULD BE PERFORMED EVERY TWO HOURS WITH H. P. VIBRATION TEST FIXTURE.
- NOTE8: IF THE INPUT VOLTAGE FALLS BELOW THE OPERATING VOLTAGE RANGE "10.8~13.2V", BE SURE TO LOWER THE INPUT VOLTAGE TO 0V (GND LEVEL) AND THEN TURN ON THE POWER AGAIN.



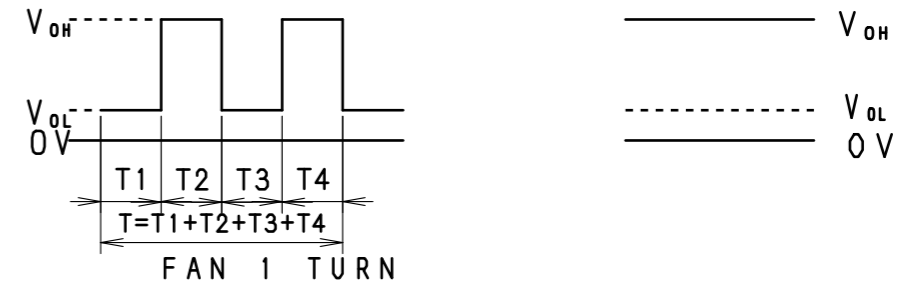
3. PROVISION OF REVOLUTION SIGNAL  
3-1 OUTPUT OF REVOLUTION SIGNAL



REMARK: AS FOR MEASURING  $V_{OL}$ , IT IS NECESSARY TO PUT CR LOW PASS FILTER WHICH IS CONSTRUCTED OF R1 AND C1. THE TIME CONSTANT OF  $R1 \times C1$  IS TO BE MORE THAN 24μs SUCH AS  $R1=2.4k\Omega$   $C1=0.01\mu F$ .

- ABSOLUTE MAXIMUM SPECIFICATION
- COLLECTOR CURRENT  $I_c = 10mA$  MAX.
  - RELEASE VOLTAGE  $V_{OH} = 15V$  MAX.
- ELECTRICAL CHARACTERISTICS
- SATURATION VOLTAGE  $V_{OL} = 0.5V$  MAX. AT  $I_c = 5mA$

OUTPUT WAVEFORM (AT REVOLUTION) (AT LOCKED POSITION)



REMARK: AT LOCKED POSITION, OUTPUT BECOMES  $V_{OH}$  OR  $V_{OL}$ .  
 $T = T_1 + T_2 + T_3 + T_4 = 60/N$  (SEC)  
 $N$ : FAN SPEED ( $min^{-1}$ )  
 $DUTY = \frac{T_1}{T_1 + T_2} = 50 \pm 10\%$

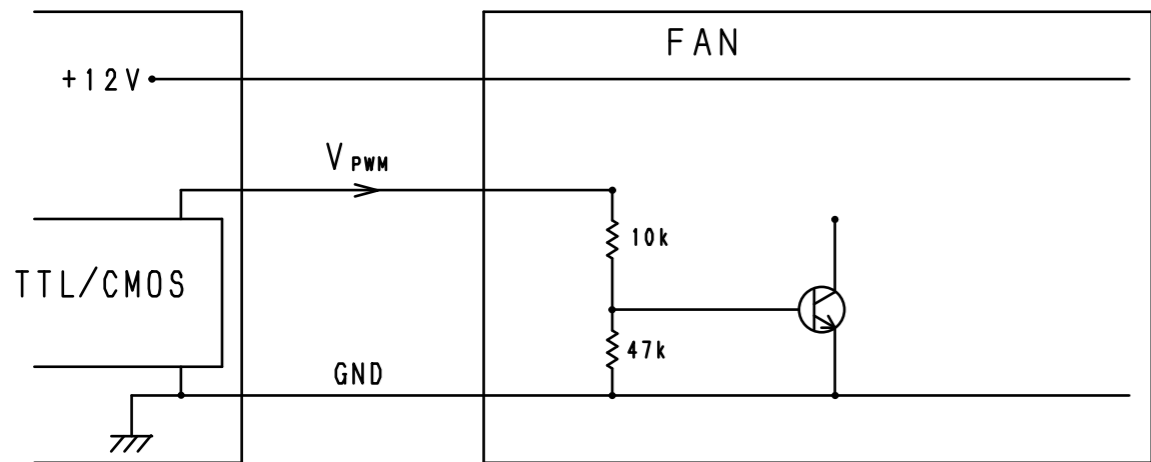
3-2 CAUTION

PLEASE BE CAREFUL THAT REVOLUTION SIGNAL LEAD WIRE (YELLOW & WHITE LEAD WIRE) SHALL NOT HAVE ANY VOLTAGE DIRECTLY APPLIED. (IT SHOULD DAMAGE INNER CIRCUIT.)

REV	ISSUE	0	Fig.	No.	PART No.	PART NAME	NOTE	Q' ty	UNIT	MARKS/MTL
	ECO No.									MTL.
	APPROVED									MODEL R40W12BS7NK9-07Z99
	DESIGNED									PARTS DC Fan
	APPROVED	H. KAWAKAMI	2021-01-28							DC Fan
	CHECKED	M. KATO	2021-01-28							DC Fan
	DESIGNED	M. KATO	2021-01-27							Specification of DC Fan
	DRAWN	K. TODO	2021-01-27							Specification of DC Fan
										DWG. No. K980388500

4. PWM CONTROL

4-1 TYPE THE METHOD OF ACTIVE/INACTIVE DRIVE MOS FET FOR SPEED CONTROL.



$V_{CONT}$  IS ABOVE 2.0V.....FAN SHOULD RUN FULL SPEED.  
 $V_{CONT}$  IS BELOW 0.8V.....FAN SHOULD RUN FULL SPEED.

THE WIRE OF  $V_{CONT}$  IS OPEN...FAN SHOULD RUN FULL SPEED.

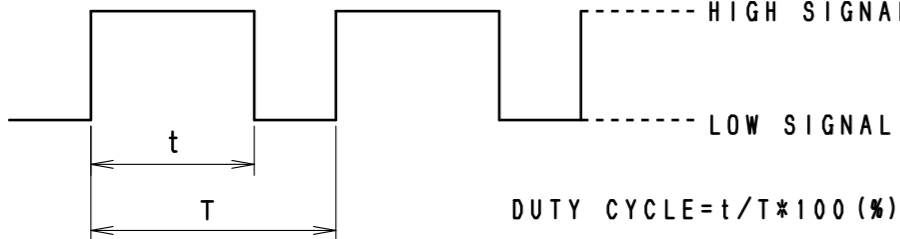
CONTROL SIGNAL SHOULD ACCEPT PWM CONTROL,  
 PWM FREQUENCY IS FROM 16kHz TO 32kHz.

4-2 PWM CONTROL SIGNAL

SIGNAL VOLTAGE RANGE: 0~4.0VDC

----- HIGH SIGNAL:2.0~4.0 VDC.

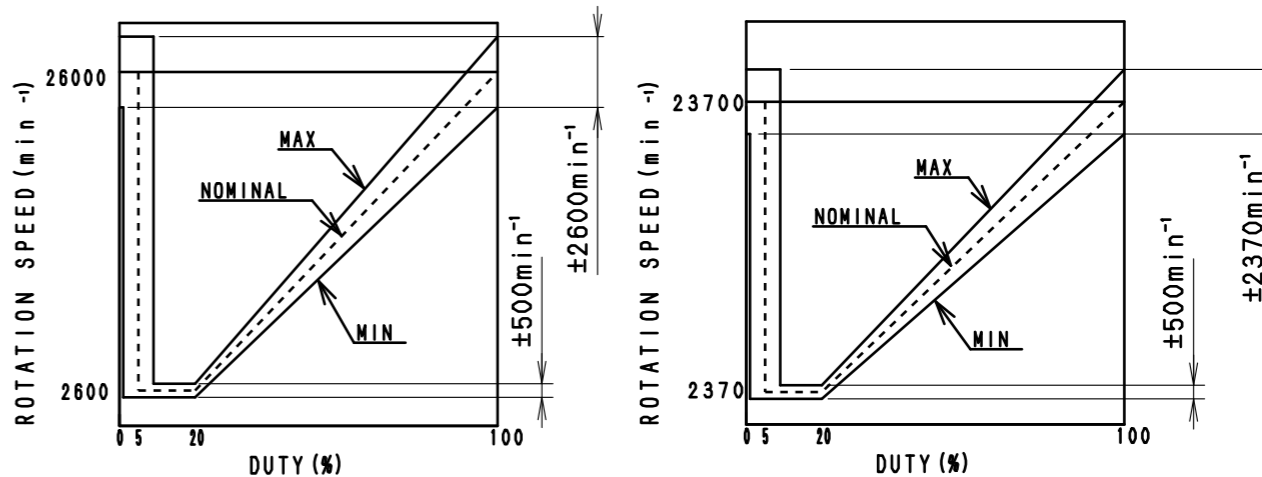
----- LOW SIGNAL:0~0.8 VDC.



THE FREQUENCY FOR CONTROL SIGNAL OF THE FAN SHALL BE ABLE TO ACCEPT AT 16kHz-32kHz.  
 PWM SIGNAL WITH 3.3 VDC TTL/CMOS (OD/OC) LEVEL. THE PREFERRED OPERATING POINT FOR THE FAN IS 25kHz, AND DUTY CYCLE FROM 0% TO 100%.

IF THE PWM CONTROL WIRE CONNECT TO GROUND, THE ROTOR WILL SPIN AT AT MAXIMUM SPEED.  
 IF THE PWM CONTROL WIRE OPEN, THE ROTOR WILL SPIN AT MAXIMUM SPEED.

4-3 SPEED VS PWM CONTROL SIGNAL, AT RATED VOLTAGE



DETAIL OF PWM CURVE (INLET SIDE)    DETAIL OF PWM CURVE (OUTLET SIDE)

NOTE:  
 THE STANDARDS SHOULD BE THE SPECIFIED VALUE AT NORMAL TEMPERATURE (21~25°C) AND NORMAL HUMIDITY (60~65%) AND FREE AIR UNLESS OTHERWISE NOTICE.

DUTY CYCLE (%)	SPEED min <sup>-1</sup>	
	INLET SIDE	OUTLET SIDE
0	26000±2600	23700±2370
1<INPUT DUTY<9	MAX or MIN SPEED	
10<INPUT DUTY<20	2600±500	2370±500
100	26000±2600	23700±2370

No.	PART No.	PART NAME	NOTE	Q' ty	UNIT	MARKS/MTL
ISSUE	0	Fig.	TOLERANCE			
ECO No.			UNLESS OTHERWISE SPECIFIED			MTL.
APPROVED			LINEAR			MODEL R40W12BS7NK9-07Z99
DESIGNED			~ ±			PARTS DC Fan
APPROVED	H. KAWAKAMI	2021-01-28	~ ±			DC Fan
CHECKED	M. KATO	2021-01-28	ANGULAR ±		UNIT mm	DWG. Specification of DC Fan
DESIGNED	M. KATO	2021-01-27	CORNER		SCALE N	A3
DRAWN	K. TODO	2021-01-27	OUTSIDE:C			
			INSIDE :R			
					DWG. No.	K980388500

5. SPECIAL TEST

5-1 LIFE EXPECTANCY

MORE THAN 90% MUST RUN AFTER CONTINUOUS OPERATION OF 70,000 HOURS AT RATED VOLTAGE, 40°C AMBIENT TEMPERATURE AND 65% RELATIVE HUMIDITY.

LIFE IS DEFINED WHEN THE MOTOR SPEED DECREASES MORE THAN 30% AGAINST ITS INITIAL SPEED.

5-2 VIBRATION TEST

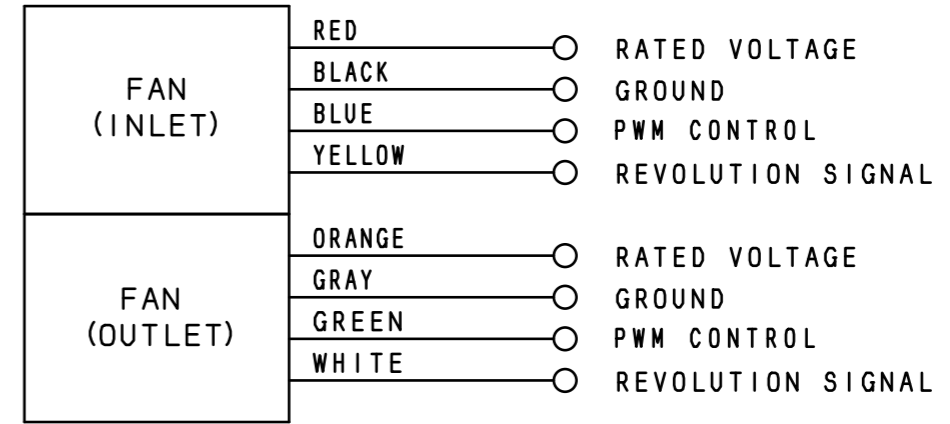
STANDARDS FOR ITEMS 2-4~2-9 AND 5-2 SHOULD BE MET AFTER 30 MINUTES 0.2mm AMPLITUDE, 55Hz VIBRATION IN EACH DIRECTION: UP-DOWN, RIGHT-LEFT, FORWARD-BACK.

5-3 SHOCK TEST

STANDARDS FOR ITEMS 2-4~2-9 AND 5-2 SHOULD BE MET IF THE FANS FALL NATURALLY FROM A HEIGHT OF 30cm IN THE PACKING BOX FOR EACH DIRECTION.

6. OTHERS

6-1 CONNECTION

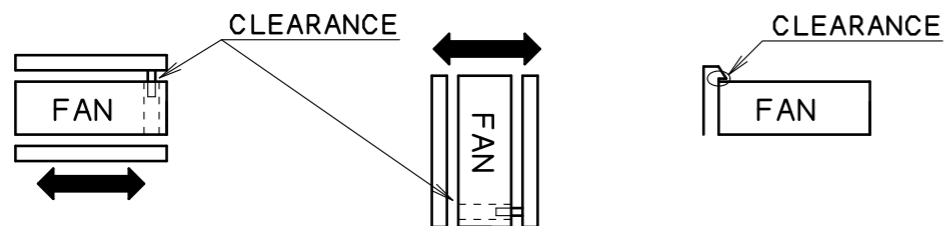


No.	PART No.	PART NAME	NOTE	Q'ty	UNIT	MARKS/MTL
ISSUE	0	Fig.	TOLERANCE			
ECO No.			UNLESS OTHERWISE SPECIFIED			MTL.
APPROVED			LINEAR			MODEL R40W12BS7NK9-07Z99
DESIGNED			~ :±			PARTS DC Fan
APPROVED	H. KAWAKAMI	2021-01-28	~ :±			DC Fan
CHECKED	M. KATO	2021-01-28	~ :±			
DESIGNED	M. KATO	2021-01-27	ANGULAR :±		UNIT mm	DWG. Specification of DC Fan
DRAWN	K. TODO	2021-01-27	CORNER		SCALE N	A3
			OUTSIDE :C			
			INSIDE :R			
					DWG. No.	K980388500

6-2 LOCKED ROTOR  
NO DAMAGE SHALL BE FOUND FOR CONTINUOUS 1 HOUR AT LOCKED ROTOR.

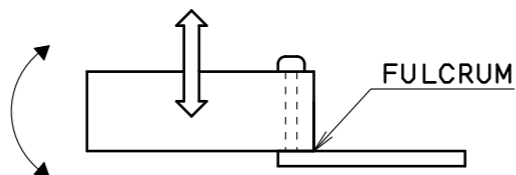
6-3 IMPORTANT POINTS DURING INSTALLMENT

⚠ BECAUSE THE CLEARANCE AT FAN'S MOUNTING PORTION MIGHT IMPACT ON THE NOISE AND VIBRATION DURING FAN'S ROTATION, THE SCREW OR RIVET SHOULD BE USED FOR INSTALLATION. IN CASE OF SNAP-FIT TYPE, PLEASE BE CAREFUL NOT TO MAKE THE CLEARANCE DURING INSTALLATION.

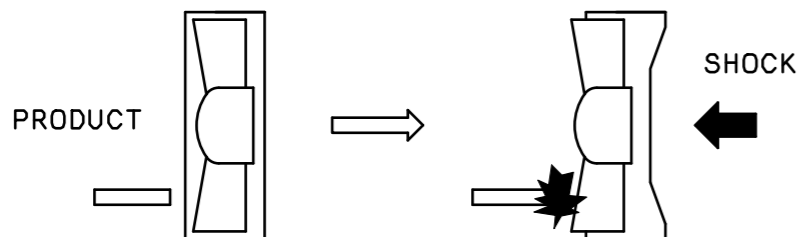


⚠ THE VIBRATION TO THE AXIAL DIRECTION MIGHT INCREASE IN CASE THAT THE FAN IS INSTALLED AT ONE END SUPPORT. PLEASE DO NOT INSTALL THE FAN AT ONE END SUPPORT. THE 4-POINTS FIXING SHOULD BE RECOMMENDED.

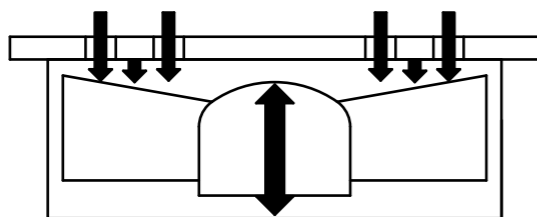
BASED ON THE PRINCIPLE OF A LEVER, THE AMPLITUDE BECOMES LARGER IN CASE THAT THE DISTANCE BETWEEN FULCRUM AND POWER POINT IS LARGER.



⚠ IF YOUR PARTS ARE CLOSELY PUT IN FRONT OF THE FAN MOTOR, IT MIGHT CONTACT WITH THE IMPELLER WHEN THE IMPACT FORCE IS APPLIED. THE RECOMMENDED DISTANCE BETWEEN YOUR PARTS AND THE FAN MOTOR COULD BE 3MM OR MORE.

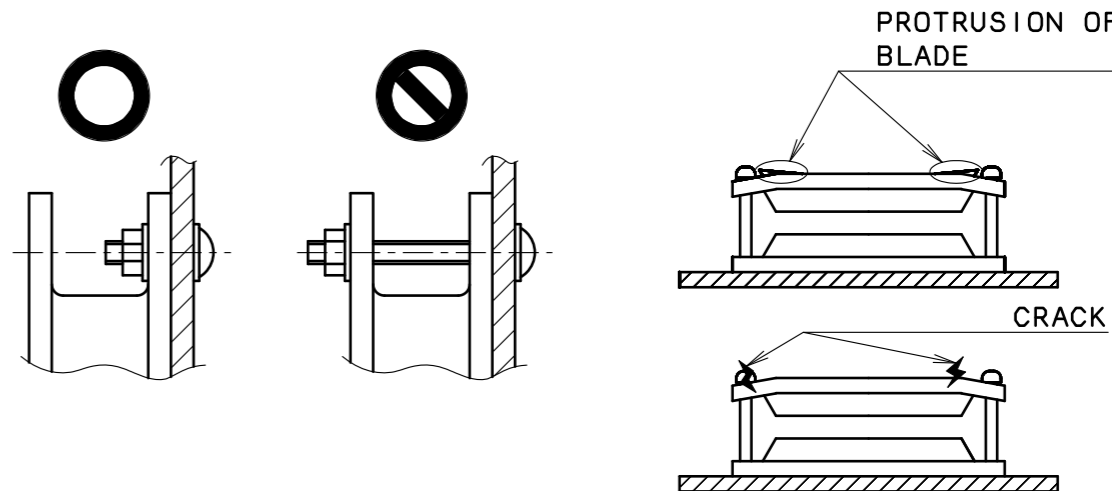


⚠ IF THE PRODUCT IS CLOSELY PUT IN FRONT OF THE FAN MOTOR, THE VIBRATION AND NOISE MIGHT INCREASE DUE TO VIBRATION CAUSED BY AIR FLOW SEPARATION. THE RECOMMENDED DISTANCE BETWEEN THE PRODUCT AND THE FAN MOTOR COULD BE 3MM OR MORE.

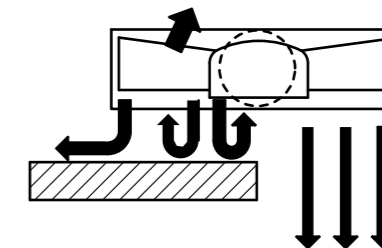
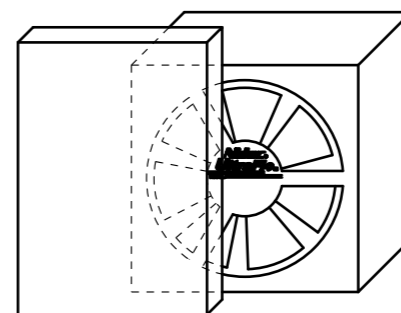


THERE ARE HIGH AND SMALL PRESSURE LAYERS IN FRONT OF THE BLADE, WHERE THE BLADES PASS THROUGH ALTERNATELY. IT CAUSES THE INCREASE IN VIBRATION.

⚠ THE THROUGH SCREW SHOULD NOT BE USED FOR OPEN-FLANGE-TYPE FAN MOTOR BECAUSE THE DEFORMATION OR CRACK MIGHT BE CAUSED AT HOUSING FLANGE AREA WHEN IT IS USED. PLEASE USE A FLANGE AT ONLY ONE SIDE IN CASE OF THE OPEN-FLANGE-TYPE.



⚠ THE UNEVEN LOAD IS APPLIED ON BEARING IN CASE THE EXHAUST OUTLET IS CLOSED UNEVENLY, WHICH MIGHT CAUSE THE UNEVEN WEAR ON BEARING. YOUR CONSIDERATION TO MAKE THE AIR FLOW EVEN AT THE EXHAUST OUTLET IS HIGHLY APPRECIATED.



THE STATIC PRESSURE IS ADDED ONLY ON CERTAIN PORTION, AND THE UNEVEN WEAR IS CAUSED ON BEARING.

THE HOUSING COULD BE DAMAGED IN CASE OF USING THE SELF-TAPPING SCREW WHICH IS NOT SUITABLE FOR INSTALLATION OF PLASTIC PARTS. "TAP TIGHT P TIGHT" FOR PLASTIC PARTS SHOULD BE RECOMMENDED FOR USAGE IN CASE OF THE SELF-TAPPING INSTALLATION.

⚠ THE HOUSING MIGHT BE DEFORMED, THE IMPELLER MIGHT GO OUT FROM THE HOUSING AND MIGHT CONTACT WITH THE INSTALLATION AREA IN CASE THE FAN MOTOR IS INSTALLED ON THE POOR FLATNESS AREA USING THE SCREW. THE FLATNESS AT INSTALLATION AREA SHOULD BE 0.1MM OR LESS

IN CASE THAT YOU USE THE FAN MOTOR WITH DIFFERENT USAGE RECOMMENDED IN THE ABOVE, PLEASE CONDUCT THE SUFFICIENT INVESTIGATION BEFORE USE.

REV	ISSUE	ECO No.	Fig.	No.	PART No.	PART NAME	NOTE	Q'ty	UNIT	MARKS/MTL
	0									
	APPROVED					TOLERANCE				MTL.
	DESIGNED					UNLESS OTHERWISE SPECIFIED				MODEL
						LINEAR				R40W12BS7NK9-07Z99
						~ ±				PARTS
						~ ±				DC Fan
						~ ±				DC Fan
	APPROVED	H. KAWAKAMI	2021-01-28			ANGULAR				DWG.
	CHECKED	M. KATO	2021-01-28			CORNER				Specification of DC Fan
	DESIGNED	M. KATO	2021-01-27			OUTSIDE : C				Specification of DC Fan
	DRAWN	K. TODO	2021-01-27			INSIDE : R				
						UNIT				
						mm				
						SCALE	N		A3	
						DWG. No.	K980388500			

6-4 PRECAUTIONS

- THE SHUT-DOWN CIRCUIT MIGHT OPERATE WRONGLY UNDER THE LARGE STATIC ELECTRICITY OR EM NOISE. IN THIS CASE, THE RESTART TYPE SHOULD BE RECOMMENDED.
- IN CASE OF REDUCING THE FAN'S ROTATION SPEED BY RESISTOR, THE VOLTAGE ON FAN TERMINAL CHANGES, AND ITS VOLTAGE (LOWER VALUE) MIGHT GO DOWN TO THE FAN'S USAGE VOLTAGE RANGE. IN THIS CASE, VARIOUS ISSUES MIGHT HAPPEN SUCH AS NO ROTATION OF FAN MOTOR, UNSTABLE ROTATION, AND SENSOR'S WRONG OPERATION.
- WHEN YOU REQUEST TO ADD THE RELAY OR ALARM CIRCUIT IN FAN MOTOR, BECAUSE OF MATCHING WITH CONTROL CIRCUIT, WE WILL CHECK THE CONTROL CIRCUIT. AT THE SAME TIME, WE WOULD LIKE YOU TO EVALUATE IT CAREFULLY, TOO.
- ⚠ YOU SHOULD NOT HOLD THE LEAD WIRE AT THE TIME OF HANDLING BECAUSE THE LEAD WIRE MIGHT BE BROKEN. PLEASE HOLD THE FLAME WHEN YOU USE IT.
- THE SEMICONDUCTOR IN MOTOR CIRCUIT MIGHT BE DAMAGED DUE TO THE CHARGED AND/OR LEAKAGE. YOU SHOULD TAKE THE COUNTERMEASURE AGAINST STATIC ELECTRICITY (+/-200V OR LESS) IN YOUR PROCESS.

6-5 STORAGE

- IT IS GENERALLY REQUIRED THAT A STORAGE PERIOD OF FANS WITHOUT ANY USE BE LIMITED TO SIX(6)MONTHS MAXIMUM. STORAGE OF FANS IN HIGH TEMPERATURE AND OR HIGH HUMIDITY ENVIRONMENT SHOULD BE AVOIDED.

6-6 SPECIAL USAGE

- THIS USAGE REQUIRES A SPECIALLY HIGH LEVEL OF QUALITY AND RELIABILITY OF THE PRODUCTS, WHICH ARE NEITHER INTENDED NOR GUARANTEED TO BE USED FOR ANY EQUIPMENT WHOSE FAILURE OR MALFUNCTION WOULD CAUSE DAMAGE TO THE HUMAN LIFE OR BODY OR ANY OTHER SERIOUS DAMAGE (E. G. NUCLEAR POWER CONTROL DEVICES, AEROSPACE INSTRUMENT, TRANSPORTATION MACHINES (E. G. CARS, TRAINS AND SHIPS), TRAFFIC SIGNALS, FUEL CONTROLLERS, MEDICAL EQUIPMENT AND VARIOUS SAFETY DEVICES). PLEASE CONTACT OUR SALES PERSONNEL FOR ANY UNINTENDED USAGE OF THE PRODUCTS.

7. SPECIAL ITEMS

7-1 SPECIFICATION CHANGE

ANY CHANGE TO THE PARAMETERS SPECIFIED IN THIS DOCUMENT SHALL BE DETERMINED BY MUTUAL AGREEMENT ON BOTH PARTIES.

7-2 UNCERTAINTY

IN THE EVENT THAT A QUESTION MAY ARISE ABOUT THIS DOCUMENT OR AN AREA NOT SPECIFIED IN THIS DOCUMENT, BOTH PARTIES SHALL DISCUSS AND DETERMINE A SOLUTION IN GOOD FAITH.

7-3 WARRANTY

OUR WARRANTY IS LIMITED TO THE REPLACEMENT OF FAILED FAN AT FREE OF CHARGE, IF AND ONLY IF THE FAILURE IS FOUND WITHIN TWO YEARS AFTER IT WAS SHIPPED OUT FROM OUR PRODUCTION FACILITY, AND IF THE CAUSE OF THE FAILURE IS PROVEN TO BE ATTRIBUTABLE TO THE SUPPLIER.

OUR LIABILITY DOES NOT EXTEND TO THE CONSEQUENTIAL DAMAGES CAUSED BY THE FAILED FAN.

7-4 PRODUCTION LOCATION

NIDEC (DONGGUAN) LIMITED: CHINA (DONGGUAN)  
OR  
NIDEC (SHAOGUAN) LIMITED: CHINA (SHAOGUAN)

IN CASE OF PRODUCTION FACTORY CHANGE, WE SHALL GET APPROVAL FROM CUSTOMERS BEFOREHAND.

7-5 NOTE

PLEASE CONSIDER HAVING AN INDEPENDENT PROTECTION SYSTEM IN THE CUSTOMER'S INSTRUMENTS IN THE EVENT THAT THE FAN SHOULD STOP OPERATING.

7-6 POWER SOURCE

BRUSHLESS DC FANS ARE DESIGNED TO BE USED AT DC POWER SOURCE WITH BYPASS CAPACITOR. WE WOULD RECOMMEND YOU TO USE DC POWER SOURCE WHICH IS FILTERED RIPPLE AND NOISE.

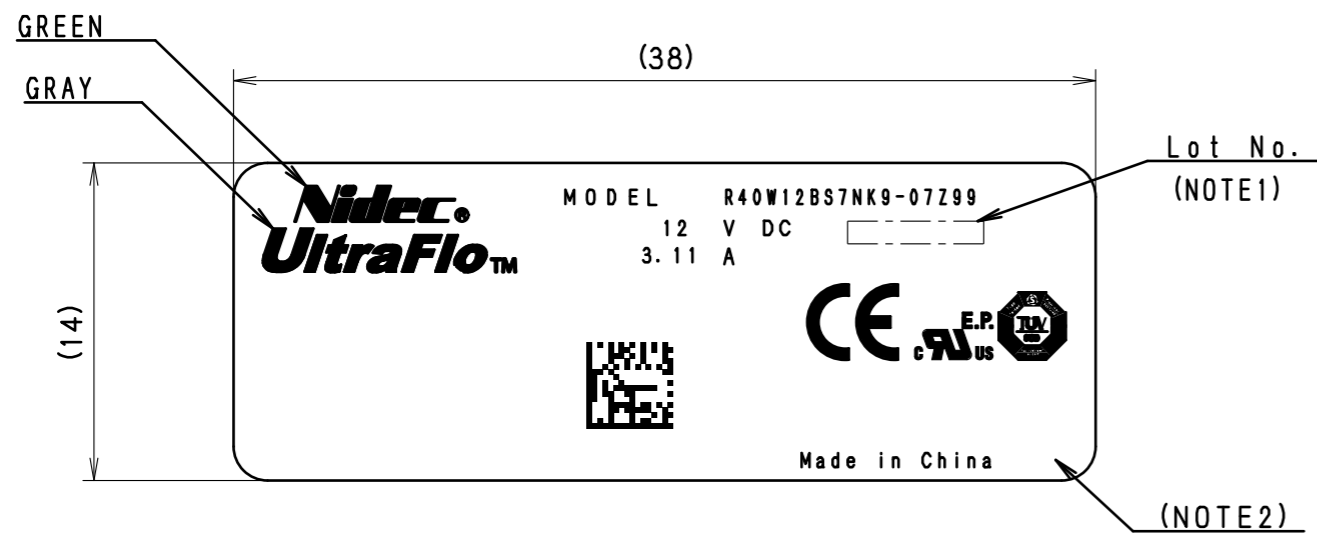
- FANS ARE DESIGNED TO PERFORM AS EXPECTED WHEN STABLE VOLTAGE IS SUPPLIED.
- FLUCTUATION OF THE VOLTAGE BETWEEN Vcc(+) AND GND WHILE THE FAN IS POWERED MUST BE WITHIN THE SPECIFIED OPERATING VOLTAGE RANGE.
- FLUCTUATION CYCLE OF THE VOLTAGE BETWEEN Vcc(+) AND GND WHILE THE FAN IS POWERED MUST BE LONGER THAN THE FAN'S ROTATION CYCLE.
- GND OF THE FAN MUST BE KEPT BELOW THE VOLTAGE OF ITS Vcc(+) WHEN THE VOLTAGE IS SWITCHED ON/OFF OR THE FAN IS NOT RUNNING.
- DEVICES THAT USE THE FANS ARE SUPPOSED TO BE DESIGNED SO THAT THE VOLTAGE APPLIED ON THE REVOLUTION SIGNAL IS NOT AFFECTED BY POWER ON/OFF.

7-7 ENVIRONMENT-RELATED SUBSTANCES

BASED ON RoHS, CADMIUM, LEAD, MERCURY, AND, COMPOUND OF THESE SUBSTANCES AND HEXAVALENT CHROMIUM COMPOUND, POLYBROMO BI-PHENYL (PBB) AND POLYBROMO DI-PHENYL ETHER (PBDE) ARE NOT INCLUDED IN THIS PRODUCT.

No.	PART No.	PART NAME	NOTE	Q' ty	UNIT	MARKS/MTL
ISSUE	0	Fig.	TOLERANCE			
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DESIGNED			~ ±			PARTS DC Fan
APPROVED	H. KAWAKAMI	2021-01-28	~ ±			DC Fan
CHECKED	M. KATO	2021-01-28	ANGULAR ±		UNIT	DWG. Specification of DC Fan
DESIGNED	M. KATO	2021-01-27	CORNER		mm	SCALE N
DRAWN	K. TODO	2021-01-27	OUTSIDE: C			A3
			INSIDE: R			
			DWG. No.		K980388500	

NAME PLATE



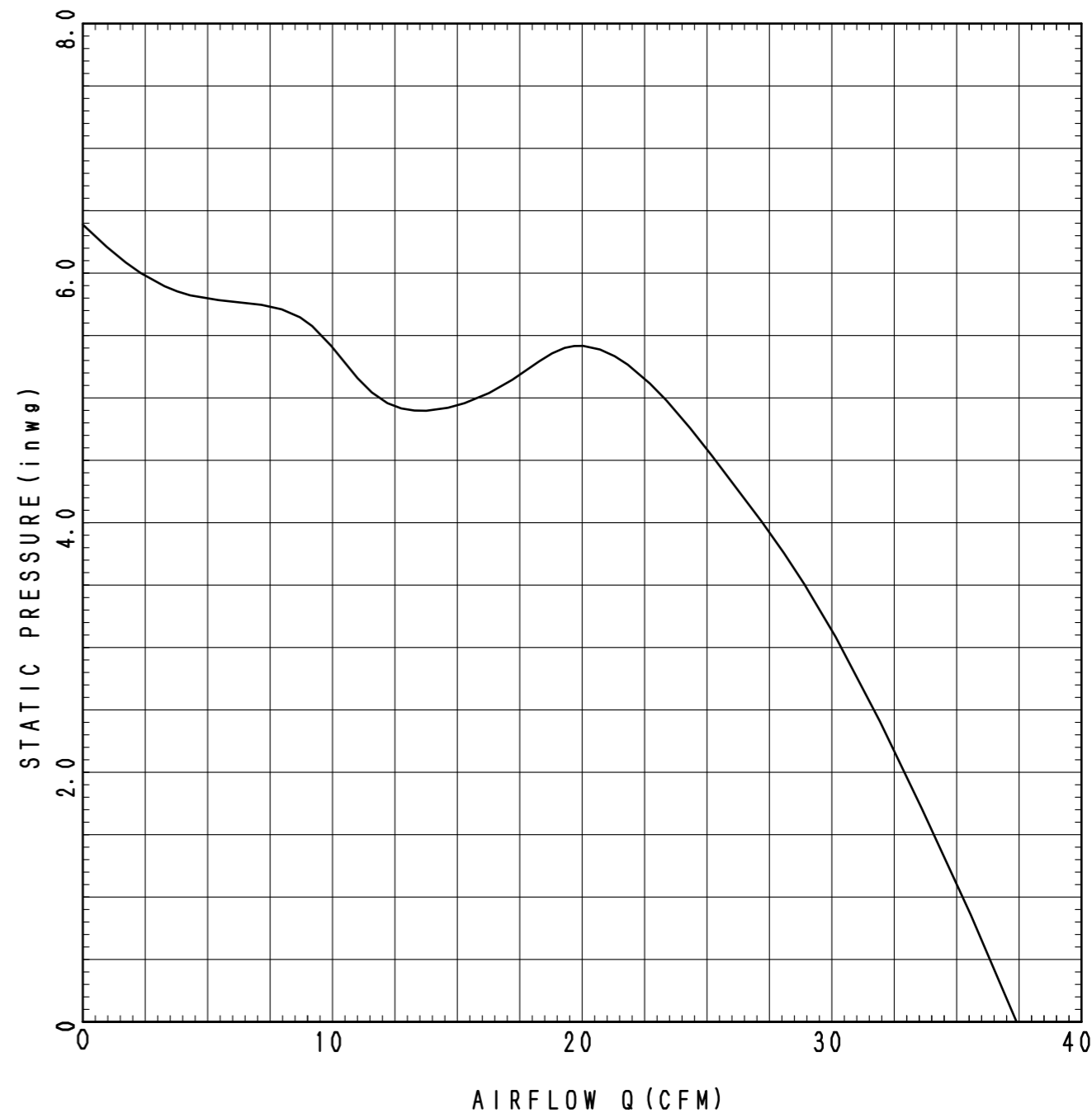
(NOTE1)  
 「LOT No. MEANING」  
 5Y12G AA  
 5: YEAR (2015)  
 Y: MONTH ··· X: OCT.  
 Y: NOV.  
 Z: DEC.  
 12: DAY  
 G: UL APPROVE CODE  
 AA: PRODUCTION  
 DIVISION

(NOTE2)  
 BASE COLOR: WHITE  
 LETTER: BLACK

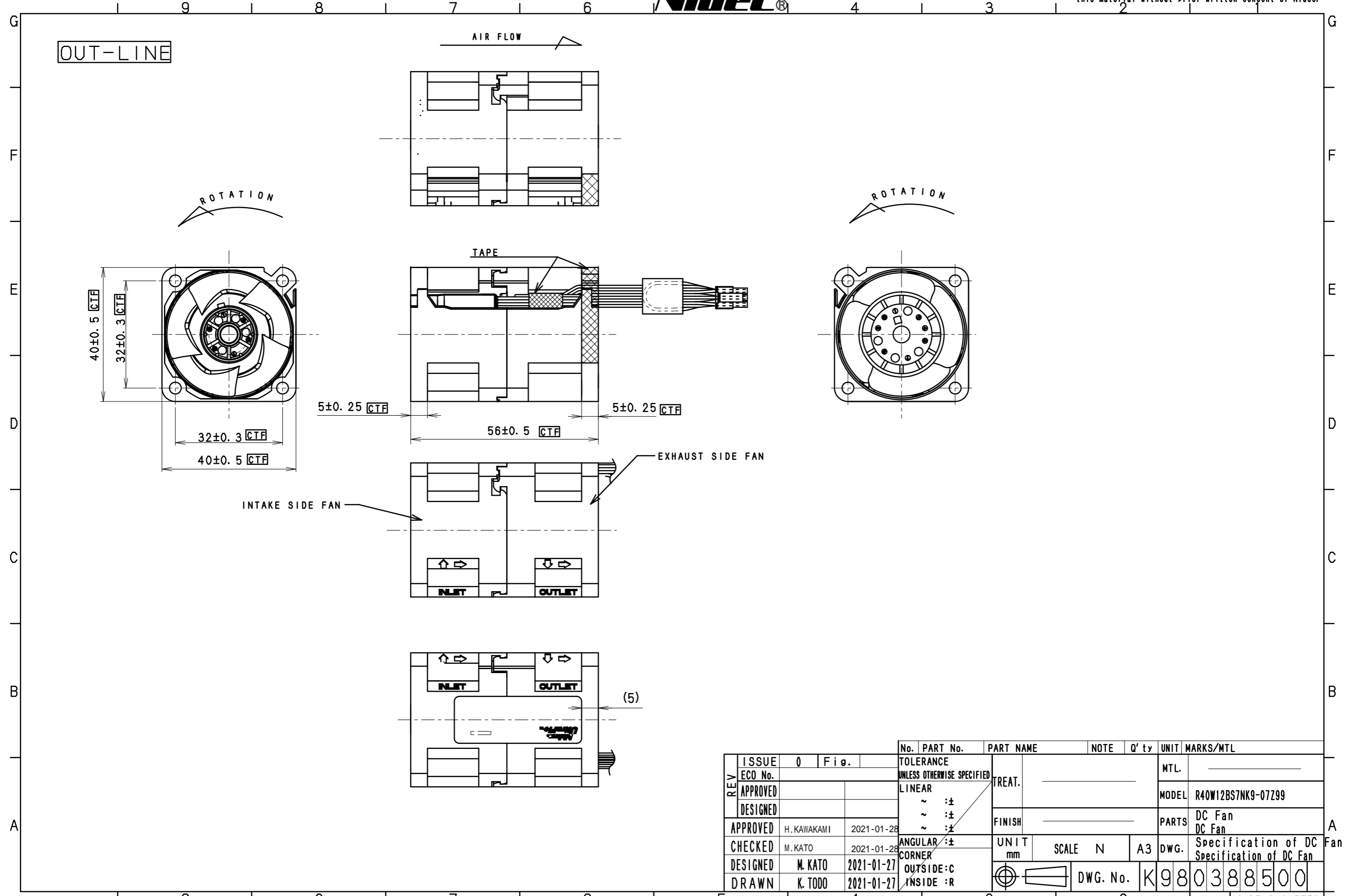
THE PRODUCTION DIVISION IS  
 EXPRESSED BY ONE ALPHABETICAL  
 LETTER, OR ONE ALPHABETICAL LETTER  
 AND ONE-DIGIT NUMBER.

PQ CURVE

< FAN TEST DATA >  
 Nominal Value at 12V  
 PQ CURVE WITHOUT BRACKET



REV	ISSUE	0	Fig.	No.	PART No.	PART NAME	NOTE	Q' ty	UNIT	MARKS/MTL	
	ECO No.			TOLERANCE UNLESS OTHERWISE SPECIFIED						MTL.	
	APPROVED			LINEAR						MODEL	R40W12BS7NK9-07Z99
	DESIGNED			~ ±						PARTS	DC Fan DC Fan
	APPROVED	H. KAWAKAMI	2021-01-28	~ ±						DWG.	Specification of DC Fan Specification of DC Fan
	CHECKED	M. KATO	2021-01-28	ANGULAR ±				UNIT	SCALE	N	A3
	DESIGNED	M. KATO	2021-01-27	CORNER				mm			
	DRAWN	K. TODO	2021-01-27	OUTSIDE: C INSIDE: R							
							DWG. No.	K980388500			



REV	ISSUE	ECO No.	Fig.	No.	PART No.	PART NAME	NOTE	Q'ty	UNIT	MARKS/MTL	
	ISSUE	0									
	ECO No.									MTL.	
	APPROVED									MODEL R40W12BS7NK9-07Z99	
	DESIGNED									PARTS DC Fan DC Fan	
	APPROVED	H. KAWAKAMI	2021-01-28							DWG. Specification of DC Fan Specification of DC Fan	
	CHECKED	M. KATO	2021-01-28								
	DESIGNED	M. KATO	2021-01-27								
	DRAWN	K. TODO	2021-01-27								
				TOLERANCE UNLESS OTHERWISE SPECIFIED		TREAT.		UNIT mm		SCALE N A3	
				LINEAR ~ ±		FINISH		DWG. No.		K980388500	
				~ ±							
				~ ±							
				ANGULAR ±							
				CORNER							
				OUTSIDE : C							
				INSIDE : R							



