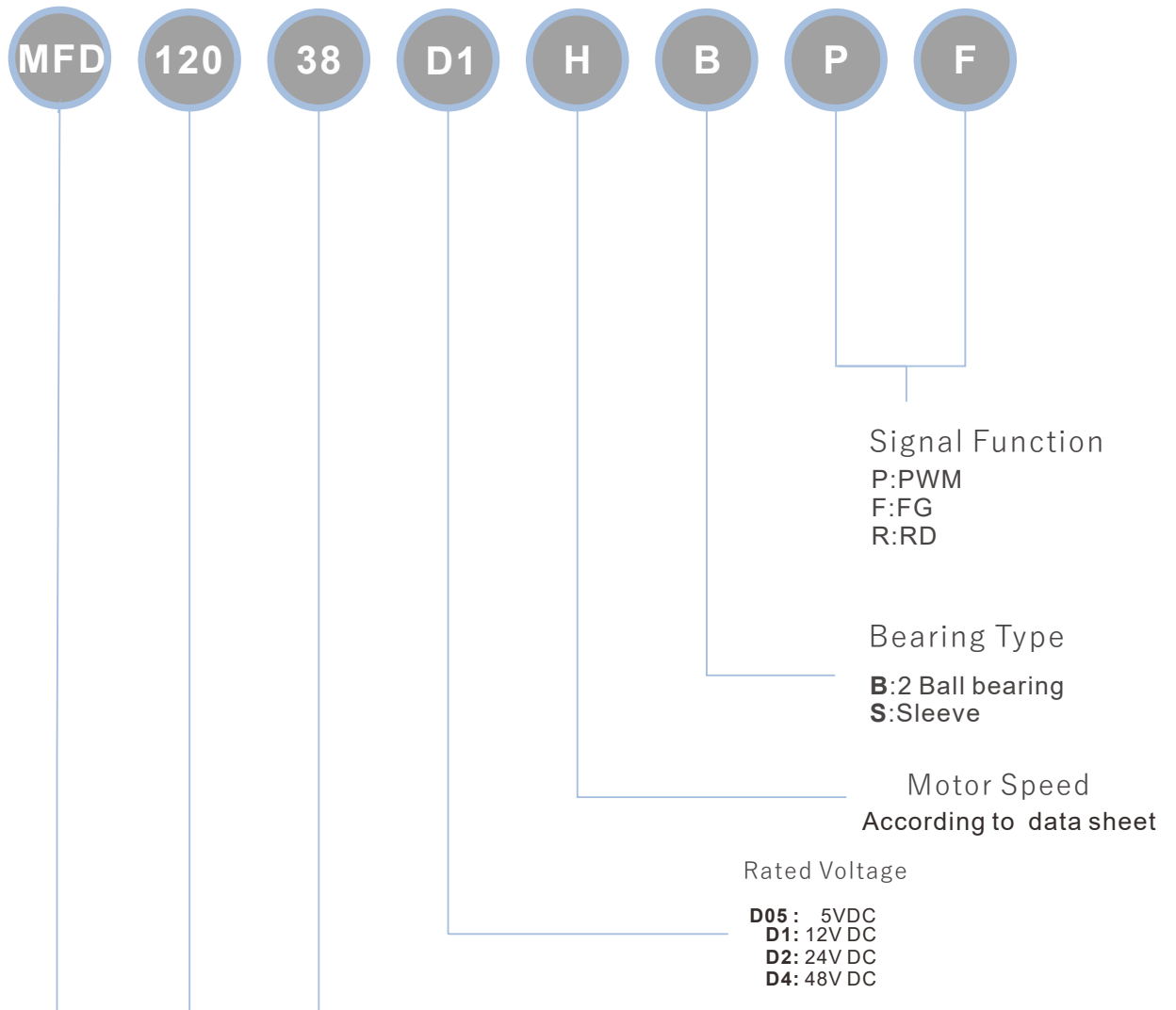


DC CENTRIFUGAL PRODUCT GUIDE

Max-Flow Electric Machinery Co., Ltd.

DC CENTRIFUGAL Part Number Code

※Example :Part No.MFD12038D2-HBPF



Frame	size	Frame	size	Thick	Size	Thick	Size
15	15*15mm	92	92*92mm	4	4mm	50	50mm
18	18*18mm	100	Ø100mm	5	5mm	51	51mm
20	20*20mm	110	Ø110mm	6	6mm	59	59mm
25	25*25mm	120	120*120mm	7	7mm	60	60mm
30	30*30mm	140	140*140mm	10	10mm	80	80mm
40	40*40mm	150	150*150mm	15	15mm		
50	50*50mm	172	172*172mm	20	20mm		
60	60*60mm	200	200*200mm	25	25mm		
70	70*70mm	220	Ø220mm	38	38mm		
80	80*80mm	Ø250	Ø250mm	40	40mm		

Product Series

- MFD: DC FAN
- MFB: DC BLOWER
- MFL: DC CENTRIFUGE
- MFE: EC FAN

Motor function introduction

FG (Tach output type) Connection Diagram

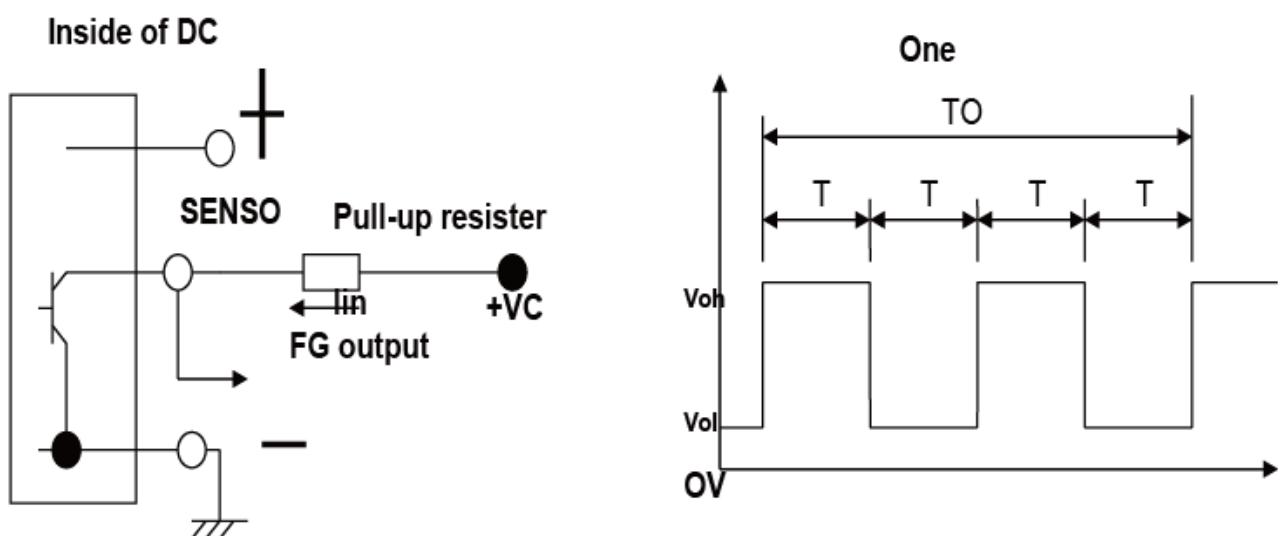
Fan with FG function will create a square wave output.

You can know fan speed by sensing the output wave Frequency.

Most dc fan have four pole. So when fan run for one round, there will be two high level pulse. About other Multipole brushless fan, high level pulse will be different.

But please notice if you want to sense it's output wave, there is a external circuit. Please check the circuit Diagram below.

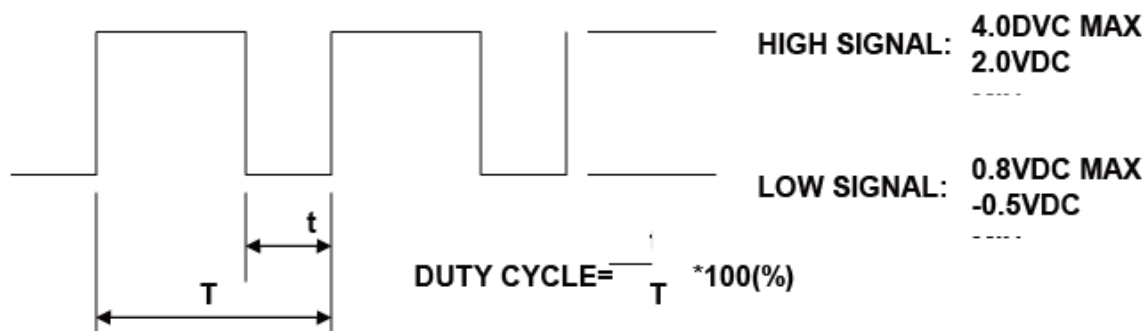
There is no pull-up and VCC value limit. But please notice the Max I_{in} have to be small than 20mA.



Motor function introduction

PWM CONTROL SIGNAL

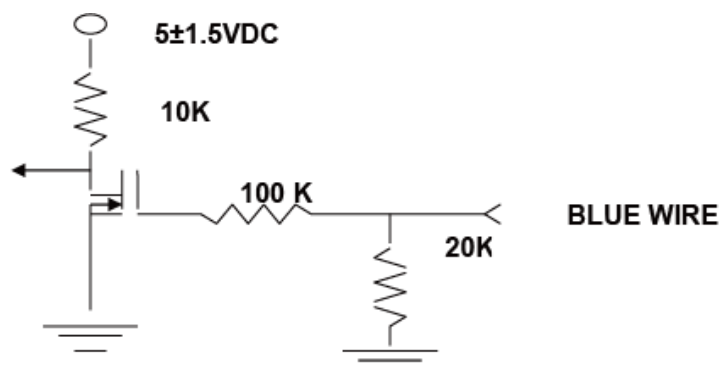
SIGNAL VOLTAGE RANGE: -0.5~+4.0VDC



THE FREQUENCY FOR CONTROL SIGNAL OF THE FAN SHALL BE ABLE TO ACCEPT 16K~32 KHZ.

- < THE PREFERRED OPERATING POINT FOR THE FAN IS 25K HZ.
- < AT 100% DUTY CYCLE, THE ROTOR WILL SPIN AT MAXIMUM SPEED.
- < AT 0% DUTY CYCLE, THE ROTOR WILL STOP.
- < WHEN CONTROL SIGNAL LEAD DISCONNECTED, THE FAN WILL MAXIMUM SPEED.
- < AT 25K 3%~5% DUTY CYCLE, THE FAN WILL BE ABLE TO START FROM A DEAD STOP.
- < THE FAN SPEED CONTROL IS CLOSED-LOOP.

PWM CONTROL LEAD WIRE INPUT IMPEDANCE:



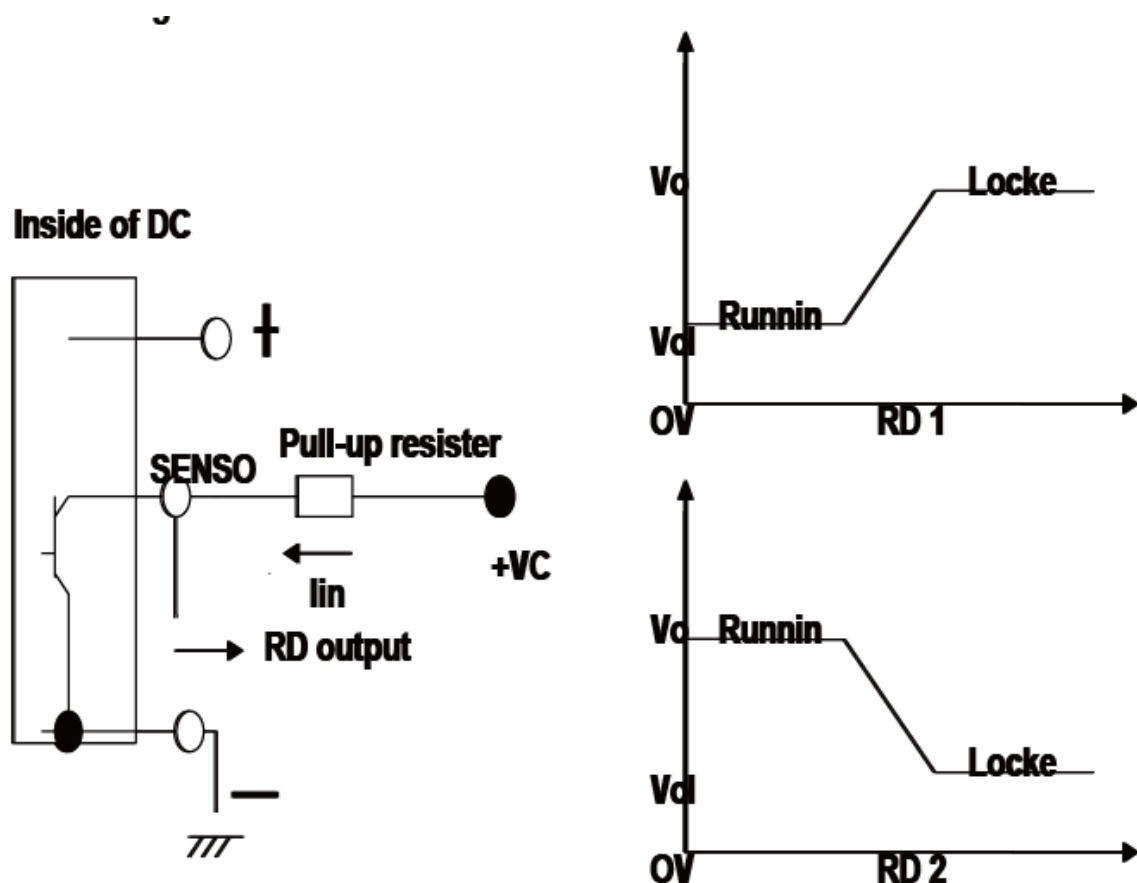
1. THE FAN SPEED WILL DEFAULT TO MAXIMUM WHEN THE SPEED CONTROL INPUT IS LEFT UNCON
2. ABSOLUTELY NO INTERNAL PULL-UP.NECTED.

Motor function introduction

RD (Alarm output) connection Diagram

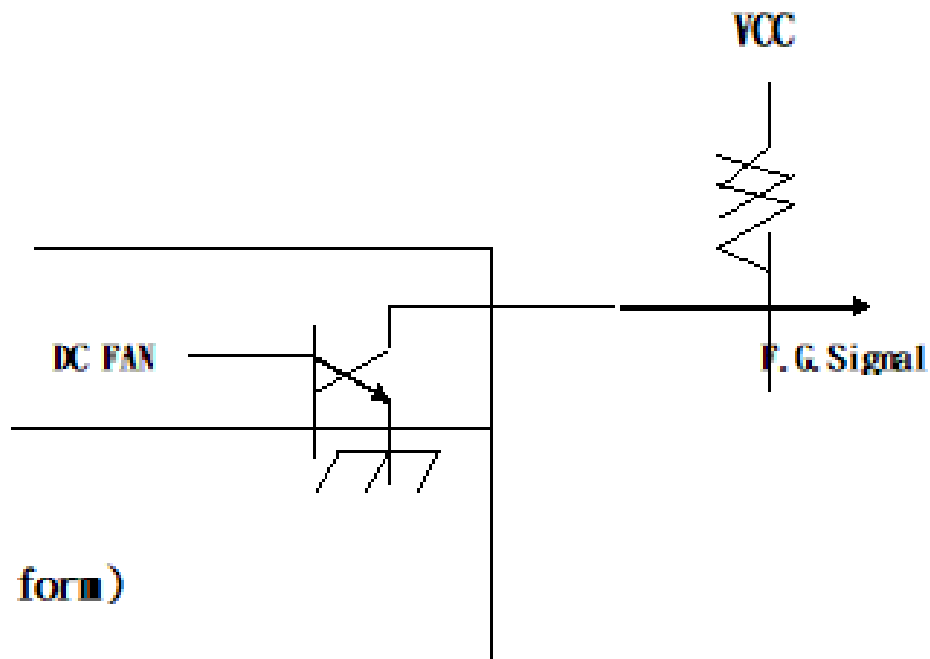
Some fan have RD extra function. There is a alarm signal output when fan stop work.

Please notice there are Two kinds of signal output. Different ustomer will need different alarm type. Please check the diagram below.

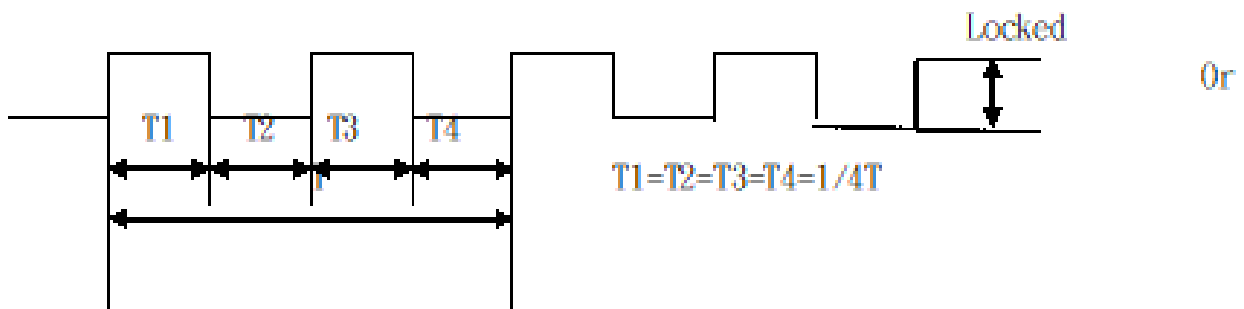


Motor function introduction

Frequency test mode



波形 (Wave form)



Or

MFL7020



Size : \varnothing 70 x 20 mm
 Bearing system: BALL, SLEEVE
 Frame: plastic PBT UL94V-0
 Impeller: plastic PBT UL94V-0
 Operating Temp :
 Sleeve: -10 ~ 70°C
 Life Expectancy
 BALL : 50,000 hours at 25°C
 SLEEVE : 25,000 hours at 25°C
 Weight: 12 g

Bearing system

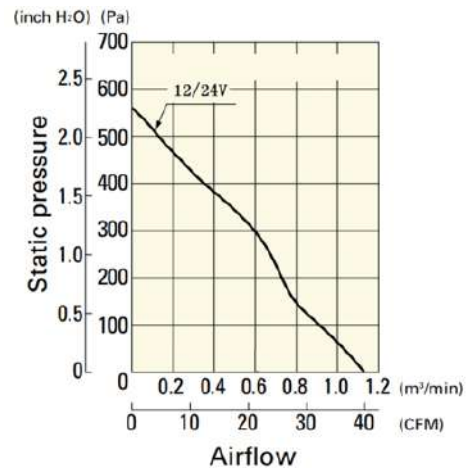
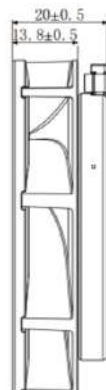
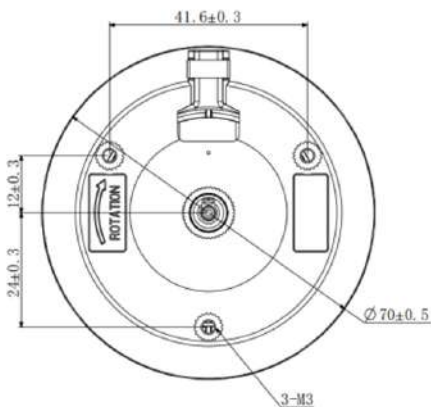
BALL	SLEEVE
●	●

Available Functions

FG	PWM	RD	LD
●	●	●	●

MODEL	Rated Voltage	Operating Voltage Range	Rated Current	Rated Input Power	Speed	Maximun Air Flow		Maximun Air Pressure		Noise
PART NO.	VDC	VDC	Amp	Watt	R.P.M	m3/min	CFM	mmH2O	INH2O	DB-A
MFL7020D1-MB	12	8 -13.5	0.9	10.8	9200	1.13	39.9	5.6	2.24	61
MFL7020D2-MB	24	18-26.5	0.45	10.8	9200	1.13	39.9	5.6	2.24	61

DIMENSIONS DRAWING & P&Q CURVE



MFL10025



Size : \emptyset 100 x 25 mm
 Bearing system: BALL, SLEEVE
 Frame: plastic PBT UL94V-0
 Impeller: plastic PBT UL94V-0
 Operating Temp :
 Sleeve: -10 ~ 70°C
 Life Expectancy
 BALL : 50,000 hours at 25°C
 SLEEVE : 25,000 hours at 25°C
 Weight: 121g

Bearing system

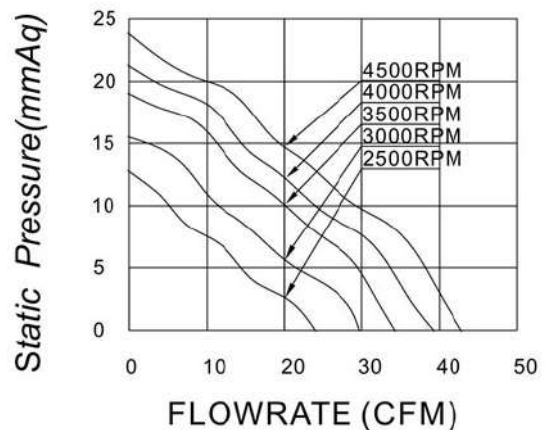
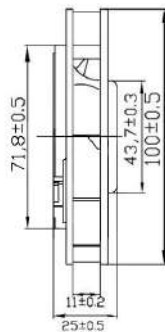
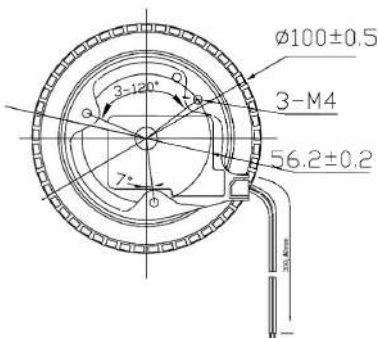
BALL	SLEEVE
●	●

Available Functions

FG	PWM	RD	LD
●	●	●	●

MODEL PART NO.	Rated Voltage	Operating Voltage Range	Rated Current	Rated Input Power	Speed	Maximun Air Flow		Maximun Air Pressure		Noise
	VDC	VDC	Amp	Watt	R.P.M	m3/min	CFM	mmH2O	INH2O	DB-A
MFL10025D1-L	12	7 ~ 13.5	0.12	1.44	2500	0.679	24.1	13.16	0.518	31
MFL10025D1-M			0.24	2.88	3000	0.814	29	15.79	0.622	37.2
MFL10025D1-H			0.3	3.6	3500	0.95	33.8	18.42	0.725	43.5
MFL10025D1-HH			0.4	4.8	4000	1.086	38.6	21.06	0.829	49.7
MFL10025D1-VH			0.53	6.36	4500	1.222	43.5	23.69	0.923	55.9
MFL10025D2-L	24	18 ~ 26.5	0.06	1.44	2500	0.679	24.1	13.16	0.518	31
MFL10025D2-M			0.12	2.88	3000	0.814	29	15.79	0.622	37.2
MFL10025D2-H			0.15	3.6	3500	0.95	33.8	18.42	0.725	43.5
MFL10025D2-HH			0.2	4.8	4000	1.086	38.6	21.06	0.829	49.7
MFL10025D2-VH			0.27	6.48	4500	1.222	43.5	23.69	0.923	55.9

DIMENSIONS DRAWING & P&Q CURVE



MFL12025



Size : Ø 120 x 25 mm
 Bearing system: BALL, SLEEVE
 Frame: plastic PBT UL94V-0
 Impeller: plastic PBT UL94V-0
 Operating Temp :
 Sleeve: -10 ~ 70°C
 Life Expectancy
 BALL : 50,000 hours at 25°C
 SLEEVE : 25,000 hours at 25°C
 Weight: 162 g

Bearing system

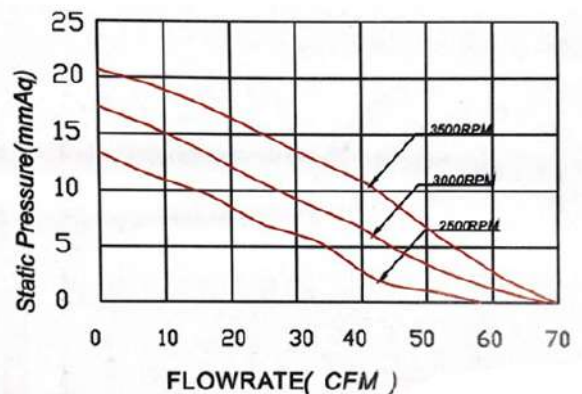
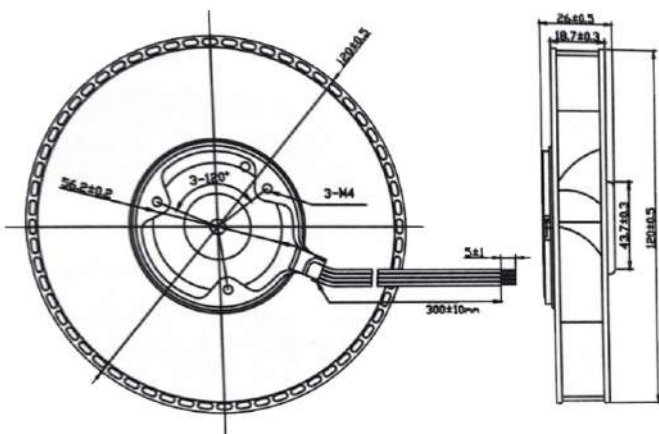
BALL	SLEEVE
●	●

Available Functions

FG	PWM	RD	LD
●	●	●	●

MODEL	Rated Voltage	Operating Voltage Range	Rated Current	Rated Input Power	Speed	Maximun Air Flow		Maximun Air Pressure		Noise
PART NO.	VDC	VDC	Amp	Watt	R.P.M	m3/min	CFM	mmH2O	INH2O	DB-A
MFL12025D1-M	12	7-13.5	0.4	4.8	2500	1.622	57.29	13.95	0.549	45
MFL12025D1-H			0.5	6	3000	1.929	68.14	17.74	0.698	49.6
MFL12025D1-HH			0.7	8.4	3500	1.973	69.69	21.18	0.833	53.5
MFL12025D2-M	24	18 ~ 26.5	0.25	6	2500	1.622	57.29	13.95	0.549	45
MFL12025D2-H			0.35	8.4	3000	1.929	68.14	17.74	0.698	49.6
MFL12025D2-HH			0.53	12.72	3500	1.973	69.69	21.18	0.833	53.5
MFL12025D4-M	48	36 ~ 54	0.15	7.2	2500	1.622	57.29	13.95	0.549	45
MFL12025D4-H			0.2	9.6	3000	1.929	68.14	17.74	0.698	49.6
MFL12025D4-HH			0.32	14.4	3500	1.973	69.69	21.18	0.833	53.5

DIMENSIONS DRAWING & P&Q CURVE



MFL12030



Size : Ø 120 x 30 mm
 Bearing system: BALL, SLEEVE
 Frame: plastic PBT UL94V-0
 Impeller: plastic PBT UL94V-0
 Operating Temp :
 Sleeve: -10 ~ 70°C
 Life Expectancy
 BALL : 50,000 hours at 25°C
 SLEEVE : 25,000 hours at 25°C
 Weight: 182 g

Bearing system

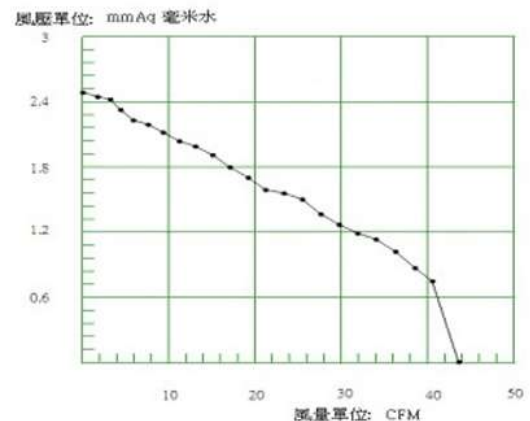
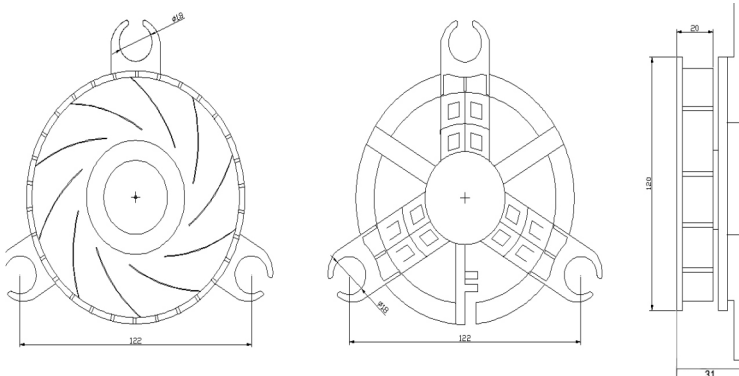
BALL	SLEEVE
●	●

Available Functions

FG	PWM	RD	LD
●	●	●	●

MODEL	Rated Voltage	Operating Voltage Range	Rated Current	Rated Input Power	Speed	Maximun Air Flow		Maximun Air Pressure		Noise
PART NO.	VDC	VDC	Amp	Watt	R.P.M	m3/min	CFM	mmH2O	INH2O	DB-A
MFL12030D1-MB	12	8 -13.5	0.74	8.88	3700	1.28	45.3	7.58	0.3	45
MFL12030D2-MB	24	18-26.5	0.38	8.88	3700	1.28	45.3	7.58	0.3	45

DIMENSIONS DRAWING & P&Q CURVE



MFL13391



Size : \varnothing 133 x 91 mm
 Bearing system: BALL, SLEEVE
 Frame: plastic PBT UL94V-0
 Impeller: plastic PBT UL94V-0
 Operating Temp :
 Sleeve: -10 ~ 70°C
 Life Expectancy
 BALL : 50,000 hours at 25°C
 SLEEVE : 25,000 hours at 25°C
 Weight: 132 g

Bearing system

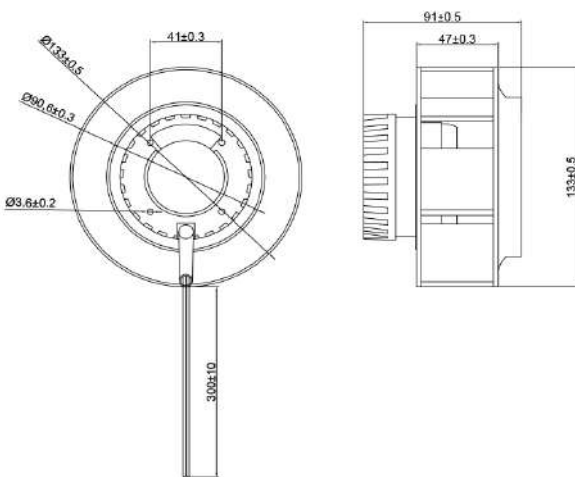
BALL	SLEEVE
●	●

Available Functions

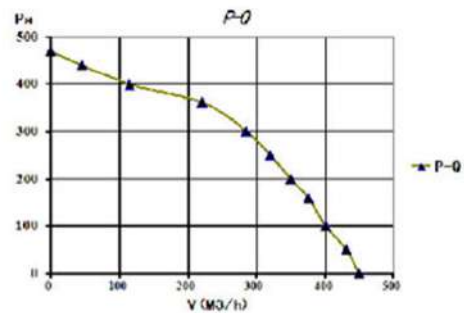
FG	PWM	RD	LD
●	●	●	●

MODEL	Rated Voltage	Operating Voltage Range	Rated Current	Rated Input Power	Speed	Maximun Air Flow		Maximun Air Pressure		Noise
PART NO.	VDC	VDC	Amp	Watt	R.P.M	m3/min	CFM	mmH2O	INH2O	DB-A
MFL13391D2-HB	24	18-26	1.1	26.4	3800	370	218	41.8	1.65	62.5
MFL13391D4-HB	48	44-52	0.6	28.8	3800	370	218	41.8	1.65	62.5

DIMENSIONS DRAWING & P&Q CURVE



Static Pressure(mmAq)



FLOWRATE (CFM)

MFL17569



Size : Ø 175 x 69 mm
 Bearing system: BALL, SLEEVE
 Frame: plastic PBT UL94V-0
 Impeller: plastic PBT UL94V-0
 Operating Temp :
 Sleeve: -10 ~ 70°C
 Life Expectancy
 BALL : 50,000 hours at 25°C
 SLEEVE : 25,000 hours at 25°C
 Weight: 900 g

Bearing system

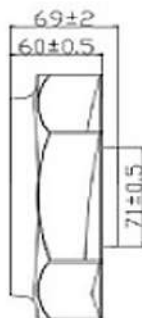
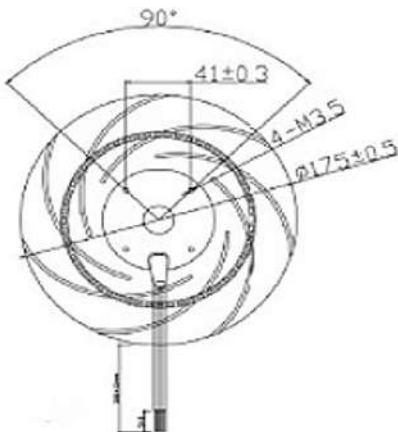
BALL	SLEEVE
●	●

Available Functions

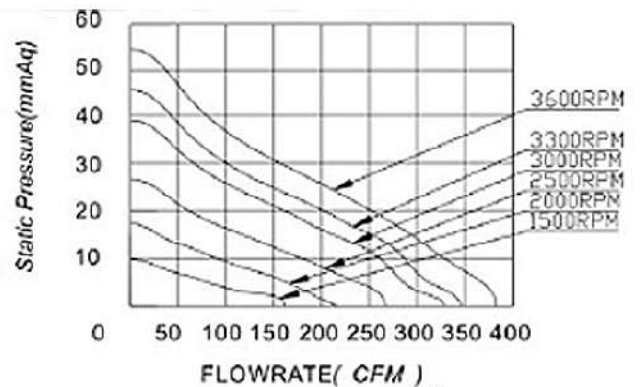
FG	PWM	RD	LD
●	●	●	●

MODEL	Rated Voltage	Operating Voltage Range	Rated Current	Rated Input Power	Speed	Maximum Air Flow		Maximum Air Pressure		Noise
PART NO.	VDC	VDC	Amp	Watt	R.P.M	m3/min	CFM	mmH2O	INH2O	DB-A
MFL17569D1-L	12	7~13.5	1	12	1500	4.56	161.3	9.87	0.38	41.8
MFL17569D1-M			1.3	15.6	2000	6.13	216.64	17.35	0.68	51.2
MFL17569D1-H			2.5	30	2500	7.53	266.35	26.6	1.04	57.2
MFL17569D1-HH			4	48	3000	9.27	327.6	38.95	1.53	61.2
MFL17569D1-VH			4.5	54	3300	9.78	345.68	45.28	1.78	64.1
MFL17569D1-HV			5	60	3600	10.83	382.75	53.8	2.11	65.8
MFL17569D2-L	24	18 ~ 26.5	0.5	12	1500	4.56	161.3	9.87	0.38	41.8
MFL17569D2-M			0.64	15.36	2000	6.13	216.64	17.35	0.68	51.2
MFL17569D2-H			1.05	25.2	2500	7.53	266.35	26.6	1.04	57.2
MFL17569D2-HH			1.7	40.8	3000	9.27	327.6	38.95	1.53	61.2
MFL17569D2-VH			2.2	52	3300	9.78	345.68	45.28	1.78	64.1
MFL17569D2-HV			2.7	64.8	3600	10.83	382.75	53.8	2.11	65.8
MFL17569D4-L	48	36 ~ 54	0.25	12	1500	4.56	161.3	9.87	0.38	41.8
MFL17569D4-M			0.5	24	2000	6.13	216.64	17.35	0.68	51.2
MFL17569D4-H			0.75	36	2500	7.53	266.35	26.6	1.04	57.2
MFL17569D4-HH			1	48	3000	9.27	327.6	38.95	1.53	61.2
MFL17569D4-VH			1.25	60	3300	9.78	345.68	45.28	1.78	64.1
MFL17569D4-HV			1.5	72	3600	10.83	382.75	53.8	2.11	65.8

DIMENSIONS DRAWING & P&Q CURVE



UNIT: $\frac{mm}{(INCH)}$



MFL22599



Size : Ø 225 x 99 mm
 Bearing system: BALL, SLEEVE
 Frame: plastic PBT UL94V-0
 Impeller: plastic PBT UL94V-0
 Operating Temp :
 Sleeve: -10 ~ 70°C
 Life Expectancy
 BALL : 50,000 hours at 25°C
 SLEEVE : 25,000 hours at 25°C
 Weight: 1300 g

Bearing system

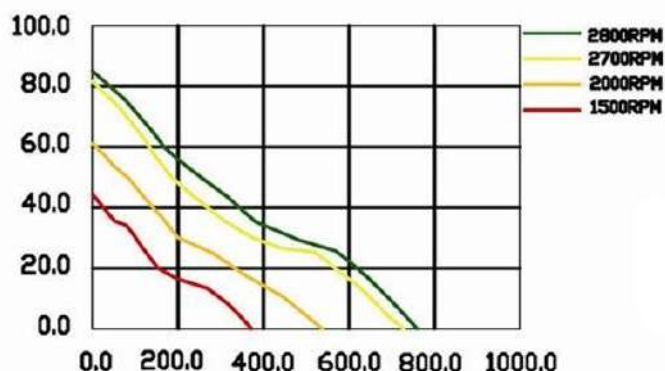
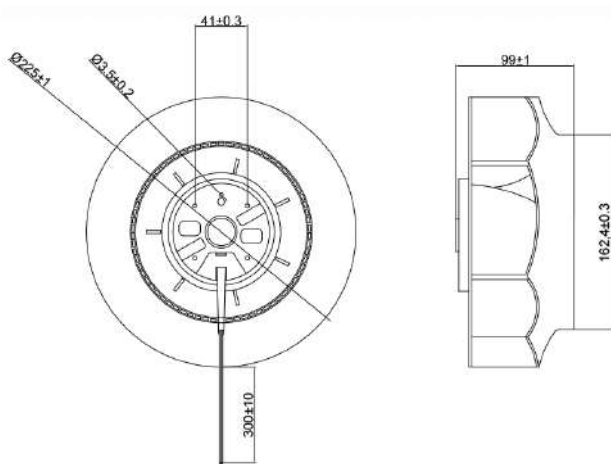
BALL	SLEEVE
●	●

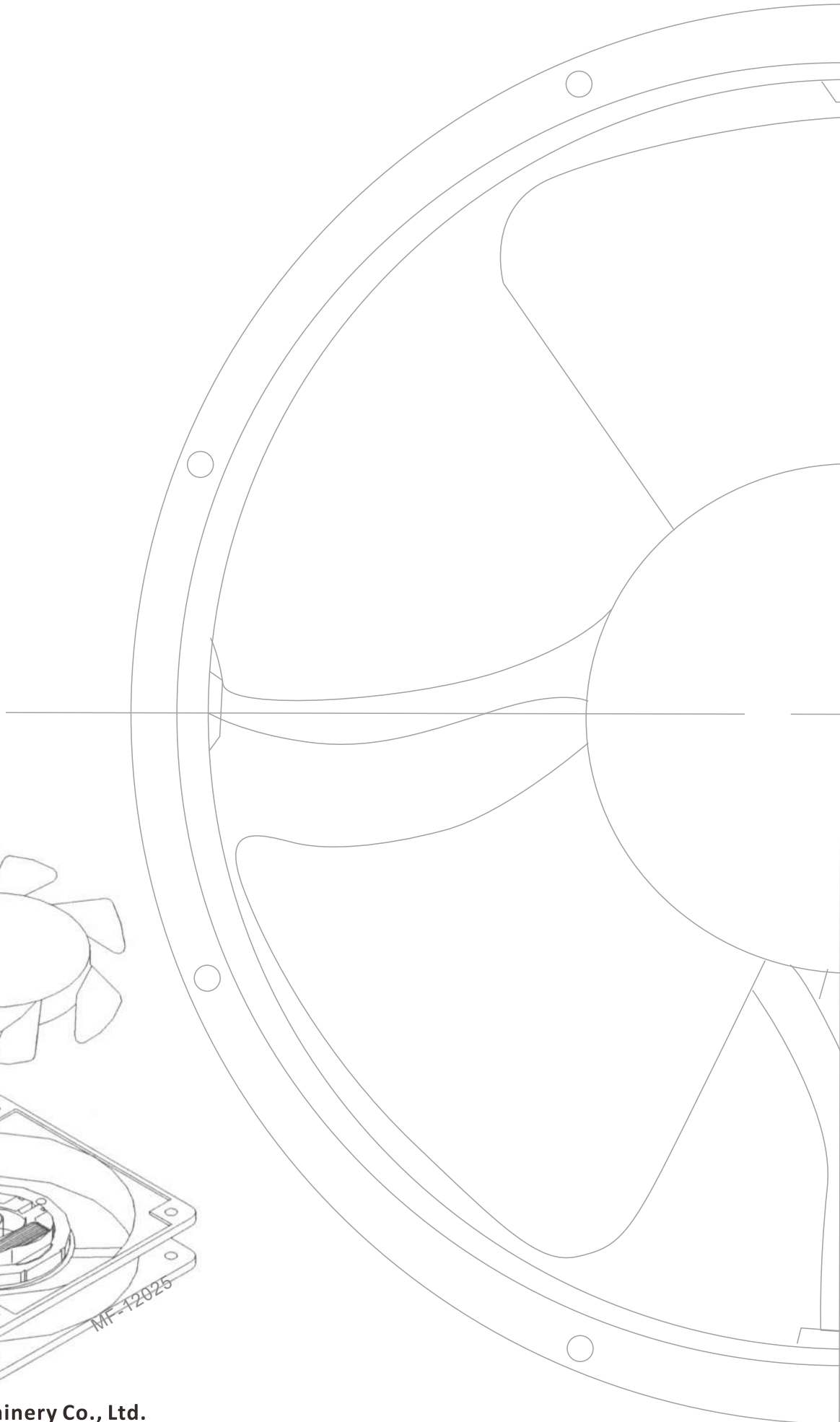
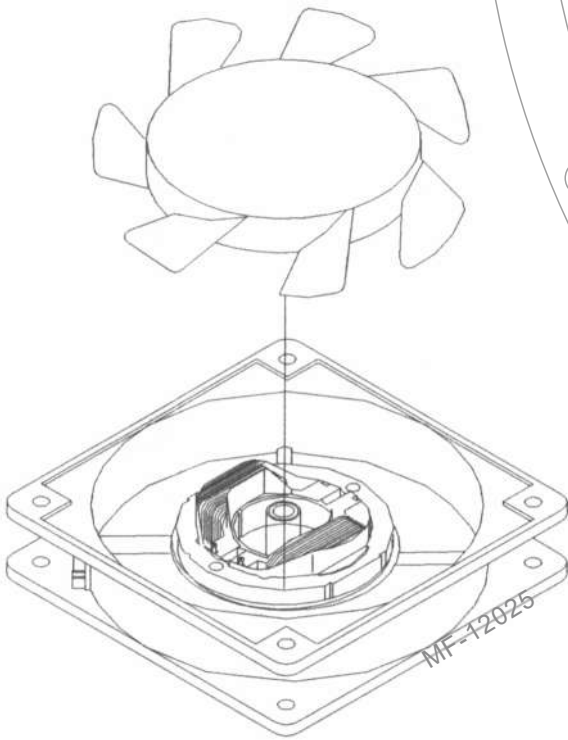
Available Functions

FG	PWM	RD	LD
●	●	●	●

MODEL	Rated Voltage	Operating Voltage Range	Rated Current	Rated Input Power	Speed	Maximun Air Flow		Maximun Air Pressure		Noise
PART NO.	VDC	VDC	Amp	Watt	R.P.M	m3/min	CFM	mmH2O	INH2O	DB-A
MFL22599D2-L	24	18 ~ 26.5	4.2	100.8	1500	639.6	376.7	45.4	1.78	37.9
MFL22599D2-M			5.5	132	2000	852.8	502.3	60.5	2.38	50.5
MFL22599D2-H			7	168	2800	1193.9	703.2	84.7	3.33	70.7
MFL22599D4-L	48	36 ~ 54	2	96	1500	639.6	376.7	45.4	1.78	37.98
MFL22599D4-M			2.8	134.4	2000	852.8	502.3	60.5	2.38	50.5
MFL22599D4-H			3.8	182.4	2700	1151.3	678.7	81.7	3.21	68.2

DIMENSIONS DRAWING & P&Q CURVE





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