EC Backward Centrifugal Fan

LWBE3G175-072PS-03

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G175-072PS-03
Version Number:	A0
Make :	Jin
Review :	Zhong
Approvd :	Yao/Jiang
Date:	2023.06.25

技术专用
朗伟电器

Version number	Notes Remarks	Reason content	Revised by	Date

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Nominal Data

Project1	Unit	Rating
Nominal Voltage :	[VAC]	230
Voltage Range :	[VAC]	176~264
Frequency :	[Hz]	50/60
Speed :	[rpm]	4400
Current :	[A]	0.9
Power input :	[W]	115
Air flow (Max) :	[m3/h]	700
	[CFM]	412
Static pressure (Max) :	[Pa]	803
Noise level (LpA):	dB(A)	74
Max.ambient Temp :	℃	60
Min.ambient Temp :	℃	-25
Insulation Class :		Class B
Protection Type :		IP55
Work system :		S1

Technical Features

Production Reference standard	GB12350《Safety requirements of small power motors》 JB/T10563 《technical specification for general purposes centrifugal fans》 EN60335-1《Household and similar electrical appliances-safety》 ISO5801-1997《Industrial fans-performance testing using standardized airways》 GB/T2888《Methods of Noise Measurement for Fans Blowers Compressors and Roots Blowers》
Certification	CE ETL (UL 507:2017 Ed.10+R:27May2020，CSA C22.2#113:2018 Ed.11)
Environmental protection	RoHS、Reach

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Technical Features

Service environment	Operating temperature：-25~60℃；Operating humidity：5 ~ 90 % RH Storing temperature：-40 ~ 80℃；Storing humidity：≤95 % RH Applicable altitude range：＜1000m
Life Expectance	40,000Hours(L10)，At 40℃ room, humidity 15%~65%RH.
Balancing	According to JB/T 9101-1999 requirements G6.3
Vibration of the fan	Test method accord with JB/T 8689
Installation method	Horizontal or vertical installation
Material	PA6+GF30% （Impeller）
Bearing	Maintenance-free deep groove ball bearings
Weight	APPROX 2.8 (Kg)

Electrical Protection

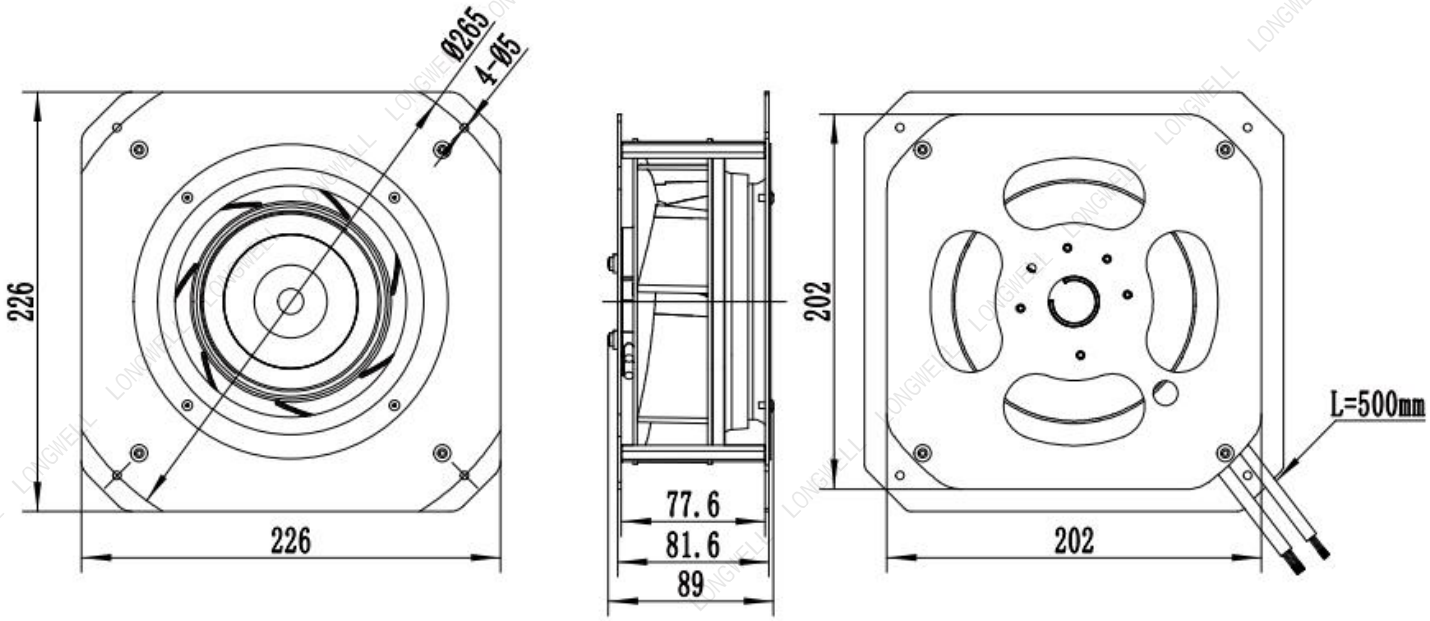
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal Output	Tach output：2 Pulse/R；FG internal open circuit output, external pull-up resistor R, pull-up voltage V+
Auxiliary power output	Output 10VDC，Max Current 10mA
Protection	Current limiting protection 、Over-temperature protection、Over-current protection Locked-rotor protection
Soft start	Delay time <10 seconds to full speed
Serial Communication	/

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Product Drawing

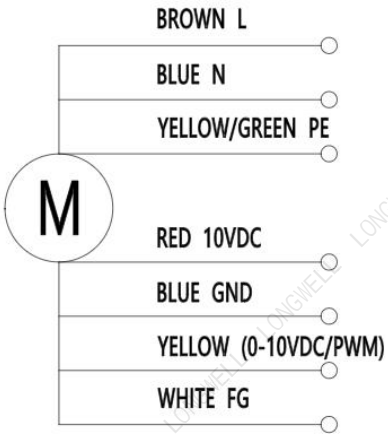


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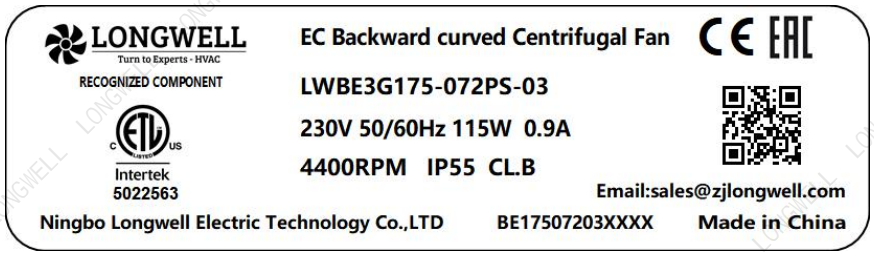
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Wiring Diagram



L	Color	Function	Functional description
L1	Brown	L	Live line
	Blue	N	Naught line
	Yellow/Green	PE	Ground lead
L2	Red	+10VDC	Fixed voltage output 10VDC,≦10mA
	Blue	GND	Ground reference end of control signal
	Yellow	Speed Control	Speed regulation signal input terminal,0-10VDC voltage /PWM
	White	FG	Speed feedback pulse output

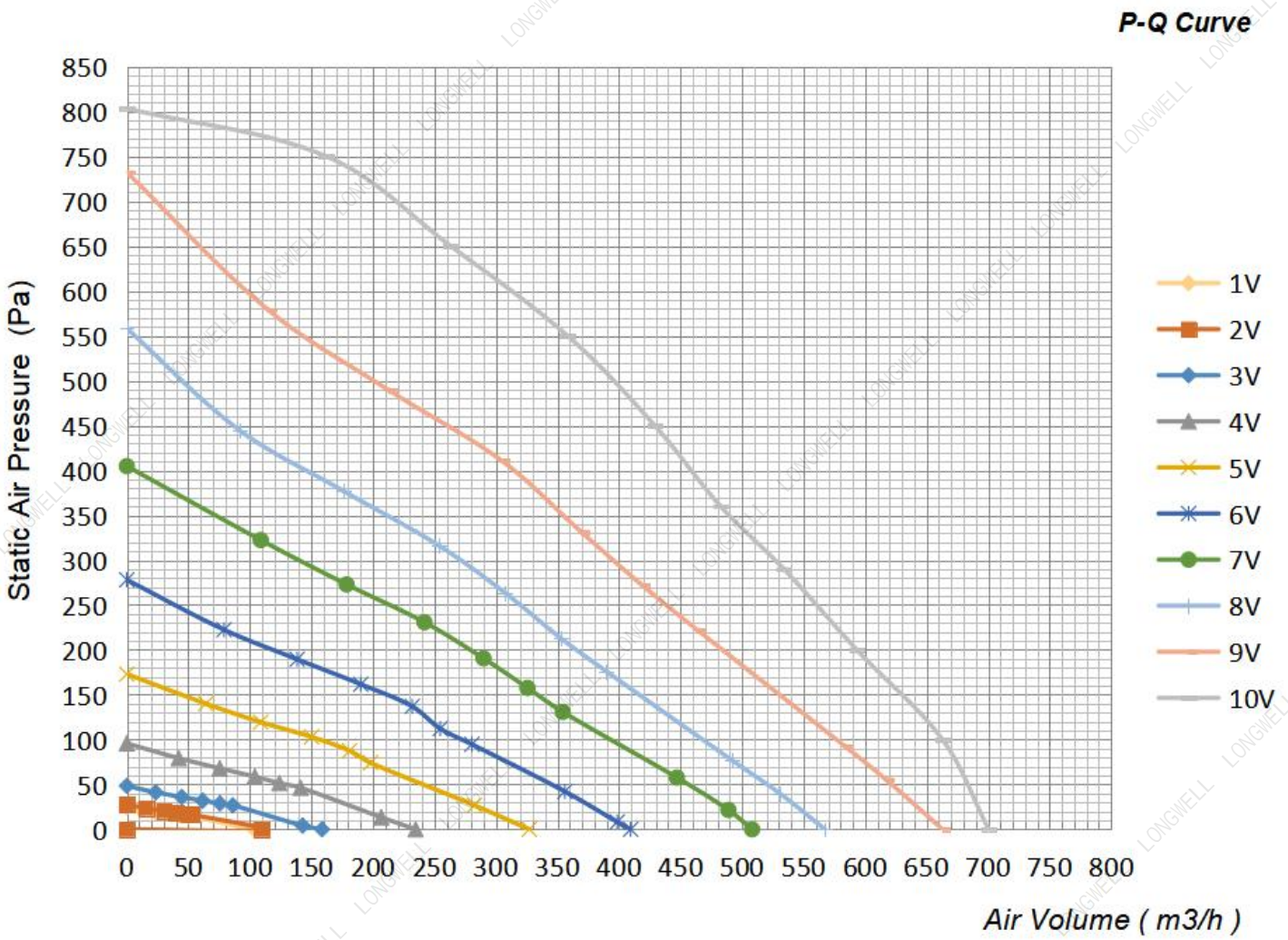
Label



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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
10V	4888	111	0	803
	4275	111	162	750
	4208	111	263	650
	4217	113	358	550
	4175	113	429	450
	4275	113	483	360
	4296	113	534	290
	4471	115	593	200
	4600	115	663	100
	4700	117	700	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	4488	86	0	732
	3988	87	115	579
	3925	86	213	489
	3904	86	305	411
	3888	86	369	332
	3933	86	419	272
	4058	86	464	221
	4271	86	584	93
	4346	86	617	56
	4446	86	663	0
8V	3917	59	0	558
	3488	59	91	445
	3413	59	176	377
	3392	60	254	316
	3396	60	307	264
	3433	59	352	213
	3517	59	390	176
	3733	59	492	77
	3750	59	531	40
	3863	59	567	0
7V	3346	38	0	393
	2996	38	106	313
	2913	38	173	265
	2896	38	235	224
	2879	38	281	185
	2925	38	316	153
	2988	38	344	127
	3167	38	434	56
	3213	38	475	21
	3242	38	493	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2733	24	0	278
	2475	24	79	222
	2400	24	138	190
	2421	24	190	162
	2438	24	232	137
	2417	24	255	112
	2463	24	280	95
	2588	24	356	42
	2667	24	399	8
	2688	24	409	0
5V	2175	14	0	173
	1954	14	64	140
	1900	14	109	119
	1896	14	150	103
	1917	14	181	88
	1888	14	198	74
	2029	14	282	27
	2113	14	327	0
4V	1613	8	0	96
	1471	8	42	79
	1429	9	76	68
	1425	9	104	59
	1425	8	124	52
	1446	8	141	46
	1529	8	207	13
	1571	8	235	0
3V	1133	5	0	48
	1038	6	24	41
	1013	6	45	36
	1017	5	62	32
	1017	6	76	29
	1021	5	86	27
	1071	5	143	4
	1096	5	159	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	833	5	0	28
	775	4	16	24
	771	4	30	21
	771	4	40	19
	758	5	49	16
	767	4	53	16
	825	4	110	0
1V	788	4	0	25
	750	5	12	22
	729	4	24	19
	742	4	37	16
	725	5	43	15
	733	4	51	14
	771	5	103	0

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Warning:

1.The fan and motor must be used within the prescribed scope of temperature and humidity otherwise it will cause an unexpected damage.

2. Fan is not set wrong connection protection，Provide the right voltage and line sequence according to the nameplate otherwise it will damage the product.

3. Wiring depends on the wiring diagram and please connect the earth ground if required. We don't suggest to use the extension cord .Any wrong connection may cause the damage of the fan.

4. Be careful when moving the fan and do not take the blades as a handle because it will cause the distortion and chatter.

5. Connect the thermostat if required otherwise it would damage the motor because of the over temperature.

6. The length of the mounting screws shall not exceed the requirement, otherwise the fan will be damaged.

7. Do not disassemble the fan arbitrarily. It may hurt the capacity of water tightness and dynamic balance or cause other serious problems.

8. The over current protector is necessary in case the damage from the over current.

9. Install the fan as required, any other installing direction would affect the service life of the product.

10. The fan with inlet ring should be installed follow the requirements or it will affect the performance.

11. Users should use the standard cable when install the fan otherwise it will affect the water tightness.

12. The fan should keep away from the children especially the blade and electric parts .And the children are not allowed to operate the fan alone.

13. Do not connect the white signal cable directly to the red signal cable or the external DC power supply. Otherwise, the fan may be damaged.T

14.Please do not perform extraction and insertion of the connector under revolution irrespective of power on and power on and power off , and the fan should not touch or move when running.

15. Do not lift the fan wire when taking the fan, and do not impact the bearing during the handling process.

16. The version change may not be notified, please ask our company for the latest version when necessary.

17.Please be informed that we are not responsible for any damage or accidents caused by violating above rules to install and operate the fan.

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Approval

CUSTOMER APPROVAL

CUSTOMER SIGNATURE:	DATE :

Product Data Confirm :

Speed Control System :

☐ PWM ☐ 0-10V

Accessories:

☐ Air Inlet Cone ☐ Pressure nozzle ☐ Custom wire length

Note :Please check and mark the data when you sign the specification sheet .

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