EC Backward Centrifugal Fan

LWBE3G175-072PS-05

Ningbo Longwell Electric Technology CO.,LTD

NO.100, Ditang District ,Yuyao,Zhejiang Province,China 315400

Phone 86 574 6218 9863

Fax 86 574 6218 9863

sales@zjlongwell.com

www.longwellfans.com



Model No.:	LWBE3G175-072PS-05
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

EC Backward Centrifugal Fan

LWBE3G175-072PS-05

Nominal Data

Project1	Unit	Rating
Nominal Voltage :	[VAC]	230
Voltage Range :	[VAC]	176~264
Frequency :	[Hz]	50/60
Speed :	[rpm]	4800
Current :	[A]	1.09
Power input :	[W]	155
Air flow (Max) :	[m3/h]	700
	[CFM]	412
Static pressure (Max) :	[Pa]	876
Noise level (LpA):	dB(A)	75
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

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan

LWBE3G175-072PS-05

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 2.9 (Kg)

Electrical Protection

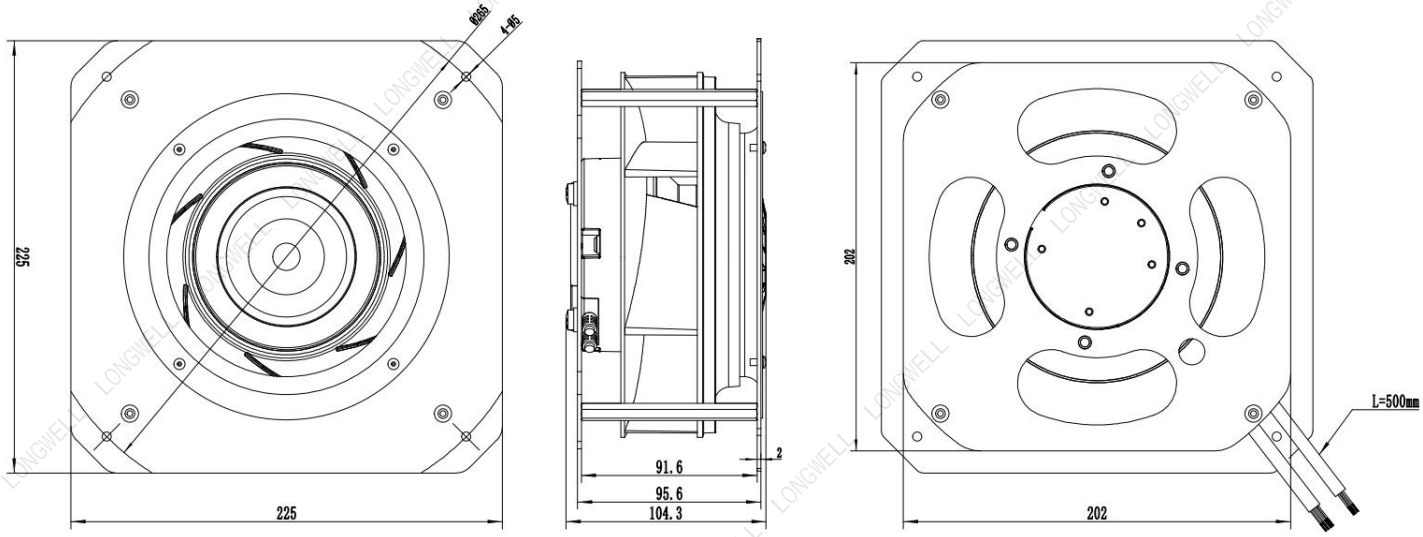
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal 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 <15 seconds to full speed
Serial Communication	/

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan

LWBE3G175-072PS-05

Product Drawing

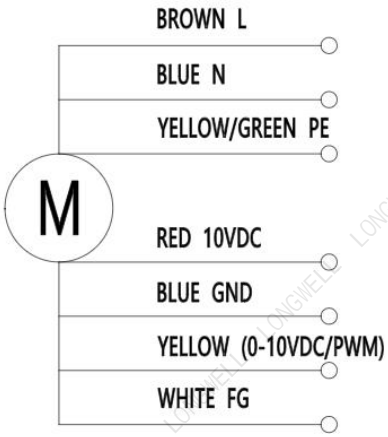


NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan

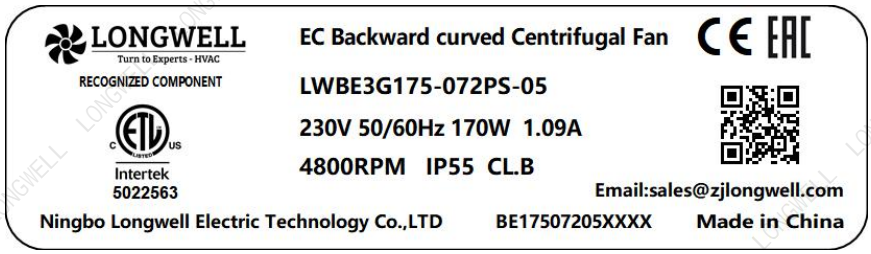
LWBE3G175-072PS-05

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

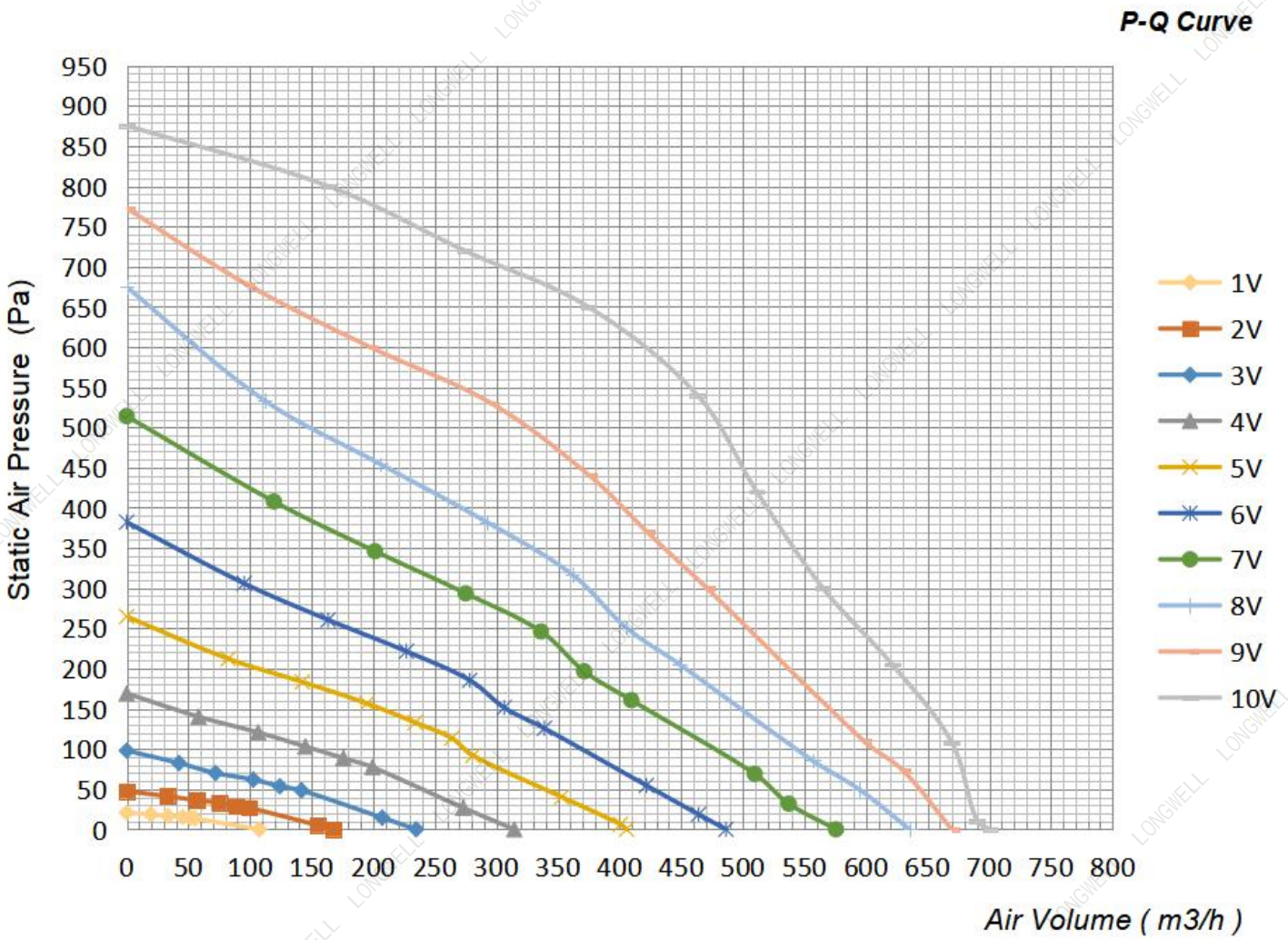
Label



EC Backward Centrifugal Fan

LWBE3G175-072PS-05

Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
10V	5000	146	0	876
	4633	157	164	800
	4429	159	274	720
	4442	159	375	650
	4500	155	463	540
	4442	155	511	420
	4475	155	565	300
	4617	155	621	205
	4754	161	670	108
	4921	166	690	10
	4938	159	700	0

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan

LWBE3G175-072PS-05

VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	4892	108	0	773
	4417	108	92	679
	4254	108	188	600
	4225	108	282	530
	4250	108	358	440
	4183	109	402	370
	4267	109	448	300
	4508	109	569	110
	4567	108	600	73
	4679	108	651	0
8V	4358	79	0	675
	3913	80	112	534
	3800	80	206	454
	3792	79	292	382
	3813	79	361	317
	3742	80	405	251
	3813	79	449	205
	4013	79	557	85
	4092	80	595	49
	4183	80	635	0
7V	3788	56	0	514
	3433	56	119	408
	3321	56	201	346
	3308	56	275	294
	3329	56	336	246
	3263	56	371	197
	3329	56	409	161
	3475	56	510	69
	3563	56	537	32
	3638	56	576	0

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan

LWBE3G175-072PS-05

VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	3238	39	0	382
	2950	39	95	306
	2883	39	163	261
	2838	39	227	221
	2858	39	278	185
	2808	39	306	151
	2842	39	339	126
	3004	39	422	55
	3054	39	464	19
	3129	39	486	0
5V	2708	26	0	265
	2467	26	82	212
	2388	26	143	183
	2367	26	195	157
	2383	26	234	133
	2400	25	264	113
	2371	26	281	92
	2488	25	353	40
	2575	26	401	6
	2588	26	406	0
4V	2163	16	0	169
	1996	16	58	140
	1921	16	107	121
	1908	16	145	103
	1921	16	176	89
	1938	16	199	77
	1992	16	273	27
	2083	16	315	0
3V	1638	10	0	98
	1529	11	42	82
	1467	10	72	70
	1454	10	103	62
	1471	10	124	54
	1463	11	142	48
	1521	11	207	14
	1563	11	235	0

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan

LWBE3G175-072PS-05

VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	1142	7	0	47
	1083	7	33	41
	1046	7	57	36
	1038	7	75	33
	1038	7	89	29
	1054	6	99	27
	1088	6	155	5
	1108	6	168	0
1V	742	5	0	21
	721	5	20	19
	671	4	34	16
	758	5	46	15
	742	5	52	14
	654	5	55	13
	775	5	108	0

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan

LWBE3G175-072PS-05

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.

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com

EC Backward Centrifugal Fan	LWBE3G175-072PS-05

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 .

NINGBO LONGWELL ELECTRIC TECHNOLOGY CO.,LTD
Phone: 0086 574 6218 9863 FAX : 0086 574 6218 9863 www.longwellfans.com sales@zjlongwell.com