EC Backward Centrifugal Fan

LWBE3G450-138PT-04

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G450-138PT-04
Version Number:	A0
Make :	Zhong
Review :	Jiang
Approvd :	Yao
Date:	2023.11.09

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	Value
Nominal Voltage	[VAC]	3-380
Voltage Range	[VAC]	304~456
Frequency	[Hz]	50/60
Speed	[rpm]	1720±5%
Rated Current	[A]	3.4±10%
Rated Power	[W]	910±10%
Maximum Input Power	[W]	1350±10%
Air Flow (Max)	[m3/h]	7828
	[CFM]	4605
Static Pressure (Max)	[Pa]	824
Noise Level (LpAin)	dB(A)	79
Max.Ambient Temp	℃	60
Min.Ambient Temp	℃	-25
Insulation Class		Class F
Protection Type		IP54
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
Environmental Protection	RoHS, Reach

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Technical Features

Service Environment	Operating temperature: -25~60℃ ; Operating humidity: 0 ~ 85% RH Storing temperature: -25 ~ 70℃ ; Storing humidity: 0 ~ 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	Aluminum Alloy (Impeller)
Bearing	Maintenance-free deep groove ball bearings
Weight	/

Electrical Protection

Speed Control	Control input 0~10VDC(RS485 external control box can be connected)
VSP Control	Control signal VSP voltage range 1.5±0.1VDC~9.5±0.2VDC (During normal operation, when the VSP voltage is below 0.9±0.1VDC, the motor switches from operating mode to standby mode)
Signal Output	Tach output: 15Pulse/R; FG internal open circuit output, external pull-up resistor R, pull-up voltage V+
Auxiliary Power Output	Output 10±0.3VDC, Max Current: 10mA
Protection	Current limiting protection, Over-temperature protection, Over-current protection Locked-rotor protection, Input power supply lacks phase protection
Soft Start	Delay time <30 seconds to full speed
Serial Communication	LWRS485-04

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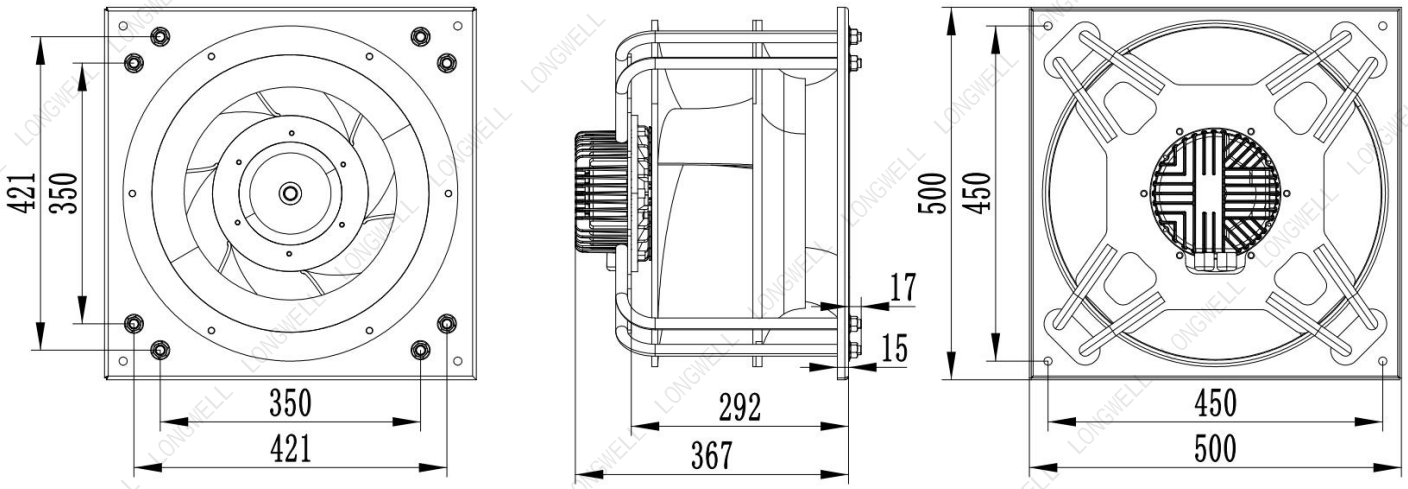
Product Drawing



Note: The default line length is 1.2m.

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Wiring Diagram

L	Color	Function	Functional description	AWG
L1	Yellow/Green	PE	Ground lead	UL21412 16AWG
	Brown	U	Three-phase power supply terminal Voltage	
	Black	V		
	Blue	W		
L2	Orange	Speed Control	Speed regulation signal input terminal,0-10VDC voltage	UL2464 20AWG
	Brown	FG	Velocity feedback pulse output 15 Pulse/R	
	Red	+10VDC	Fixed voltage output 10VDC	
	Black	GND	Ground reference end of control signal	

Label

Confirm by sales team when placing sample order or bulk order

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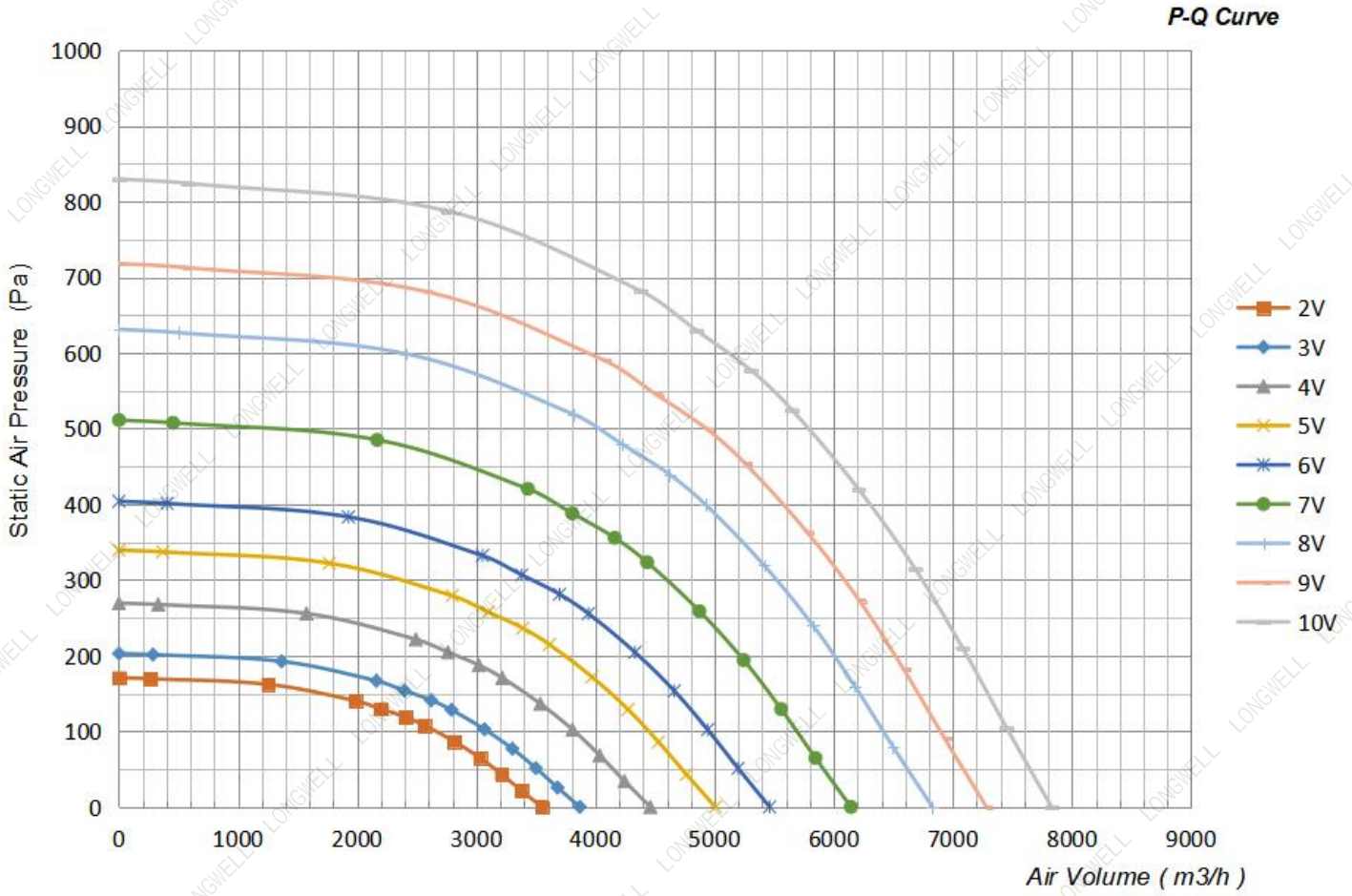
Charts :Air Flow (P-Q)



VSP	Voltage (V)	Power Input (W)	Speed (RPM)	Airflow (m^3 /h)	Static Pressure (Pa)
10V	380	910	1720	7828	0
	380	1009	1720	7449	105
	380	1130	1720	7081	210
	380	1202	1720	6681	315
	380	1293	1720	6208	420
	380	1300	1720	5648	525
	380	1339	1720	5301	578
	380	1326	1720	4847	630
	380	1298	1720	4373	683
	380	1091	1720	2762	788
	380	547	1720	578	815
	380	540	1720	0	824

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VSP	Voltage (V)	Power Input (W)	Speed (RPM)	Airflow (m^3 /h)	Static Pressure (Pa)
9V	380	733	1600	7282	0
	380	812	1600	6929	91
	380	910	1600	6587	182
	380	968	1600	6215	273
	380	1041	1600	5775	363
	380	1046	1600	5254	454
	380	1078	1600	4932	500
	380	1067	1600	4509	545
	380	1045	1600	4068	591
	380	878	1600	2569	681
	380	440	1600	537	713
	380	435	1600	0	718
8V	380	604	1500	6827	0
	380	669	1500	6496	80
	380	749	1500	6175	160
	380	797	1500	5827	240
	380	858	1500	5414	319
	380	862	1500	4926	399
	380	888	1500	4623	439
	380	879	1500	4227	479
	380	861	1500	3814	519
	380	724	1500	2408	599
	380	363	1500	504	627
	380	358	1500	0	631
7V	380	440	1350	6144	0
	380	488	1350	5846	65
	380	546	1350	5558	129
	380	581	1350	5244	194
	380	625	1350	4872	259
	380	629	1350	4433	323
	380	647	1350	4161	356
	380	641	1350	3804	388
	380	628	1350	3432	420
	380	528	1350	2167	485
	380	264	1350	453	508
	380	261	1350	0	511

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VSP	Voltage (V)	Power Input (W)	Speed (RPM)	Airflow (m^3 /h)	Static Pressure (Pa)
6V	380	309	1200	5461	0
	380	343	1200	5197	51
	380	384	1200	4940	102
	380	408	1200	4661	153
	380	439	1200	4331	204
	380	441	1200	3940	256
	380	455	1200	3699	281
	380	450	1200	3381	307
	380	441	1200	3051	332
	380	370	1200	1927	383
	380	186	1200	403	401
	380	183	1200	0	404
5V	380	238	1100	5006	0
	380	264	1100	4764	43
	380	296	1100	4529	86
	380	314	1100	4273	129
	380	338	1100	3970	172
	380	340	1100	3612	215
	380	350	1100	3390	236
	380	347	1100	3100	258
	380	340	1100	2797	279
	380	285	1100	1766	322
	380	143	1100	369	337
	380	141	1100	0	339
4V	380	168	980	4460	0
	380	187	980	4244	34
	380	209	980	4035	68
	380	222	980	3807	102
	380	239	980	3537	136
	380	240	980	3218	170
	380	248	980	3021	187
	380	245	980	2762	205
	380	240	980	2492	222
	380	202	980	1573	256
	380	101	980	329	268
	380	100	980	0	269

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VSP	Voltage (V)	Power Input (W)	Speed (RPM)	Airflow (m^3 /h)	Static Pressure (Pa)
3V	380	110	850	3868	0
	380	122	850	3681	26
	380	136	850	3499	51
	380	145	850	3302	77
	380	156	850	3068	103
	380	157	850	2791	128
	380	162	850	2620	141
	380	160	850	2395	154
	380	157	850	2161	167
	380	132	850	1365	192
	380	66	850	285	201
	380	65	850	0	203
2V	380	85	780	3550	0
	380	94	780	3378	22
	380	105	780	3211	43
	380	112	780	3030	65
	380	121	780	2815	86
	380	121	780	2561	108
	380	125	780	2404	119
	380	124	780	2198	130
	380	121	780	1983	140
	380	102	780	1252	162
	380	51	780	262	170
	380	50	780	0	171

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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:

☐ 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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