



EC centrifugal fans

Products guide

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YEN SUN TECHNOLOGY CORPORATION

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About Y.S. TECH

Vision and core technology

YEN SUN TECHNOLOGY was established in 1987, a professional manufacturer and innovator of electronics thermal and ventilation total solution. The core technology provides series of application integration which combining electromagnetism, intelligent motor control, fluid dynamic, heat transfer, psycho-acoustics, vibration, material science and analytical mechanics. Those application, services and project planning include but not limited to green energy, power electronics, high-end industry, 5G and especially automotive. Based on mentioned core technology, Y.S. TECH acquired more than 800 patents all over the world. Y.S. TECH endeavors to achieve high performance and reliability for centrifugal and axial brushless DC and EC cooling fan globally with the brand of "Y.S. TECH", and is ambitiously to become Your Best Partner @ Cooling & Ventilation.

Quality policy

For sure we are dedicated to the continuous improvement of processes through maintaining and expanding all relevant certification such as IATF 16949, ISO 9001, ISO 14001; and maintaining our status as tier one automotive and excellent HVACR supplier. We shall provide the best user experience by Y.S. TECH's quality excellence.

Sustainability approach

Our corporate philosophy integrates the responsibility for the environment, for the society and for our employees. Y.S. TECH dedicates to using lean and best manufacturing practices to reduce waste and improve efficiency. Regarding the health and safety policy, Y.S. TECH, an OHSAS 18001 / ISO 45001 certified company, devoting ourselves to promote the physical and mental health of employees. We are committed to develop continuous effort in risk prevention and mistake-proof to change perceptions and raise awareness of team.

Culture, work life and career

Teamwork, openness, straightforward, sharing, self-motivating and supporting are the key words that describe the culture and work life of Y.S. TECH team. Through those fundamentals, we are able to collectively provide excellence and value to all the customers.



EC products overview

EC centrifugal fan with 72 diameter motor

Wheel ϕ	Wheel type	Mounting type / Mechanical	Voltage range (VAC)	Input power (W)	Model number	Speed control	Page
133	Backward	Ring mount $\phi 105$ / Rear mount $\phi 58$	200-240 or 100~140	108	QV213341HBL-7A2 QV113341HBL-7A2	0~10VDC control / PWM control	6
175				110	QV217542HBL-7A2 QV117542HBL-7A2		7
190				106	QV219045HBL-7A2 QV119045HBL-7A2		8
225				70	QV222563HBL-7A2 QV122563HBL-7A2		9
108	Forward			108	WV210851HBL-7A2 WV110851HBL-7A2		14
120				108	WV212061HBL-7A2 WV112061HBL-7A2		15
133				106	WV213362HBL-7A2 WV113362HBL-7A2		16
140				109	WV214059HBL-7A2 WV114059HBL-7A2		17

EC centrifugal fan with 92 diameter motor

Wheel ϕ	Wheel type	Mounting type / Mechanical	Voltage range (VAC)	Input power (W)	Model number	Speed control	Page
225	Backward	Ring mount $\phi 125$ / Rear mount $\phi 58$	200-240 or 100~140	158	QV222563HBL-9A2 QV122563HBL-9A2	0~10VDC control / PWM control	10
250			200-240 or 100~140	155	QV225057MBL-9A2 QV125057MBL-9A2		11
280			200-240 or 100~140	160	QV228080MBL-9A2 QV128080MBL-9A2		12
310			200-240 or 100~140	140	QV2310A0MBL-9A2 QV1310A0MBL-9A2		13
160	Forward		200-240 or 100~140	195	WV216062HBL-9A2 WV116062HBL-9A2		18
180			200-240 or 100~140	180	WV218092HBL-9A2 WV218092HBL-9A2		19

Fan numbering criteria

EC centrifugal fan numbering criteria

Code	Q	V	2	225	63	H	B	L	—	7	Suffix
Description	Product code	AC or DC power in	Voltage range	Wheel diameter	Air outlet height	Speed	Bearing type	Terminal type		Motor shell diameter	
Criteria	Q: Backward curved B: Blower with forward curved installed W: Forward curved	D: DC V: AC to DC	DC: 1: 12V; 2: 24V; 4: 48V AC to DC: 1: 90~130V; 2: 200~240V	133: ϕ 133; 175: ϕ 175; 190: ϕ 190; 280: ϕ 280; 310: ϕ 310; and so on	42: 42mm; 63: 63mm; 75: 75mm; A0: 100mm, B0: 110mm; C5: 125mm; and so on	L: Low; M: Medium; H: High; E: Extra U: Ultimate; S: Super	B: 2B bearing; H: HBD	L: Bare wire; T: Terminal	Dash	7: ϕ 72; 9: ϕ 92; A: ϕ 102	*Note 1

*Note 1

Suffix: ($\begin{matrix} a \\ A \end{matrix}$ $\begin{matrix} b \\ 2 \end{matrix}$)

a: Mechanical design type

A~Z; 2~9 (1, I, O excluded)

A: ϕ 105 ring mount and ϕ 58 rear mount

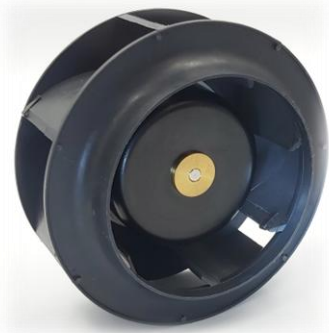
B: ϕ 58 rear mount

b: Firmware code

A~Z; 2~9 (1, I, O excluded)

EC Centrifugal fans

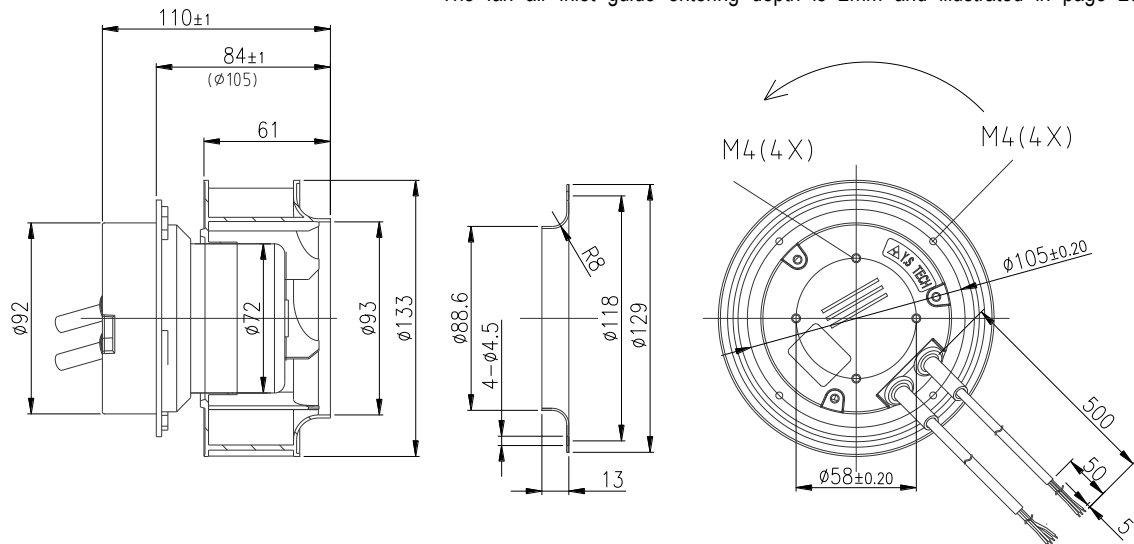
backward curved, $\phi 133$



- **Material:**
Impeller: Glass fiber-reinforced polypropylene
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

The fan air inlet guide entering depth is 2mm and illustrated in page 20



Technical parameters

Model name QV213341HBL-7A2

Rated voltage (V) 230

Frequency (Hz) 50/60

Current (A) 0.95

Speed (RPM) 6,040

Power (W) 108

Max. airflow (cfm) 289

Max. airflow (m³/h) 492

Max. static pressure (inAQ) 3.84

Max. static pressure (Pa) 960

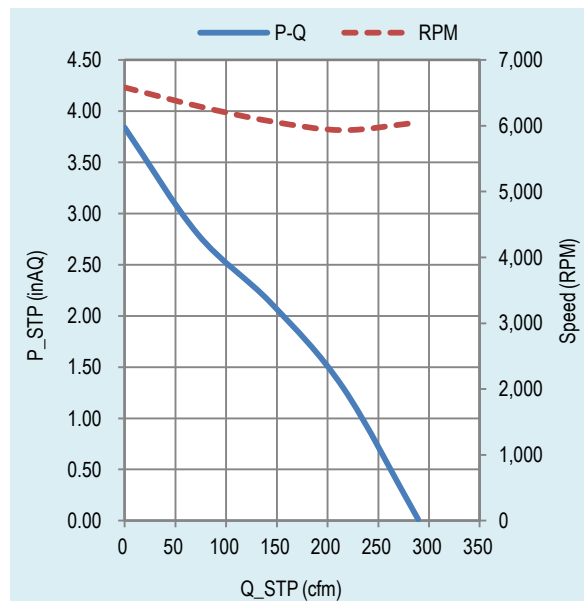
Noise (dBA) 74.3

Operating temperature (°C) -25~60

Weight (g) 1,150

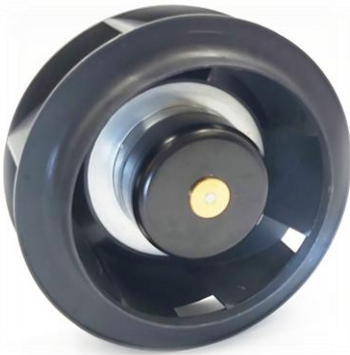
Connection diagram Type I

Performance curves



EC Centrifugal fans

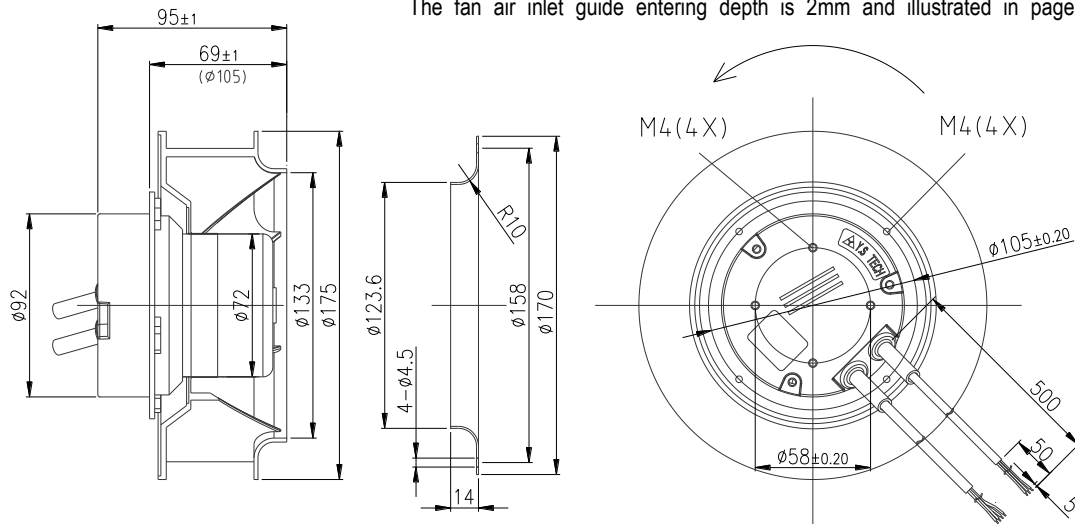
backward curved, $\phi 175$



- **Material:**
Impeller: Glass fiber-reinforced polypropylene
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

The fan air inlet guide entering depth is 2mm and illustrated in page 20

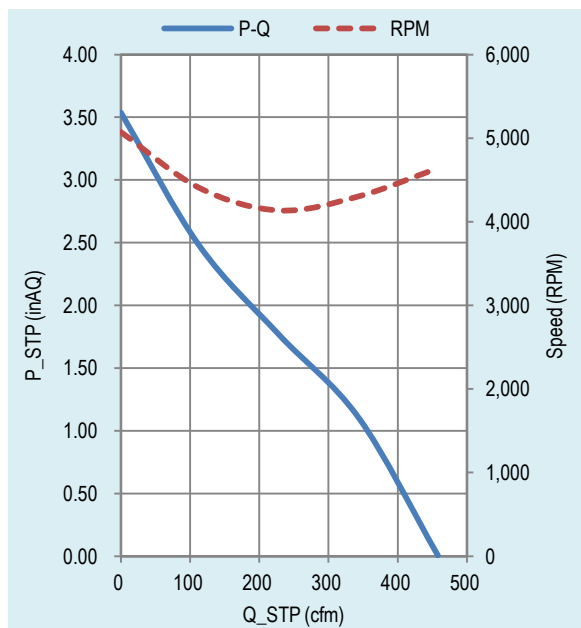


Technical parameters

Model name QV217542HBL-7A2

Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.95
Speed (RPM)	4,640
Power (W)	110
Max. airflow (cfm)	458
Max. airflow (m³/h)	779
Max. static pressure (inAQ)	3.54
Max. static pressure (Pa)	884
Noise (dBA)	75.2
Operating temperature (°C)	-25~60
Weight (g)	1,218
Connection diagram	Type I

Performance curves



EC Centrifugal fans

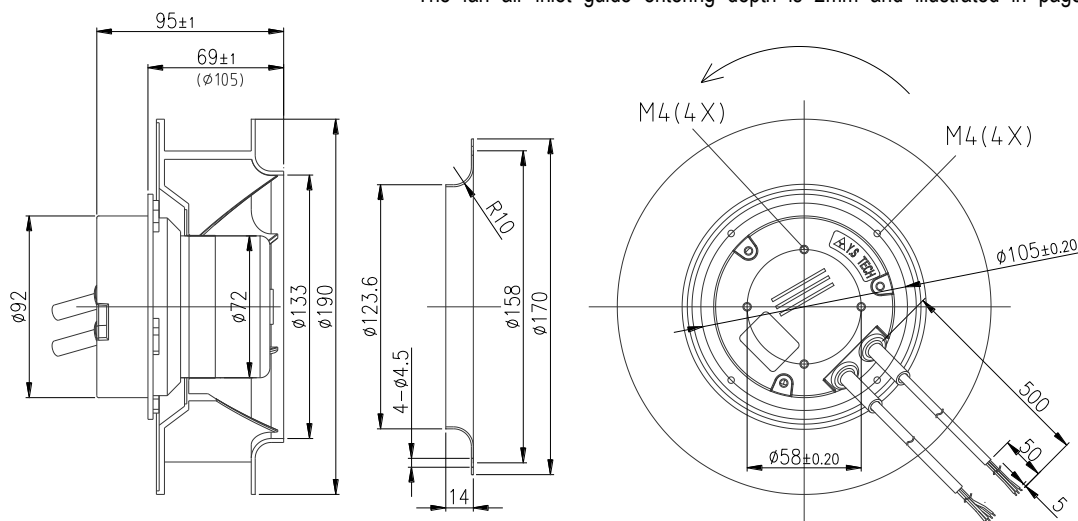
backward curved, $\Phi 190$



- **Material:**
Impeller: Glass fiber-reinforced polypropylene
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

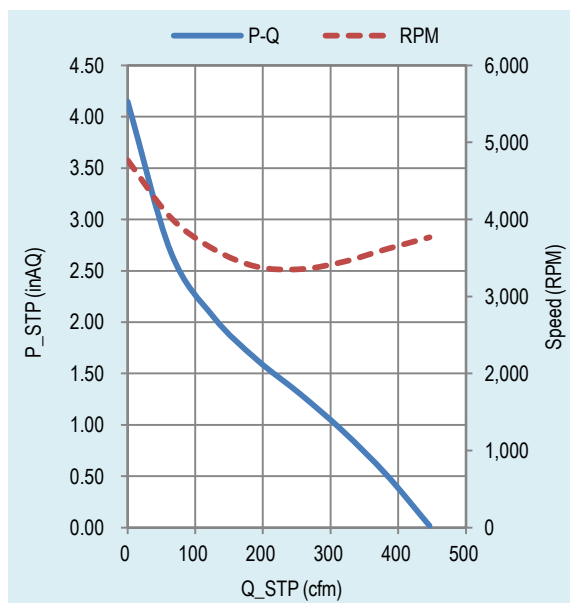
The fan air inlet guide entering depth is 2mm and illustrated in page 20



Technical parameters

Model name	QV219045HBL-7A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.91
Speed (RPM)	3,770
Power (W)	106
Max. airflow (cfm)	446
Max. airflow (m³/h)	759
Max. static pressure (inAQ)	4.15
Max. static pressure (Pa)	1,037
Noise (dBA)	72.3
Operating temperature (°C)	-25~60
Weight (g)	1,268
Connection diagram	Type I

Performance curves



EC Centrifugal fans

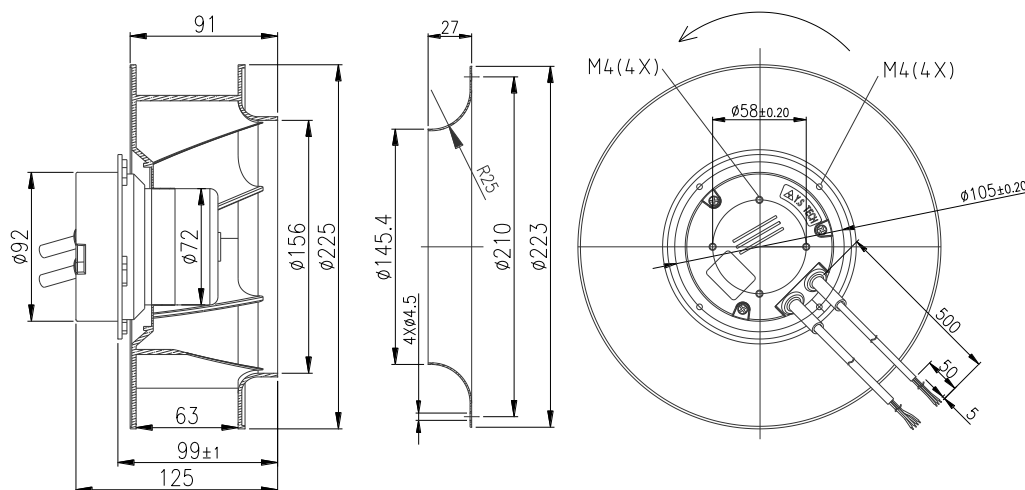
backward curved, $\Phi 225$



- **Material:**
Impeller: Glass fiber-reinforced polypropylene
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

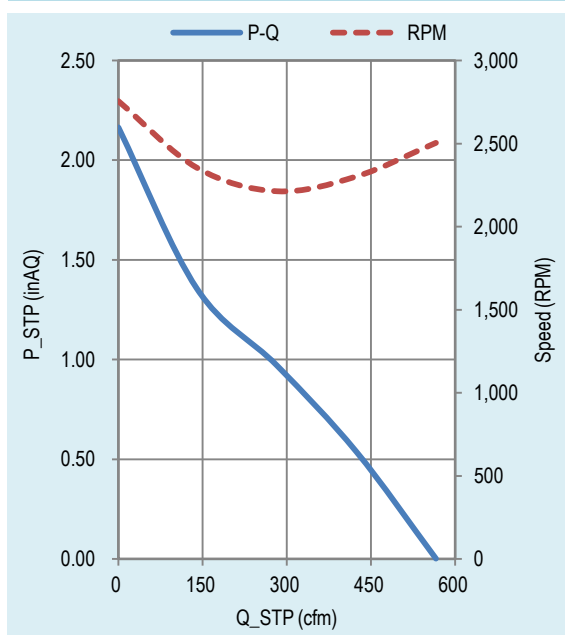
The fan air inlet guide entering depth is 2mm and illustrated in page 20



Technical parameters

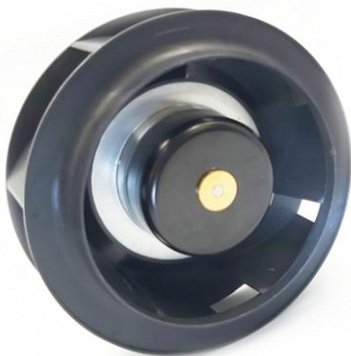
Model name	QV222563HBL-7A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.67
Speed (RPM)	2,500
Power (W)	70
Max. airflow (cfm)	566
Max. airflow (m ³ /h)	962
Max. static pressure (inAQ)	2.17
Max. static pressure (Pa)	542
Noise (dBA)	66.1
Operating temperature (°C)	-25~60
Weight (g)	1,450
Connection diagram	Type I

Performance curves



EC Centrifugal fans

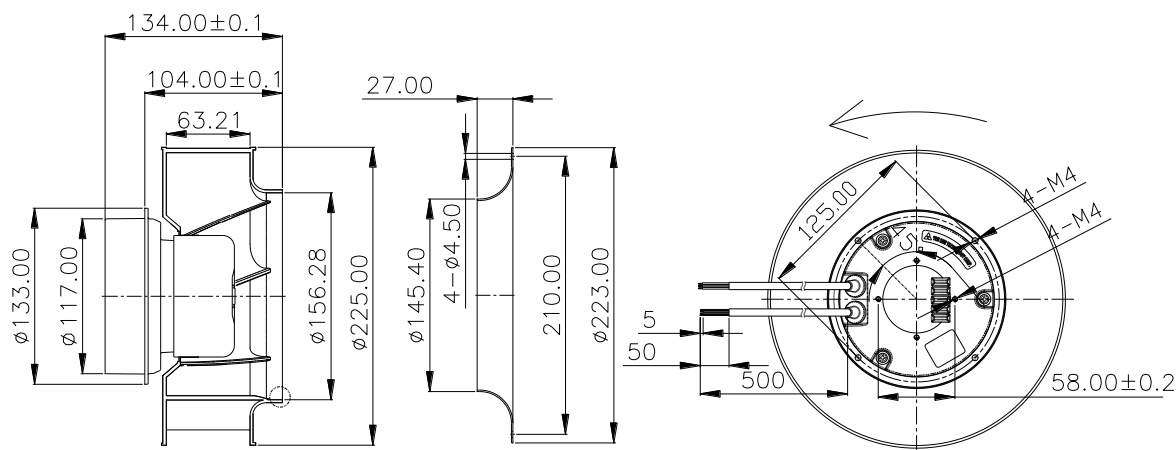
backward curved, $\Phi 225$



- **Material:**
Impeller: Glass fiber-reinforced polypropylene
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

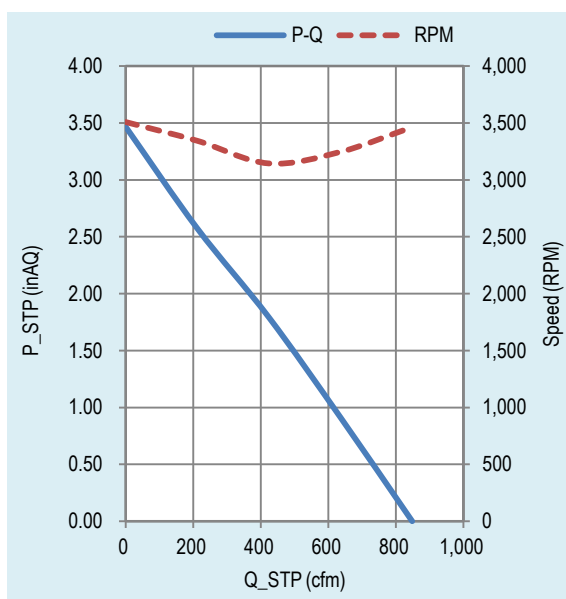
The fan air inlet guide entering depth is 2mm and illustrated in page 20



Technical parameters

Model name	QV222563HBL-9A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.67
Speed (RPM)	3,100
Power (W)	158
Max. airflow (cfm)	849
Max. airflow (m ³ /h)	1,443
Max. static pressure (inAQ)	3.47
Max. static pressure (Pa)	866
Noise (dBA)	72.5
Operating temperature (°C)	-25~60
Weight (g)	1,925
Connection diagram	Type I

Performance curves



EC Centrifugal fans

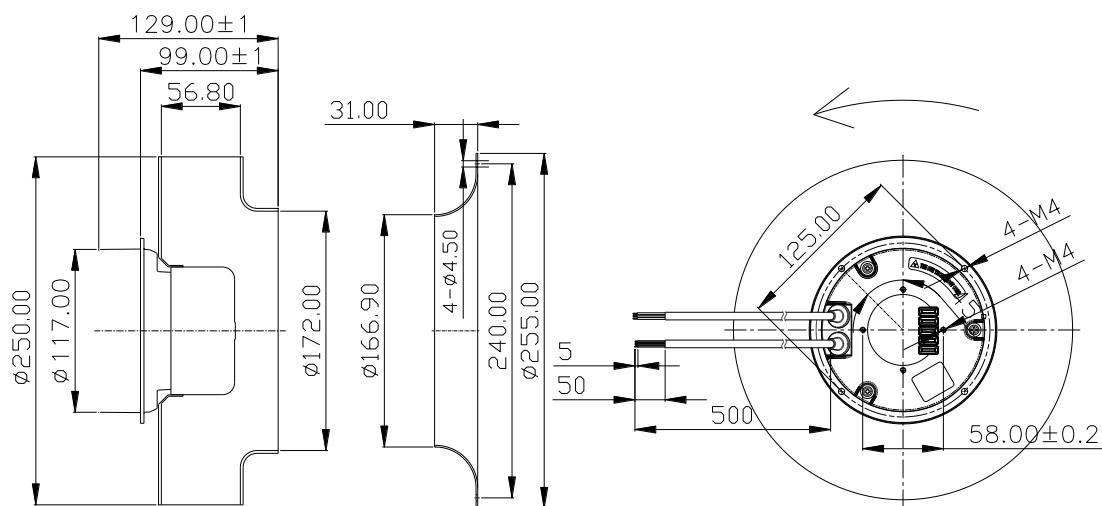
backward curved, $\Phi 250$



- **Material:**
Impeller: Glass fiber-reinforced polypropylene
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

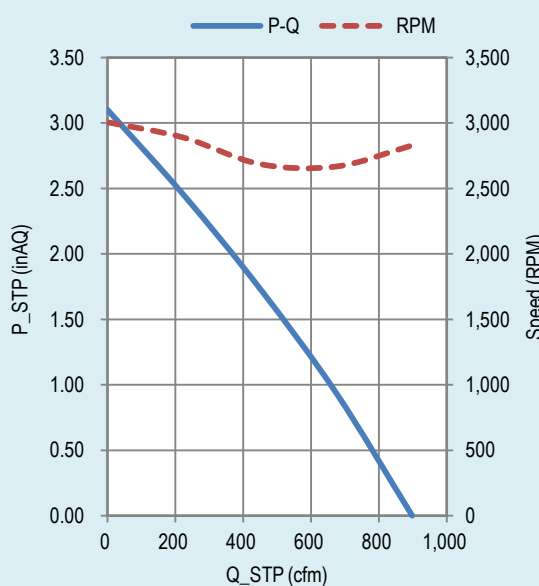
The fan air inlet guide entering depth is 2mm and illustrated in page 20



Technical parameters

Model name	QV225057MBL-9A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	1.35
Speed (RPM)	2,500
Power (W)	155
Max. airflow (cfm)	901
Max. airflow (m³/h)	1,531
Max. static pressure (inAQ)	2.45
Max. static pressure (Pa)	613
Noise (dBA)	70.5
Operating temperature (°C)	-25~60
Weight (g)	2,000
Connection diagram	Type I

Performance curves



EC Centrifugal fans

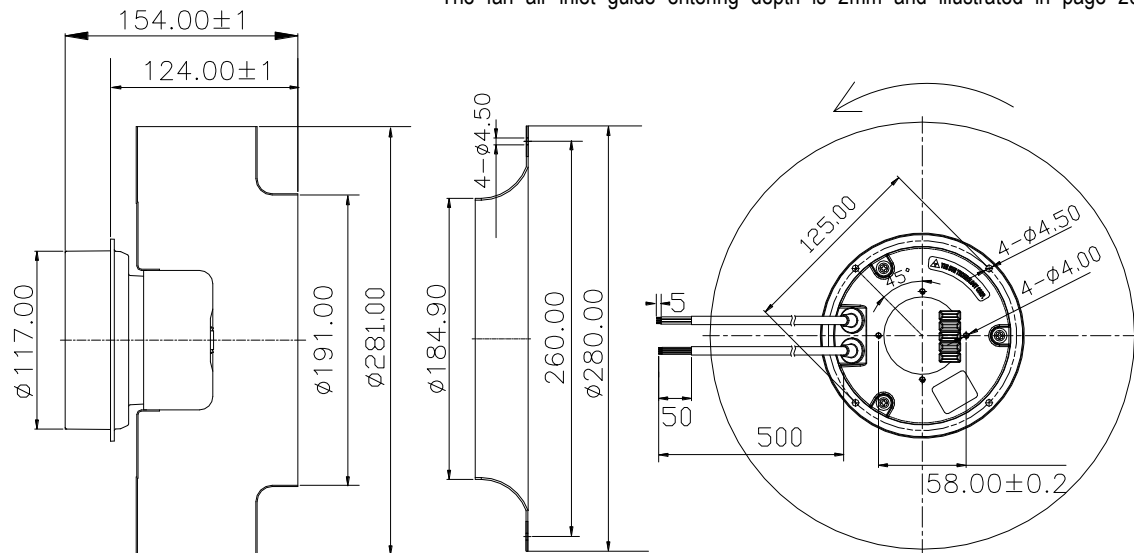
backward curved, $\Phi 280$



- **Material:**
Impeller: Hot-dip galvanized sheet steel (SGCC)
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

The fan air inlet guide entering depth is 2mm and illustrated in page 20



Technical parameters

Model name QV228080MBL-9A2

Rated voltage (V) 230

Frequency (Hz) 50/60

Current (A) 1.4

Speed (RPM) 2,100

Power (W) 160

Max. airflow (cfm) 1,322

Max. airflow (m³/h) 2,248

Max. static pressure (inAQ) 2.49

Max. static pressure (Pa) 622

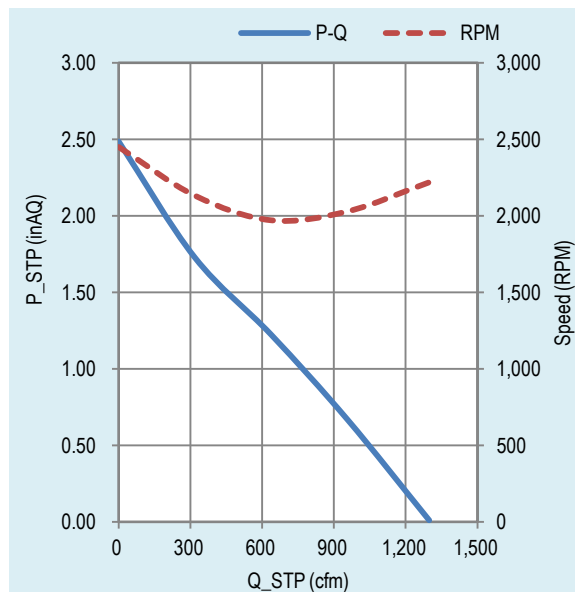
Noise (dBA) 71.5

Operating temperature (°C) -25~60

Weight (g) 2,658

Connection diagram Type I

Performance curves



EC Centrifugal fans

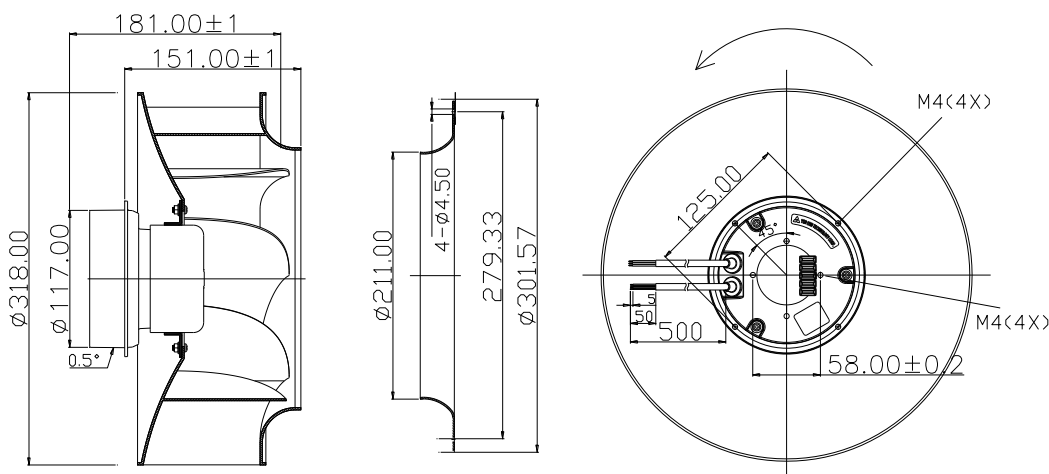
backward curved, $\Phi 310$



- **Material:**
Impeller: Aluminum alloy with SGCC flange
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 7
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

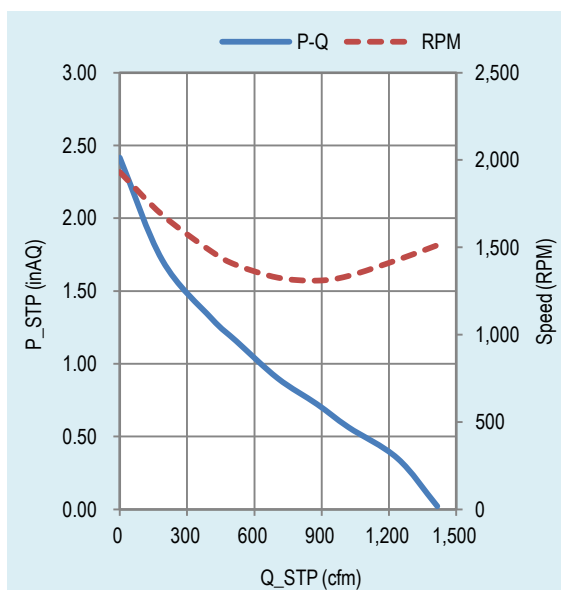
The fan air inlet guide entering depth is 2mm and illustrated in page 20



Technical parameters

Model name	QV2310A0MBL-9A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	1.25
Speed (RPM)	1,500
Power (W)	140
Max. airflow (cfm)	1,416
Max. airflow (m³/h)	2,407
Max. static pressure (inAQ)	2.42
Max. static pressure (Pa)	604
Noise (dBA)	66
Operating temperature (°C)	-25~60
Weight (g)	2,835
Connection diagram	Type I

Performance curves



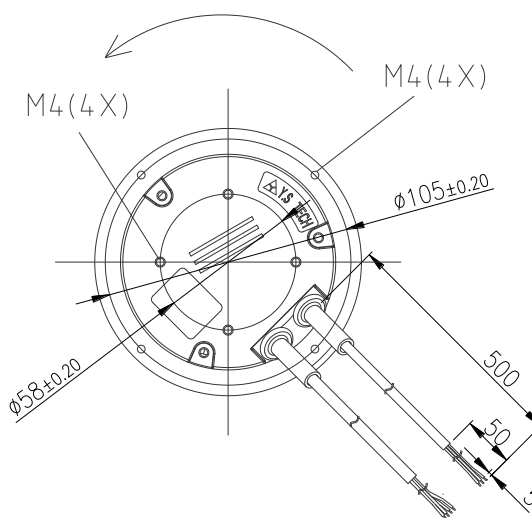
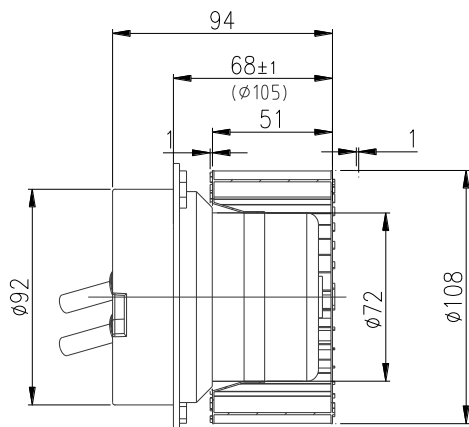
EC Centrifugal fans

forward curved, $\Phi 108$



- **Material:**
Impeller: Hot-dip galvanized sheet steel
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 34
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

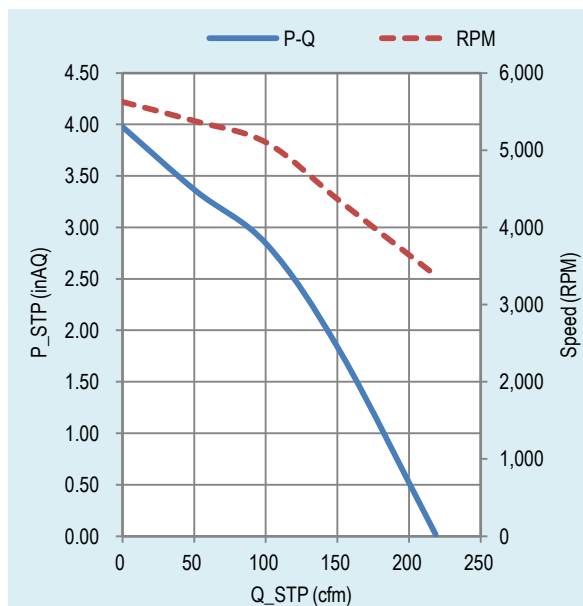


Technical parameters

Model name	WV210851HBL-7A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.96
Speed (RPM)	5,120
Power (W)	108
Max. airflow (cfm)	218
Max. airflow (m ³ /h)	371
Max. static pressure (inAQ)	3.98
Max. static pressure (Pa)	994
Noise (dBA)	71.1
Operating temperature (°C)	-25~60
Weight (g)	1,187
Connection diagram	Type I

Performance curves

measured in housing



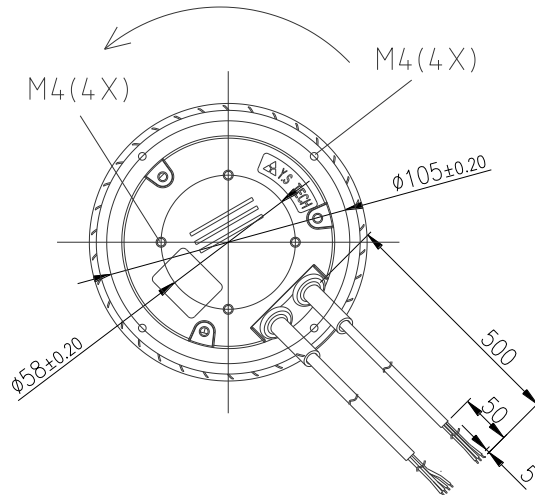
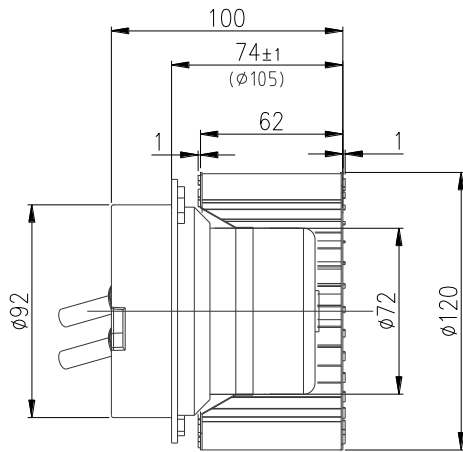
EC Centrifugal fans

forward curved, $\Phi 120$



- **Material:**
Impeller: Hot-dip galvanized sheet steel
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 34
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

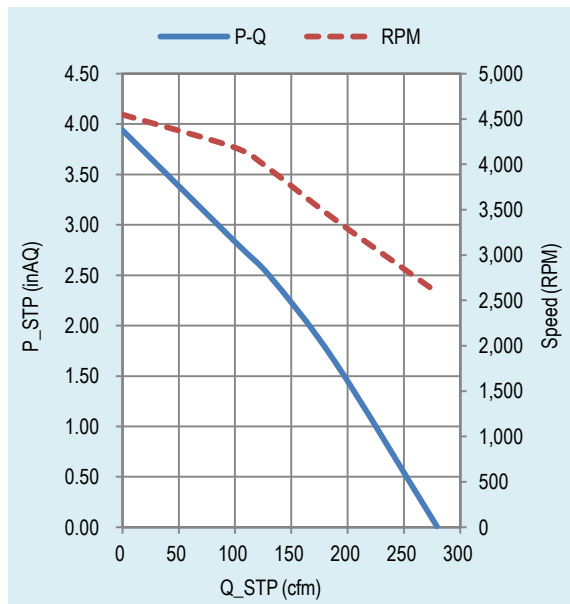


Technical parameters

Model name	WV212061HBL-7A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.95
Speed (RPM)	3,860
Power (W)	108
Max. airflow (cfm)	279
Max. airflow (m ³ /h)	475
Max. static pressure (inAQ)	3.94
Max. static pressure (Pa)	984
Noise (dBA)	67.2
Operating temperature (°C)	-25~60
Weight (g)	1,206
Connection diagram	Type I

Performance curves

measured in housing



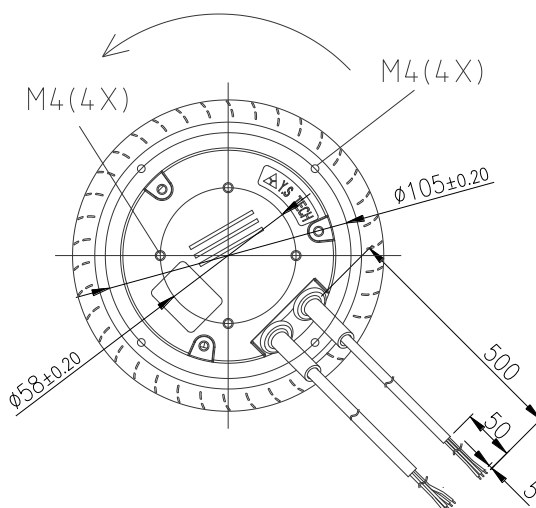
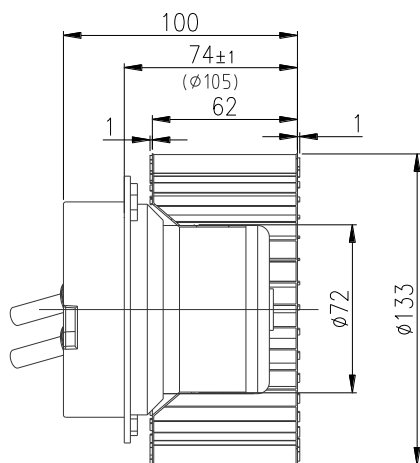
EC Centrifugal fans

forward curved, $\Phi 133$



- **Material:**
Impeller: Hot-dip galvanized sheet steel
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 38
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

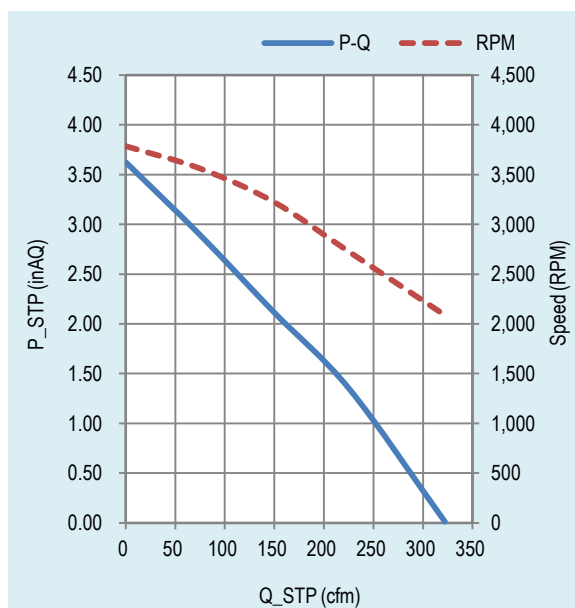


Technical parameters

Model name	WV213362HBL-7A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.94
Speed (RPM)	3,180
Power (W)	106
Max. airflow (cfm)	322
Max. airflow (m ³ /h)	548
Max. static pressure (inAQ)	3.62
Max. static pressure (Pa)	906
Noise (dBA)	66
Operating temperature (°C)	-25~60
Weight (g)	1,227
Connection diagram	Type I

Performance curves

measured in housing



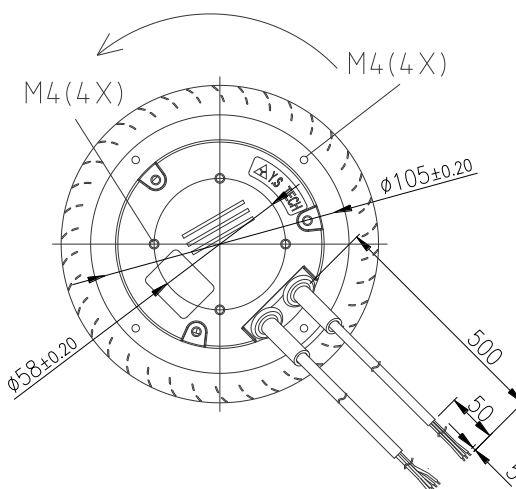
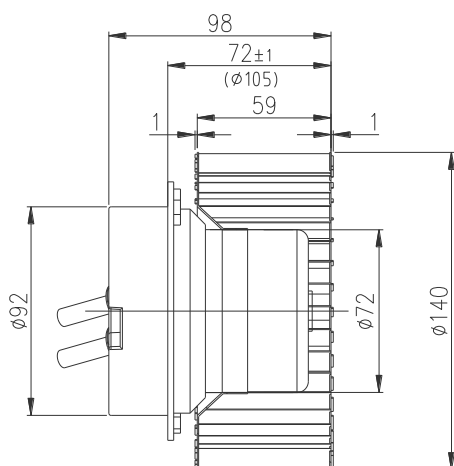
EC Centrifugal fans

forward curved, $\Phi 140$



- **Material:**
Impeller: Hot-dip galvanized sheet steel
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 38
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

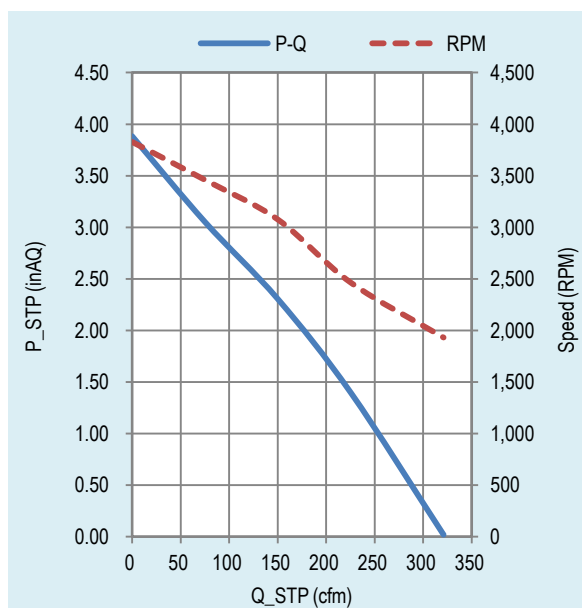


Technical parameters

Model name	WV214059HBL-7A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	0.97
Speed (RPM)	3,100
Power (W)	109
Max. airflow (cfm)	321
Max. airflow (m³/h)	546
Max. static pressure (inAQ)	3.89
Max. static pressure (Pa)	971
Noise (dBA)	63.88
Operating temperature (°C)	-25~60
Weight (g)	1,241
Connection diagram	Type I

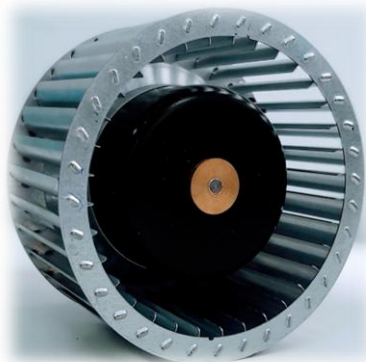
Performance curves

measured in housing



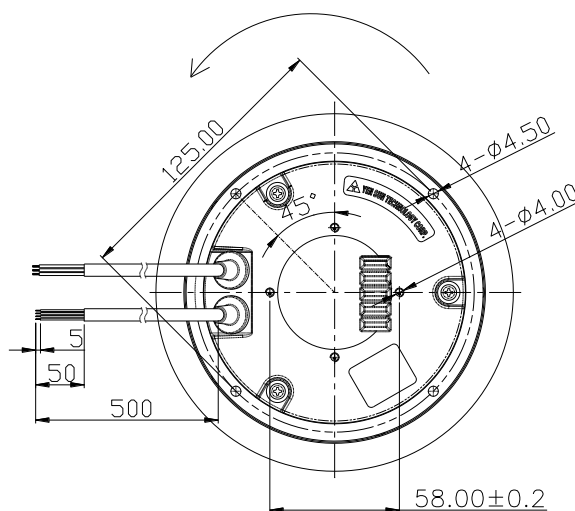
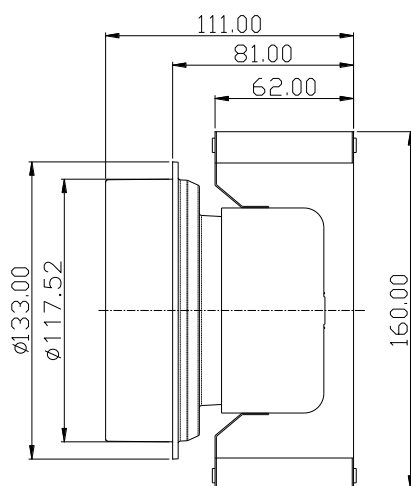
EC Centrifugal fans

forward curved, $\Phi 160$



- **Material:**
Impeller: Hot-dip galvanized sheet steel
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 38
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

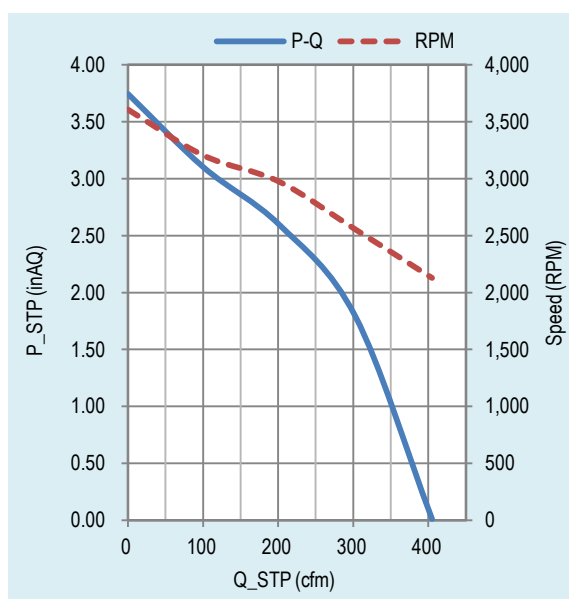


Technical parameters

Model name	WV216062HBL-9A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	1.74
Speed (RPM)	2,150
Power (W)	195
Max. airflow (cfm)	405
Max. airflow (m ³ /h)	690
Max. static pressure (inAQ)	3.74
Max. static pressure (Pa)	936
Noise (dBA)	60.9
Operating temperature (°C)	-25~60
Weight (g)	1,820
Connection diagram	Type I

Performance curves

measured in housing



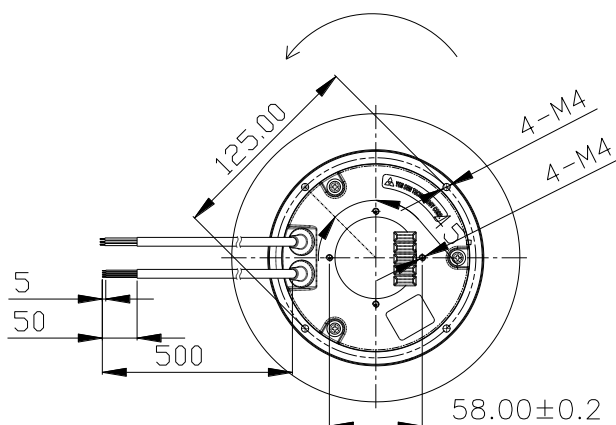
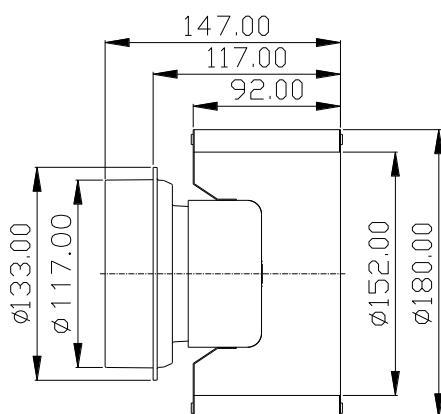
EC Centrifugal fans

forward curved, $\Phi 180$



- **Material:**
Impeller: Hot-dip galvanized sheet steel
Electronics housing: Die-casting aluminum
Motor shell: Steel, electro deposited black
- **Direction of rotation:** CW view toward rotor
- **Number of blades:** 38
- **Degree of protection:** IP65
- **Mode of operating:** Continuous operation S1
- **Insulation class:** B
- **Installation position:** Any

Outline dimension

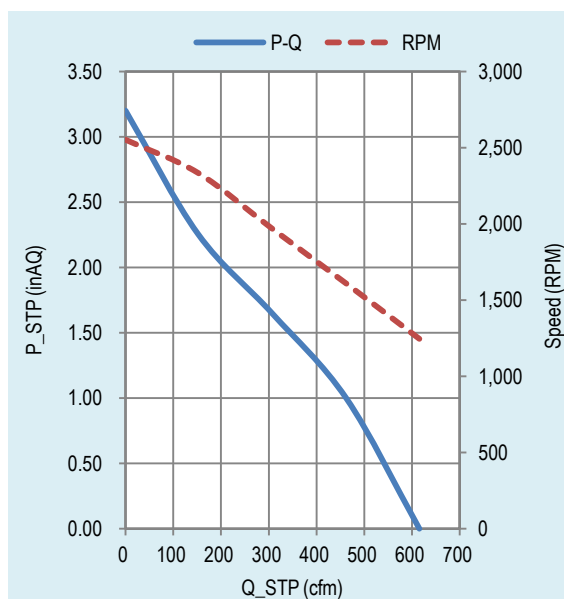


Technical parameters

Model name	WV218092HBL-9A2
Rated voltage (V)	230
Frequency (Hz)	50/60
Current (A)	1.55
Speed (RPM)	1,200
Power (W)	180
Max. airflow (cfm)	616
Max. airflow (m ³ /h)	1,046
Max. static pressure (inAQ)	3.2
Max. static pressure (Pa)	800
Noise (dBA)	51.2
Operating temperature (°C)	-25~60
Weight (g)	1,900
Connection diagram	Type I

Performance curves

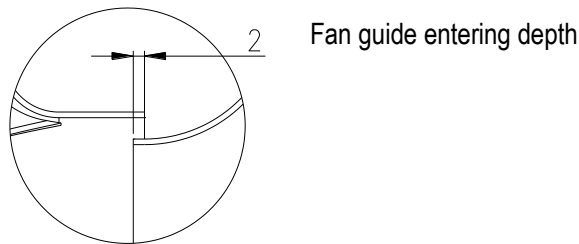
measured in housing



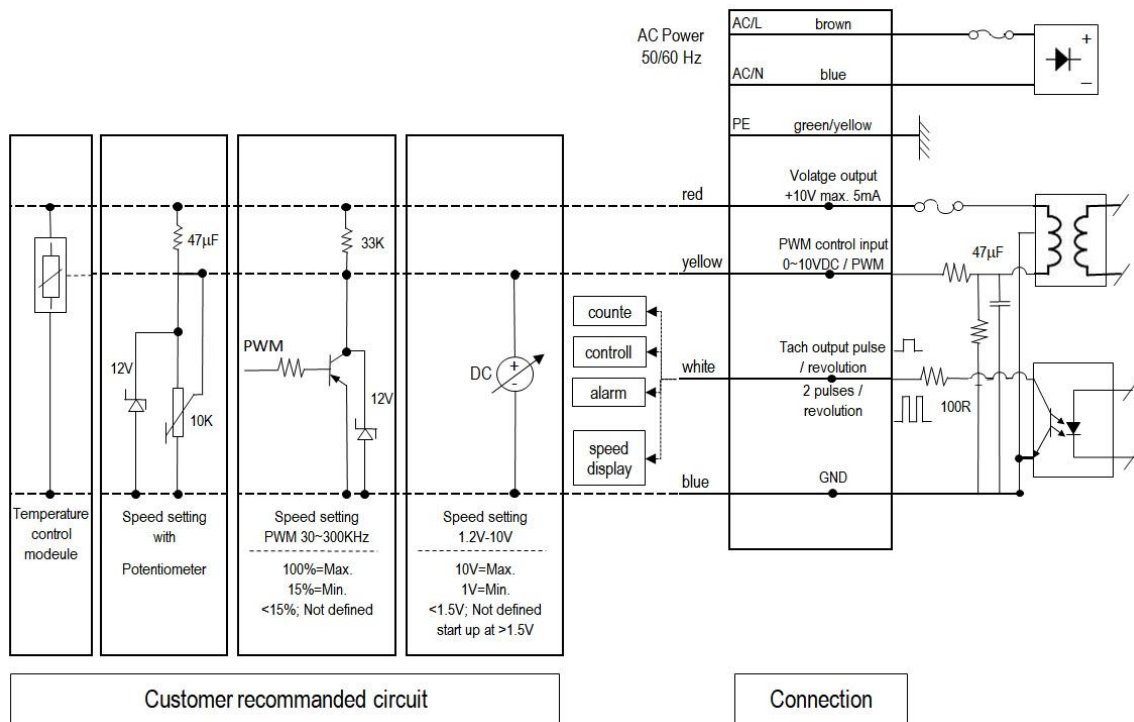
Positioning of fan guide

■ For the backward curved centrifugal fan

The fan guide entering depth is suggested to be 2mm.



Interface and recommended customer's circuit



Connection diagram

Type I

Feature

- Control input 0~10V / PWM
- Tach output
- Output 10VDC
- Locked rotor protection
- Signal lines connection protection
- Soft start
- Surge protection
- Overheat protection
- Over voltage protection
- Under voltage protection
- Slow speed protection
- Over current protection

Wire	Connection	Color	Assignment / function
1	L	Brown	Live
1	N	Blue	Naught
1	PE	Yellow/Green	Protective earth
2	0-10V / PWM	Yellow	Control input 0-10V or PWM
2	Tach output	White	FG output
2	+10V output	Red	DC voltage output
2	GND	Blue	Reference ground of control interface

Type II

Feature

- Control input 0~10V / PWM
- Tach output
- Locked rotor protection
- Signal lines connection protection
- Soft start
- Surge protection
- Overheat protection
- Over voltage protection
- Under voltage protection
- Slow speed protection
- Over current protection

Wire	Connection	Color	Assignment / Function
1	L	Brown	Live
1	N	Blue	Naught
1	PE	Yellow/Green	Protective earth
2	0-10V / PWM	Yellow	Control input 0-10V or PWM
2	Tach output	White	FG output

Type III

Feature

- Control input 0~10V / PWM
- Tach output
- Locked rotor protection
- Soft start
- Surge protection
- Overheat protection
- Slow speed protection
- Over current protection

Wire	Connection	Color	Assignment / function
1	L	Brown	Live
1	N	Blue	Naught
2	0-10V / PWM	Yellow	Control input 0-10V or 10V PWM
2	Tach output	White	FG output

Type IV

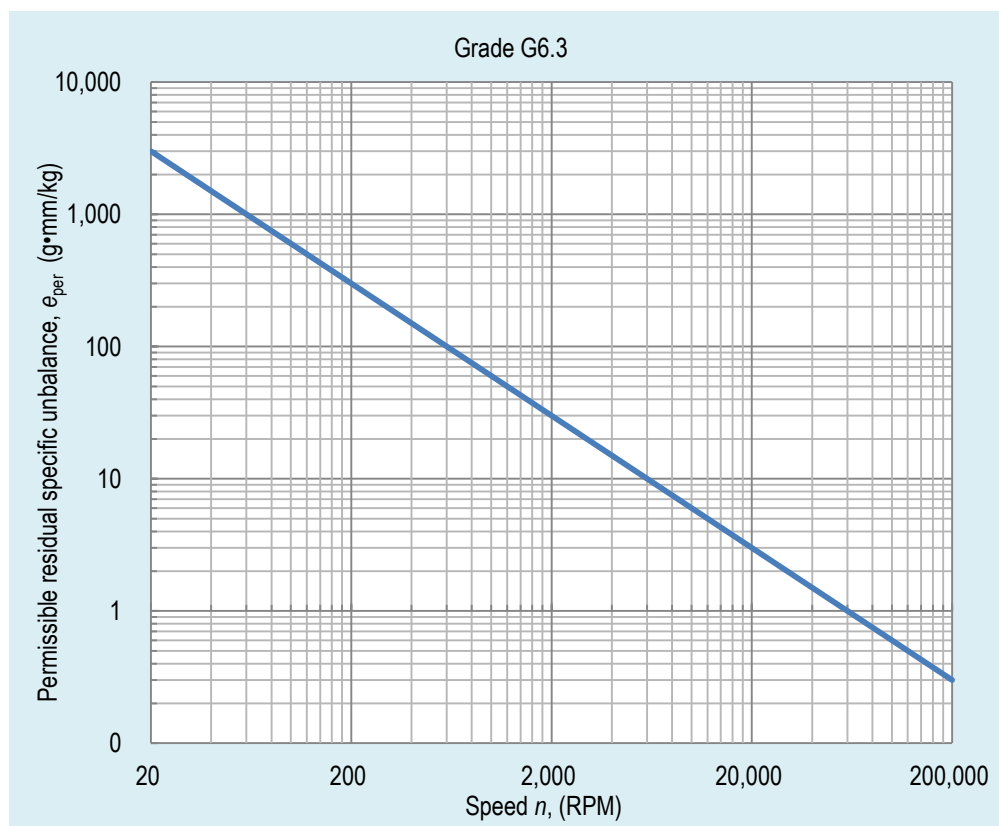
Feature

- Locked rotor protection
- Soft start
- Surge protection
- Overheat protection
- Slow speed protection
- Over current protection

Wire	Connection	Color	Assignment / function
1	L	Brown	Live
1	N	Blue	Naught

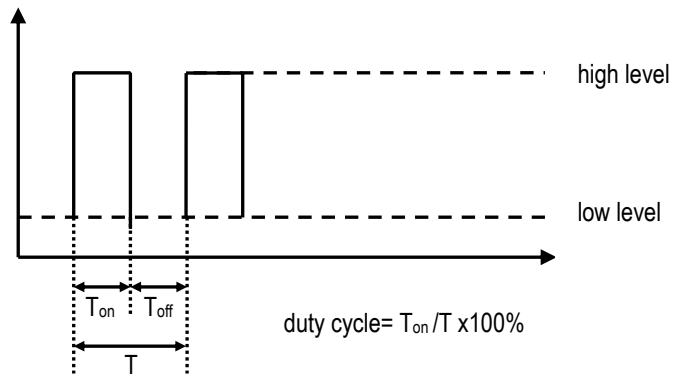
Balance

The balancing quality is tested in complied with residual imbalance according to ISO 1940, and the standard balancing quality level is G6.3.

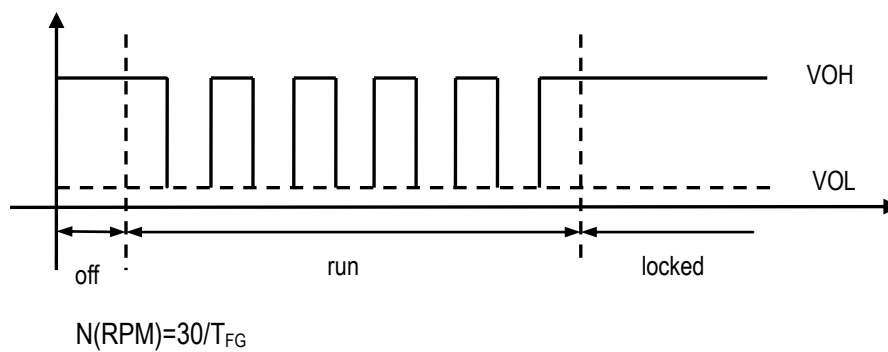


Wave form of the PWM, tach output and alarm function

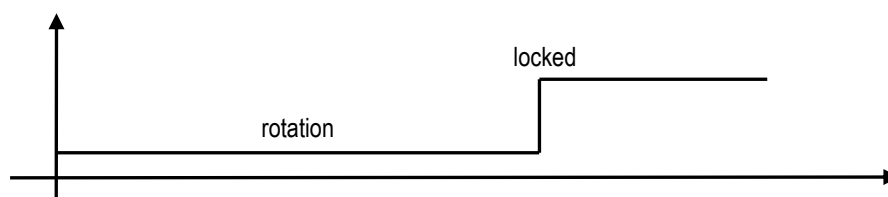
■ PWM



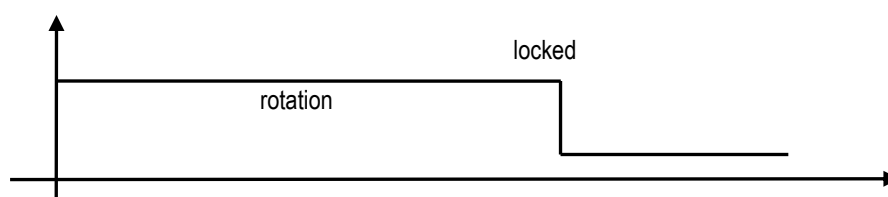
■ Tach output (FG)



■ Alarm high (R)



■ Alarm low (Q)



Sound quality

Sound measurement conditions

The following conditions are defined for Y.S. TECH EC products measurement

- Backward curved centrifugal fans with inlet ring in free air
- Forward curved centrifugal fans with scroll housing which defined by Y.S. TECH
- Axial fans in free air

Noise level measurements

The measurements are implemented in anechoic chamber with certain back ground noise level. All measurements which given in A-rated form are determined in according to ISO 7779, CNS6753 and JIS 8346. A 16-bits digital HMS (Head Measurement System) is located in the air intake side of the fan, normally at 1meter distance. Normally the parameters measured for technical analysis are "SPL, sound pressure level", "TONE", "SONE" and "Modulation".

Mathematics model

In a simple way, the acoustic noise level will reduce 6dB when distance doubled. Comparatively, the noise level will also increase 6dB when the distanced shortened by half.

There are two similar algorithms in acoustic analysis:

- (1) By rotation speed (RPM)

$$N2 = N1 + 50 \log(RPM1/RPM2)$$

Where,

N1=noise level measured at RPM1

N2=noise level measured at RPM2

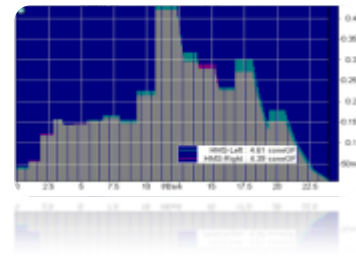
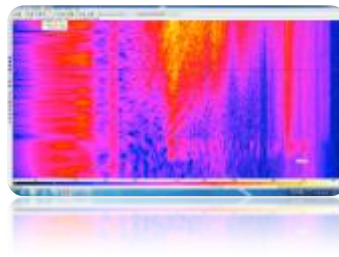
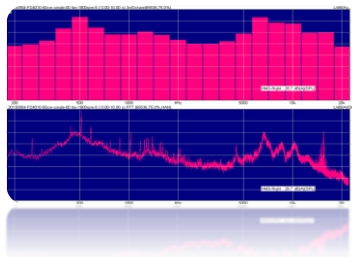
- (2) By measurement distance

$$N2 = N1 + 20 \log(distance1/distance2)$$

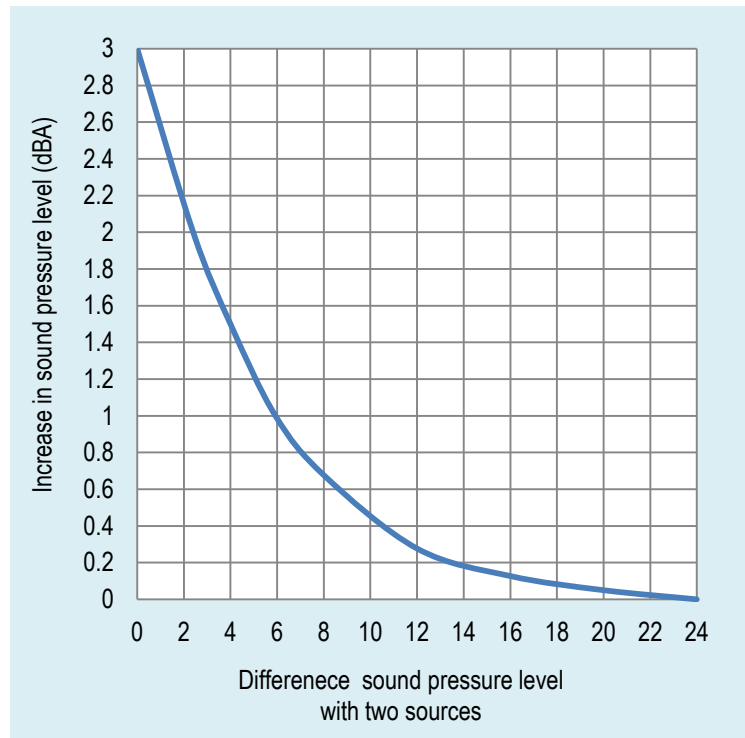
Where,

N1=noise level measured at distance1

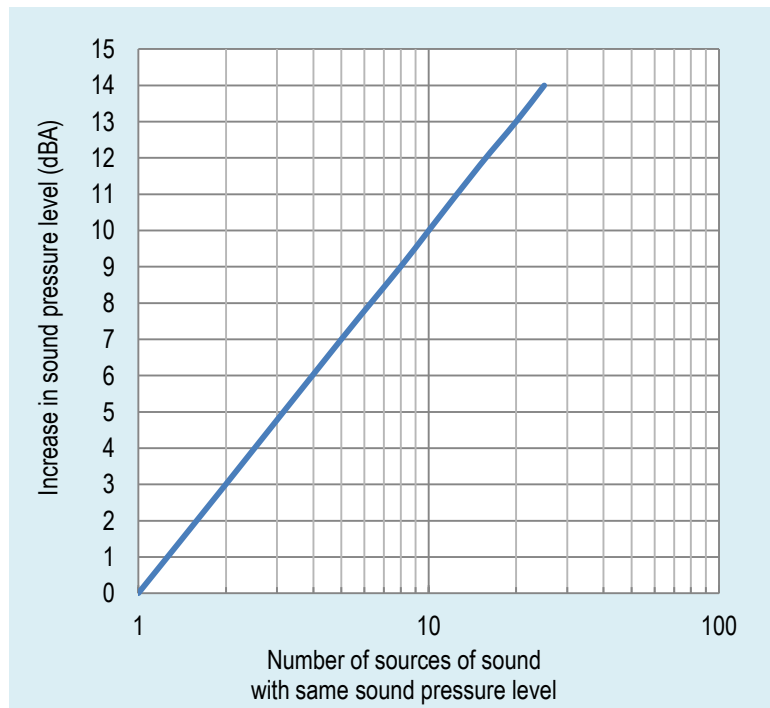
N2=noise level measured at distance2



Increase in sound pressure level with different two noise sources



Increase in sound pressure level with multiple noise sources



Conversion table of airflow rate and static pressure

Airflow rate

m ³ /s	m ³ /min	l/s	l/min	m ³ /h	ft ³ /s	cfm
1.0	6x10 ¹	1.0x10 ³	6.0x10 ⁴	3.6x10 ³	3.531x10 ¹	2.118x10 ³
1.667x10 ⁻²	1.0	1.667x10 ⁻²	1.0x10 ³	6x10 ¹	5.885x10 ⁻¹	3.531x10 ¹
1.0x10 ⁻³	6x10 ⁻²	1.0	6.0x10 ¹	3.6	3.531x10 ⁻²	2.118
1.667x10 ⁻⁵	1.0x10 ⁻³	1.667x10 ⁻²	1	6x10 ⁻²	5.9x10 ⁻⁴	3.54x10 ⁻²
2.778x10 ⁻⁴	1.667x10 ⁻²	2.778x10 ⁻¹	1.667x10 ⁻²	1	9.81x10 ⁻³	5.886x10 ⁻²
2.832x10 ⁻²	1.69833	2.832x10 ¹	1.6983x10 ³	1.019x10 ²	1	6x10 ¹
4.72x10 ⁻²	2.831x10 ⁻²	0.472	2.831x10 ¹	1.6983	1.667x10 ⁻²	1

Static pressure

Pa (N/m ²)	mm-H ₂ O	in-H ₂ O	Kgf/cm ²	atm	bar	Lbf/in ²
1	1.019x10 ⁻¹	4.017x10 ⁻³	1.019x10 ⁻⁶	9.869x10 ⁻⁶	1.0x10 ⁻⁵	1.450x10 ⁻⁴
9.80665	1	3.939x10 ⁻²	1.0x10 ⁻⁴	9.678x10 ⁻⁵	9.806x10 ⁻⁵	1.442x10 ⁻³
2.49x10 ²	25.4	1	2.54x10 ⁻³	2.46x10 ⁻³	2.49x10 ⁻³	3.61x10 ⁻²
9.807x10 ⁴		3.937x10 ²	1	0.9678	0.980665	14.22334
1.0133x10 ⁵	1.0332x10 ⁴	4.071x10 ²	1.033323	1	1.01325	14.696
1.0x10 ⁵	1.0197x10 ⁴	4.018x10 ²	1.101972	0.986923	1	14.5038
6.895x10 ³	7.031x10 ²	27.686	7.031x10 ⁻²	6.805x10 ⁻²	6.895x10 ⁻²	1





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