

# EC Fan Motors

Axial Fan Motors  
Centrifugal Fan Motors



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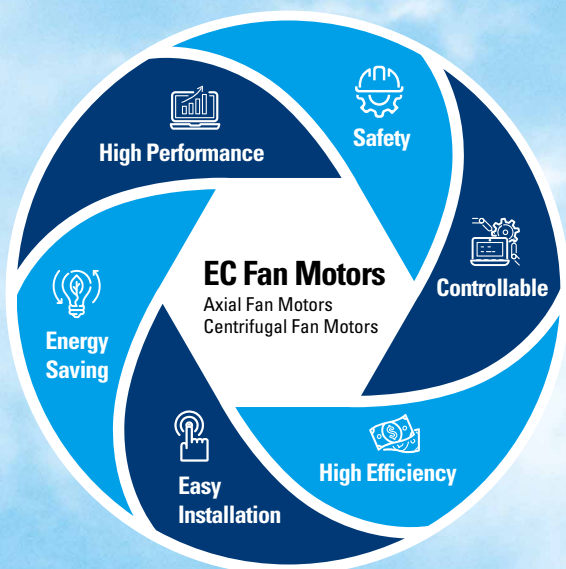
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# EC Fan Motors



## Why EC Fan Motor ?

In the past, green energy and energy savings were only the optional choices, but for the upcoming generations, they are becoming essential conditions. To meet the requirement of recent trend, LS newly launched EC Fan Motor series. LS will pursue the Green Globe for the future with better performance and reliability through EC Fan Motor solution.



### Conformity testing with EMC directive 2014/30/EU

Test specification : EN55014-1: 2006+A1:2009+A2:2011  
Standard : EN 55014-1:1997+A1:2001+A2:2008  
EN 61000-3-2:2014  
EN 61000-3-3:2013

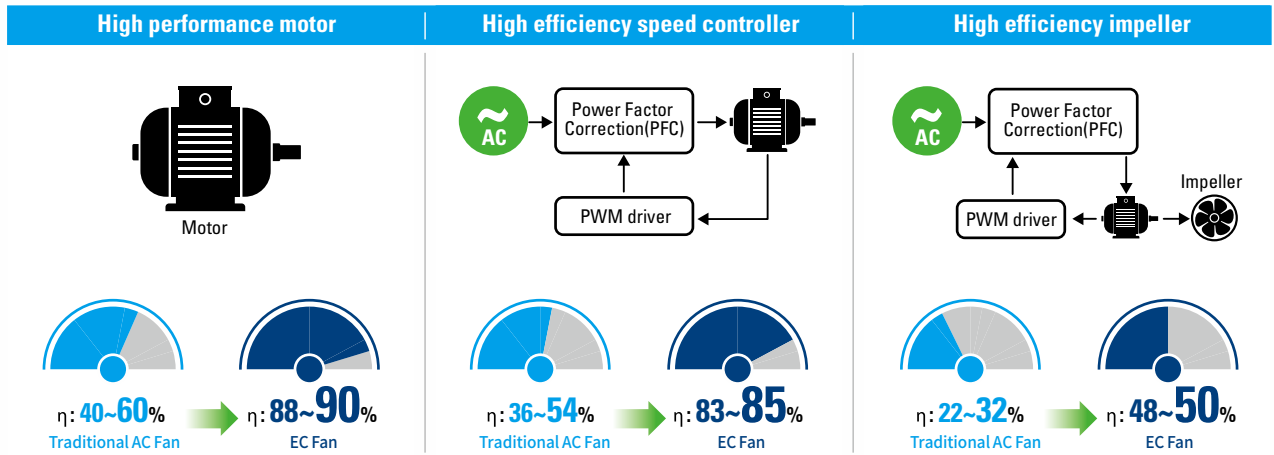
### Complied with ErP EcoDesign 2015 efficiency

Measurement category : A  
Efficiency category : Static  
power range [kW] :  $0.125 \leq P \leq 10$   
 $\eta = 2.74 \times \ln(P) - 6.33 + 40$

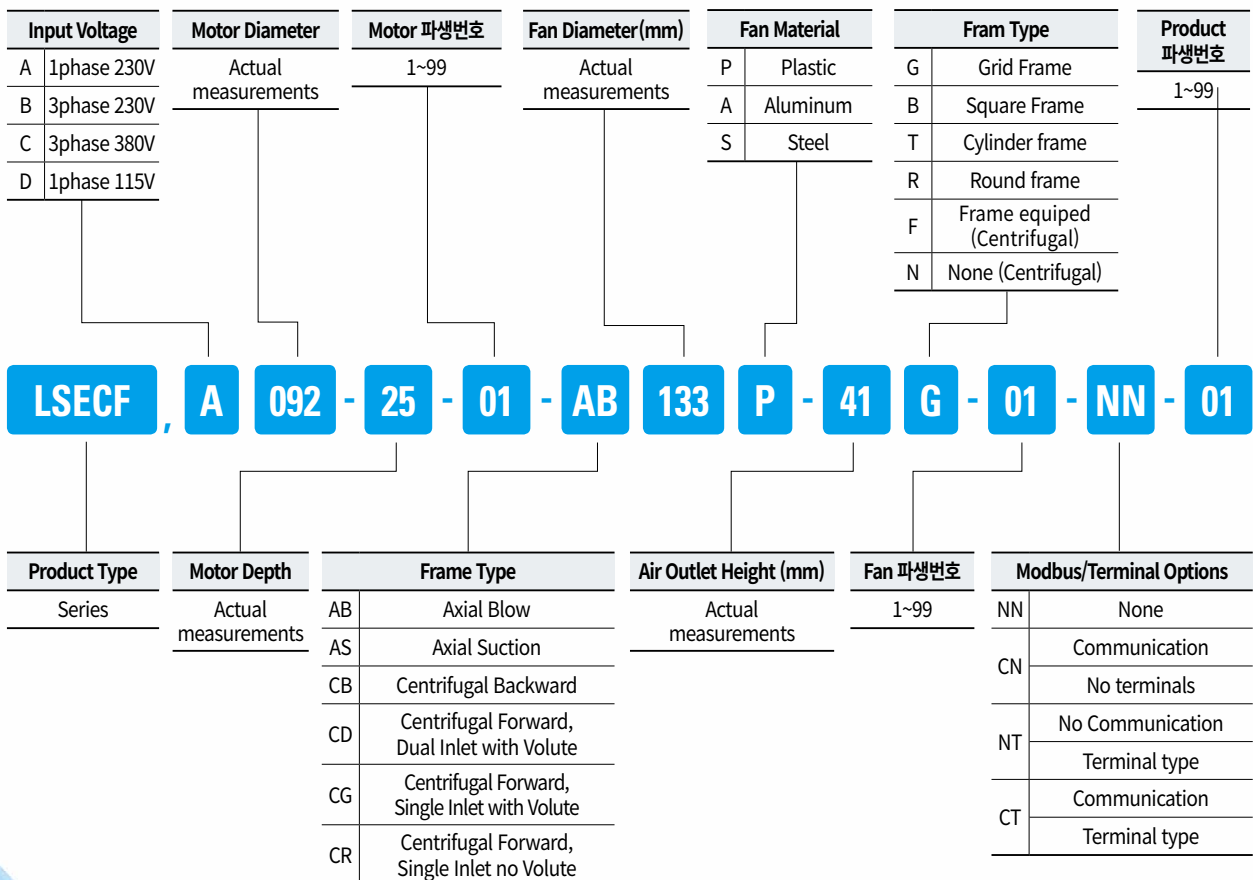
### Global compliance



## EC Fan Benefits



## EC Fan Motor Numbering



# Axial Fan Motors

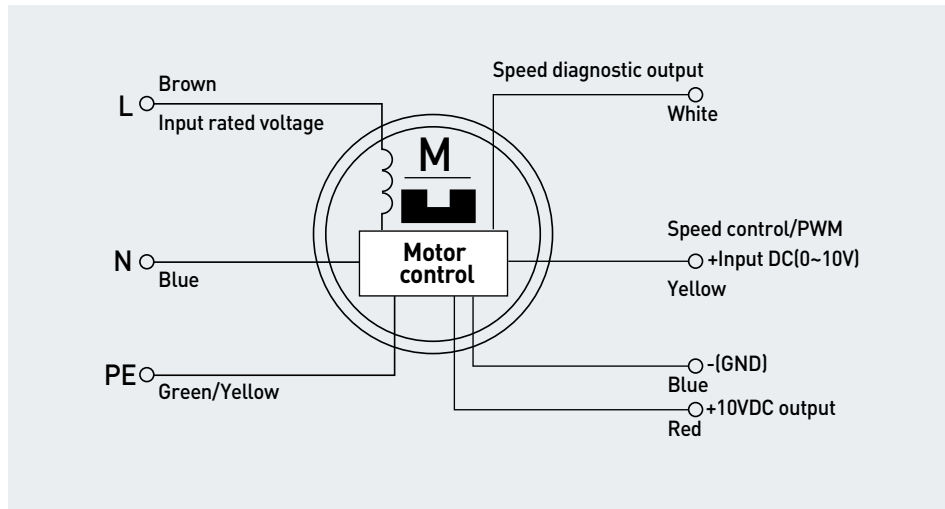
**Green earth for the next generation!  
LS EC Fan Motors will be with you**



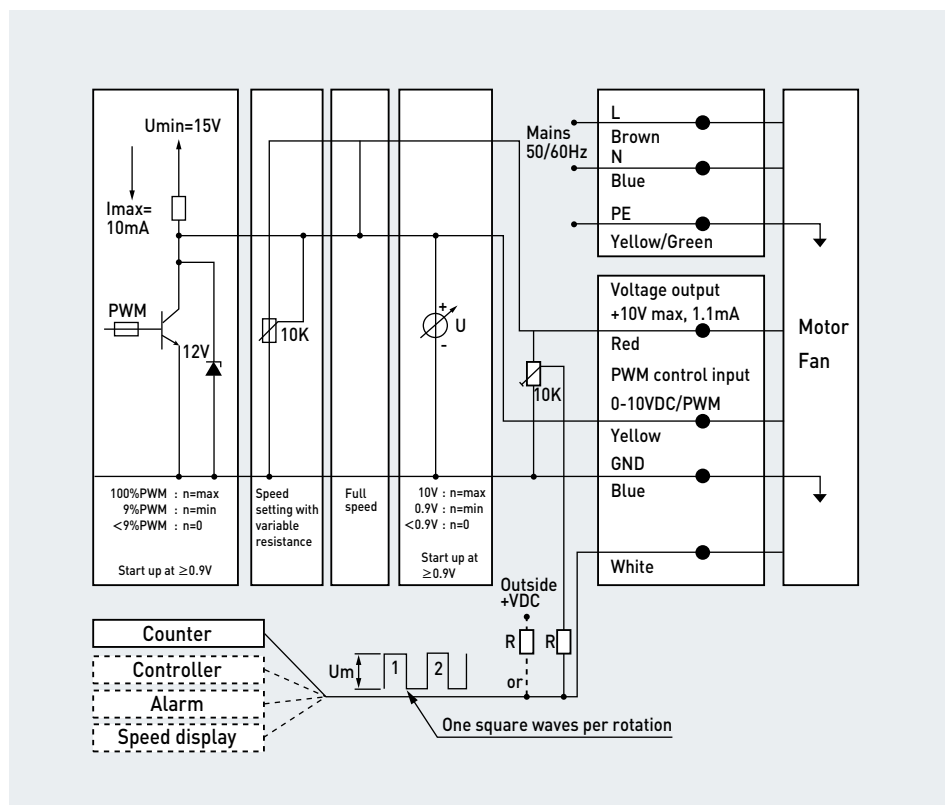


# Axial Fan Motors

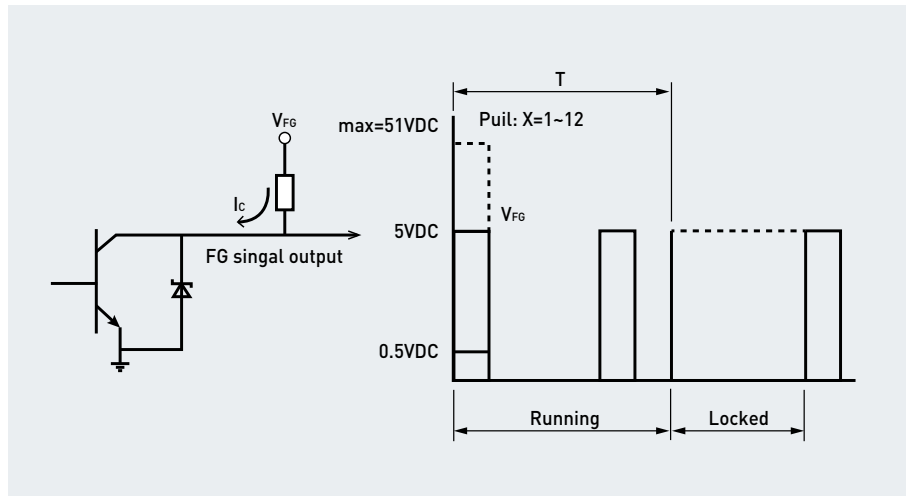
## Motor connection diagram



## Interface circuit

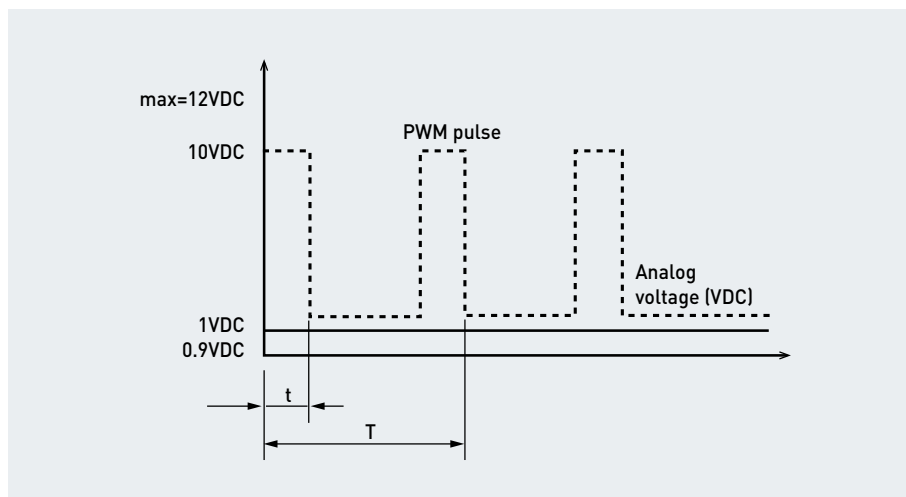


## FG signal connection



- Output type: Open collector
- R Design requirement:  $R \geq V_{FG}/I_c$ ,  $I_c=10\text{mA}(\text{max.})$   
Normal:  $V_{FG}=5\text{VDC}$ ,  $R=1\text{k}\Omega$
- Pulse number: 1 PPR
- Frequency speed calculation:  $F=(1/T)*X$ ,  $n=(60*F)/X$  r/min

## Speed control signal diagram



- Speed control support : 0.9~10Vdc
- Full speed from 9.5Vdc
- In PWM mode, amplitude is 10Vdc  
Adjusting duty cycle from 0~100%

# Axial Fan Motors

## Specifications

Fan Diameter	LS Description	Phase	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (RPM)	Max Air Flow (m <sup>3</sup> /h)	Max Static Pressure (Pa)	Noise Level (dB)	Ambient Temperature (°C)	Fan Material
250	EC MOTOR,LSECF,A092/25/01-AS250S/35G1-NN-01	1	200~277	50/60	≤1.2	160	3,000	2,100	200	79	CW	STEEL
	50/60			≤1.2	160	3,000	2,100	200	79	CCW	STEEL	
300	EC MOTOR,LSECF,A092/25/01-AS300S/60G1-NN-01	1	200~277	50/60	≤0.8	100	1,800	2,400	120	64	CCW	STEEL
	50/60			≤0.8	100	1,800	2,400	120	64	CW	STEEL	
350	EC MOTOR,LSECF,A092/25/01-AS350S/92G1-NN-01	1	200~277	50/60	≤1.2	170	1,500	3,550	100	67	CCW	STEEL
	50/60			≤1.2	170	1,650	3,550	100	67	CW	STEEL	
350	EC MOTOR,LSECF,A092/25/01-AS350P/86G1-NN-01	1	200~277	50/60	≤1.2	170	1,550	3,600	100	67	CCW	PLASTIC
400	EC MOTOR,LSECF,A102/50/01-AS400S/88G1-NN-01	1	200~277	50/60	≤2.5	390	1,700	5,500	180	64	CCW	STEEL
	50/60			≤2.5	390	1,700	5,500	180	64	CW	STEEL	
450	EC MOTOR,LSECF,A092/35/01-AS450P/96G1-NN-01	1	200~277	50/60	≤1.4	170	980	5,350	75	67	CCW	PLASTIC
450	EC MOTOR,LSECF,A102/50/01-AS450S/92G1-NN-01	1	200~277	50/60	≤2.1	330	1,300	6,000	120	64	CCW	STEEL
	50/60			≤2.1	330	1,300	6,000	120	64	CW	STEEL	
500	EC MOTOR,LSECF,C137/60/01-AS500P/110G1-NN-01	3	380~480	50/60	≤1.6	940	1,600	9,700	200	74	CCW	STEEL
560	EC MOTOR,LSECF,C137/60/01-AS560P/134G1-NN-01	3	380~480	50/60	≤1.5	900	1,350	10,900	170	75	CCW	STEEL
630	EC MOTOR,LSECF,C137/60/01-AS630S/100G1-NN-01	3	380~480	50/60	≤1.3	720	1,000	11,600	135	71	CCW	STEEL

• For request except above specifications, please contact LS sales.



## ECFM control mode

Control Mode	Motor Frame		
	072	092	102
Sensor + Quasai Sine Wave	●	●	
Sensor + Sine Wave	●	●	●
Sensorless + Square Wave	◎	◎	
Sensorless + Sine Wave	◎	◎	◎
Closed Loop Constant Speed Control	◎	◎	◎
Closed Loop Constant Power Control	●	●	●
Closed Loop Constant Flow Control	◎	◎	◎
VVVF Control	●	●	
FOC Control	◎	◎	●
Remarks	● : Provided as standard ◎ : Customization required		

## ECFM protection function

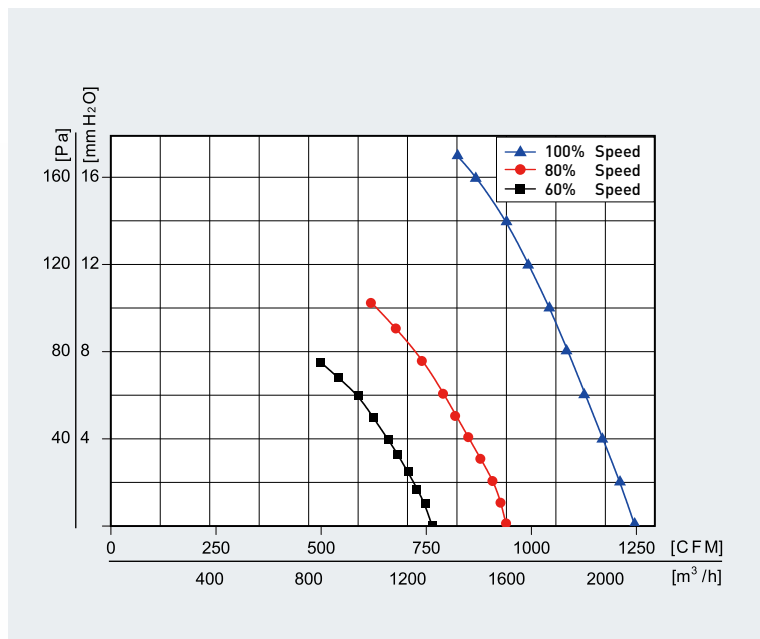
Control Mode	Motor Frame		
	072	092	102
Soft Start	●	●	●
Under-voltage Protection	●	●	●
Over-voltage Protection	●	●	●
Current limit Protection	●	●	●
Over-current Protection	●	●	●
Blocking Protection	●	●	●
Self Starting Function	●	●	●
The Function of Temperature Protection	◎	◎	◎
Reversible Switching Function	◎	◎	◎
Stepless Speed Regulating Function (0-10Vdc & PWM Compatible)	●	●	●
FG Speed Signal Output (Open Drain)	●	●	●
FG Speed Signal Output (Square Wave)	◎	◎	◎
+10Vdc Power Output	●	●	●
Remarks	● : Provided as standard ◎ : Customization required		

# EC MOTOR,LSECF,A092/25/01-AS250S/35G1-NN-01

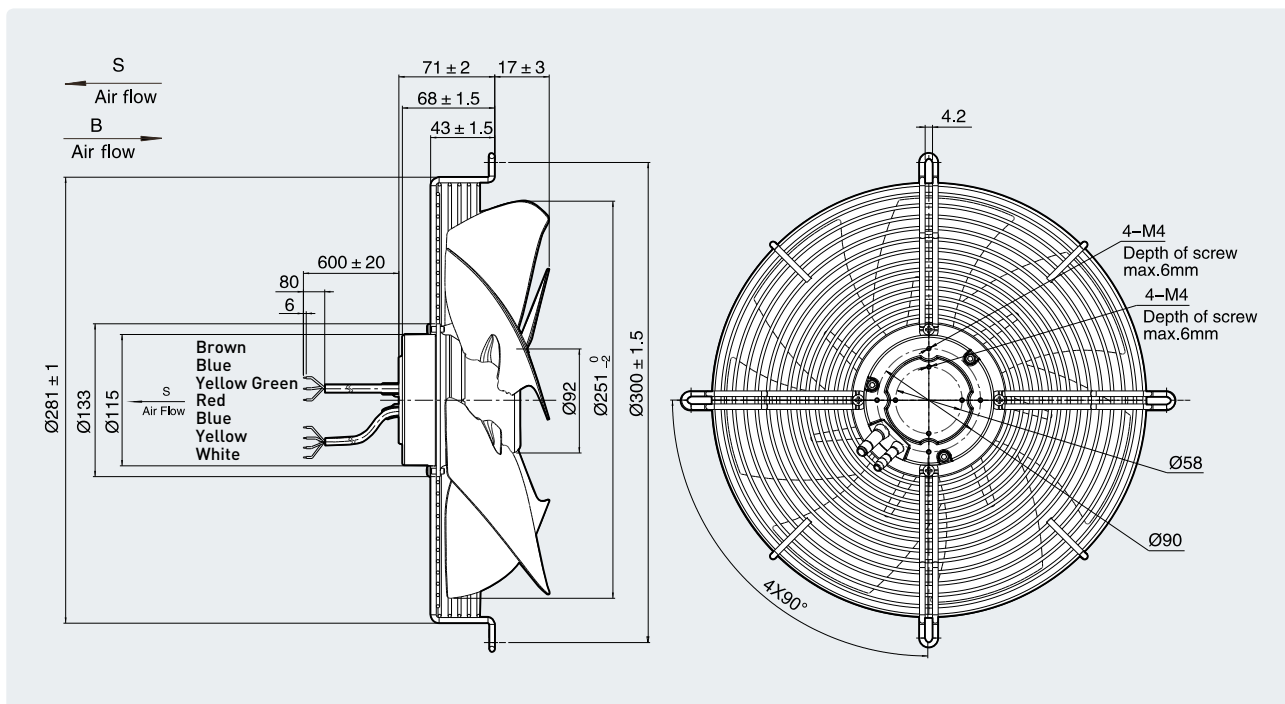
# EC MOTOR,LSECF,A092/25/01-AB250S/35G1-NN-01

## Introduction

- Steel impellers
- Protection degree : IP44
- Noise level [dB] : 79



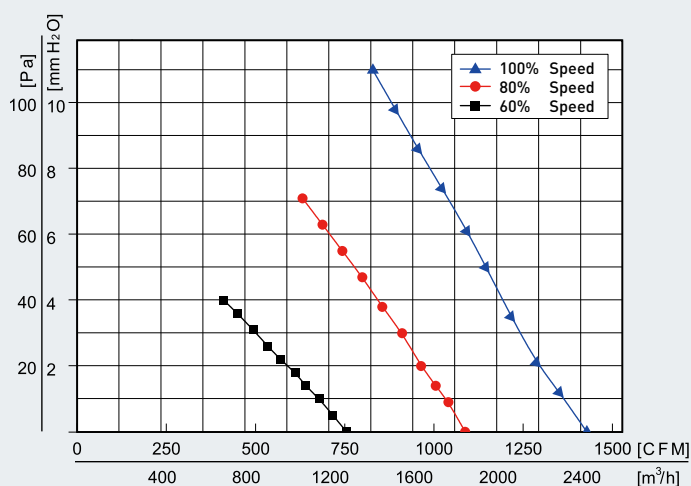
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A092/25/01-AS250S/35G1-NN-01	230	200~277	50/60	≤1.2	160	3,000	2,100	200	79	CW	-25~+60
EC MOTOR,LSECF,A092/25/01-AB250S/35G1-NN-01	230	200~277	50/60	≤1.2	160	3,000	2,100	200	79	CCW	-25~+60



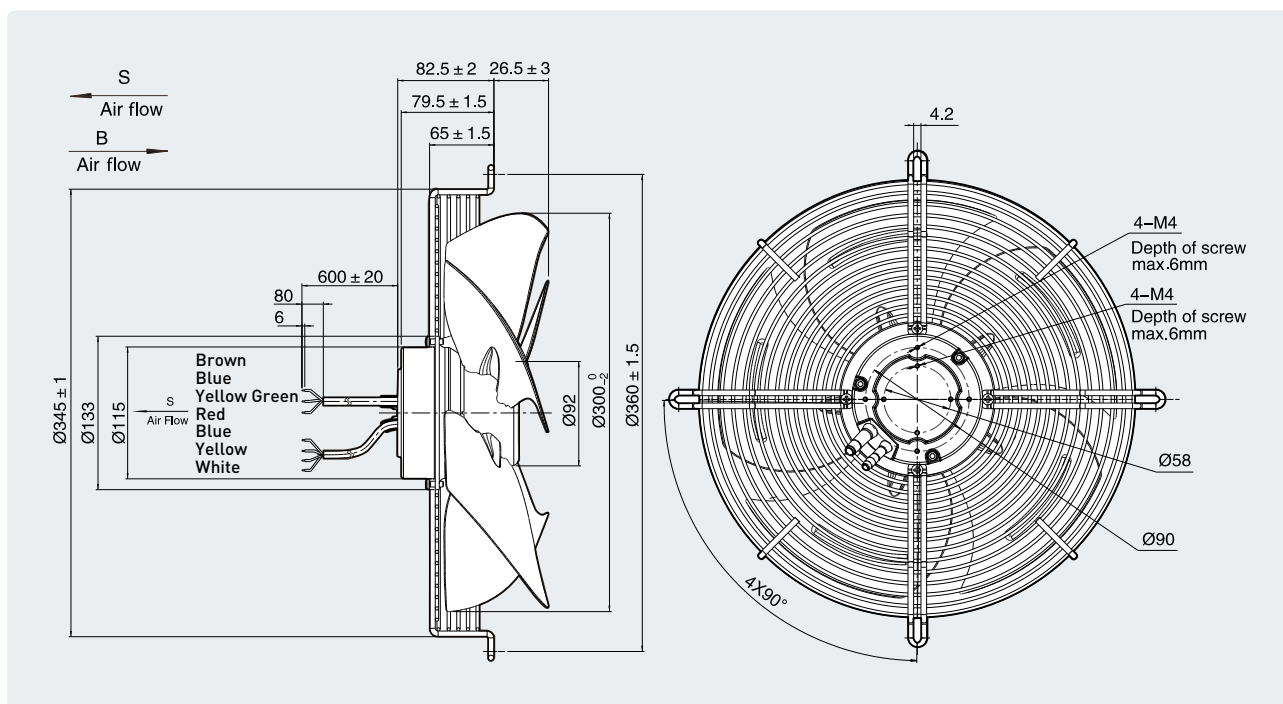
# EC MOTOR, LSECF, A092/25/01-AS300S/60G1-NN-01

# EC MOTOR, LSECF, A092/25/01-AB300S/60G1-NN-01

- Introduction**
- Steel impellers
  - Protection degree : IP44
  - Noise level [dB] : 64



모델명	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR, LSECF, A092/25/01-AB300S/60G1-NN-01	230	200~277	50/60	≤0.8	100	1,800	2,400	120	64	CCW	-25~+60
EC MOTOR, LSECF, A092/25/01-AB300S/60G1-NN-01	230	200~277	50/60	≤0.8	100	1,800	2,400	120	64	CW	-25~+60

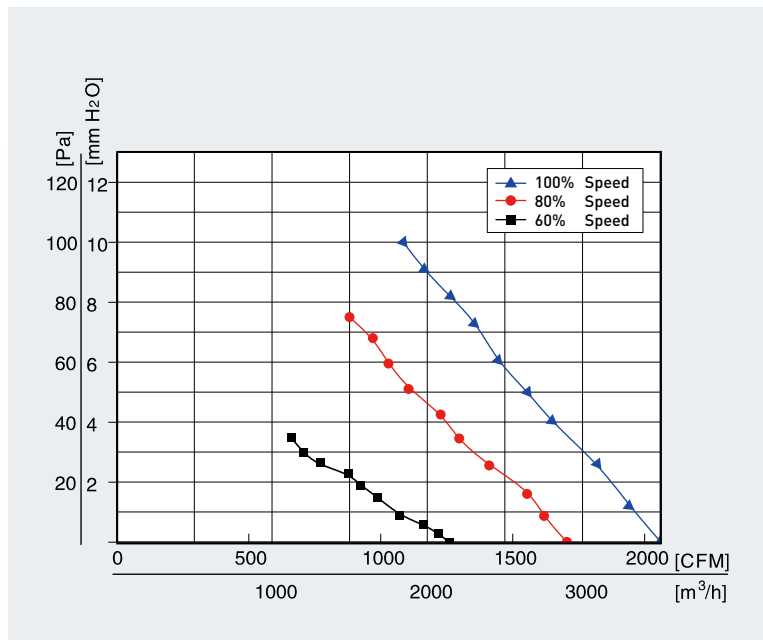


# EC MOTOR,LSECF,A092/25/01-AS350S/92G1-NN-01

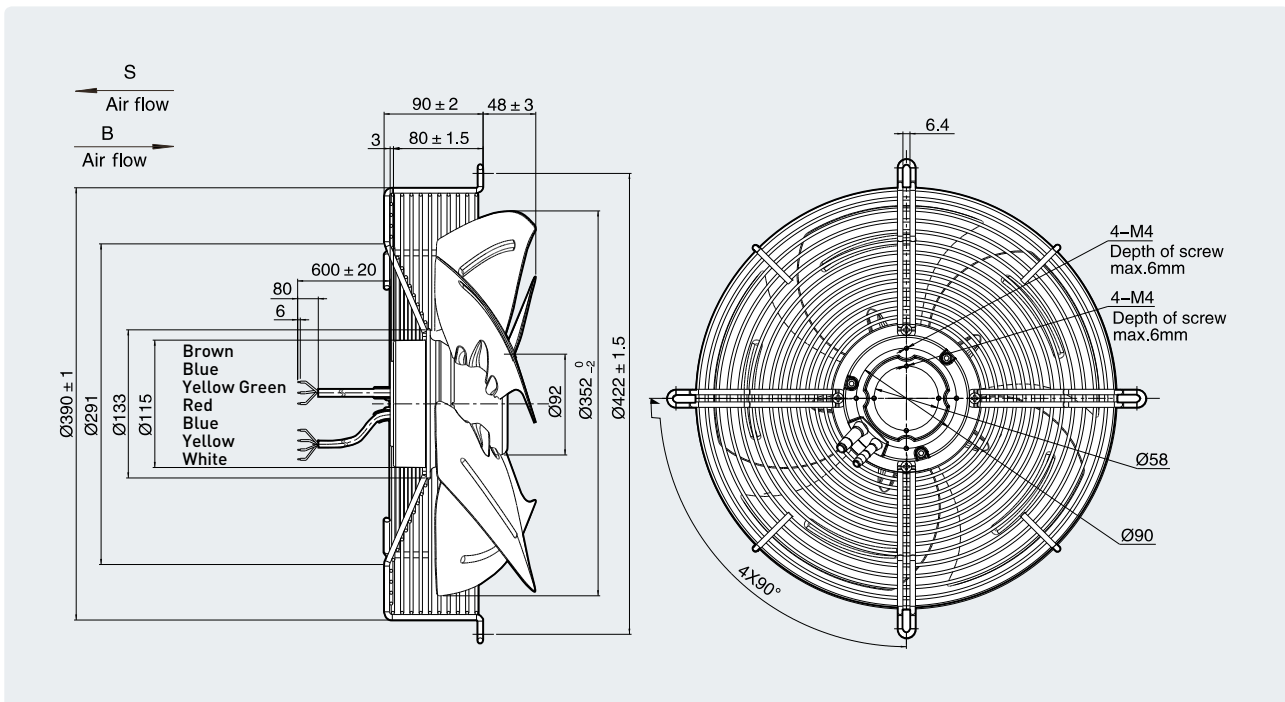
# EC MOTOR,LSECF,A092/25/01-AB350S/92G1-NN-01

## Introduction

- Steel impellers
- Protection degree : IP44
- Noise level [dB] : 67

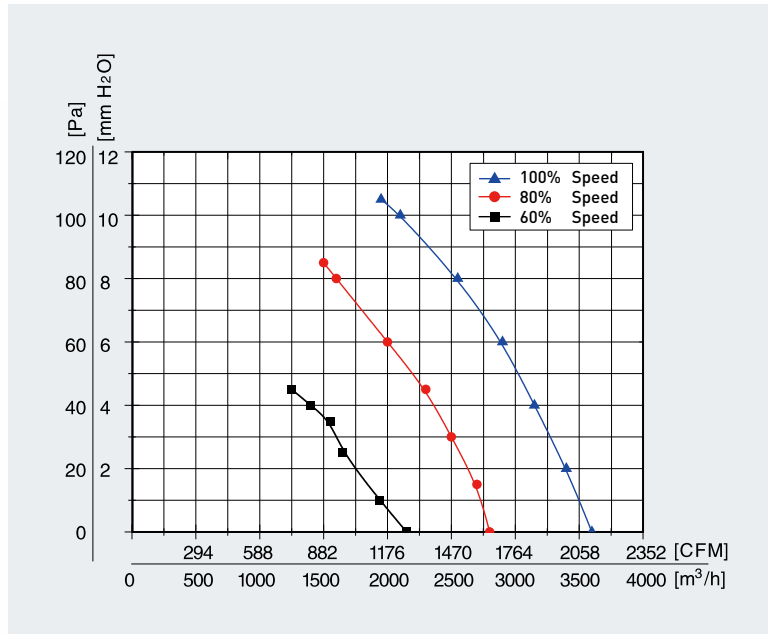


Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A092/25/01-AS350S/92G1-NN-01	230	200~277	50/60	≤1.2	170	1,500	3,550	100	67	CCW	-25~+60
EC MOTOR,LSECF,A092/25/01-AB350S/92G1-NN-01	230	200~277	50/60	≤1.2	170	1,650	3,550	100	67	CW	-25~+60

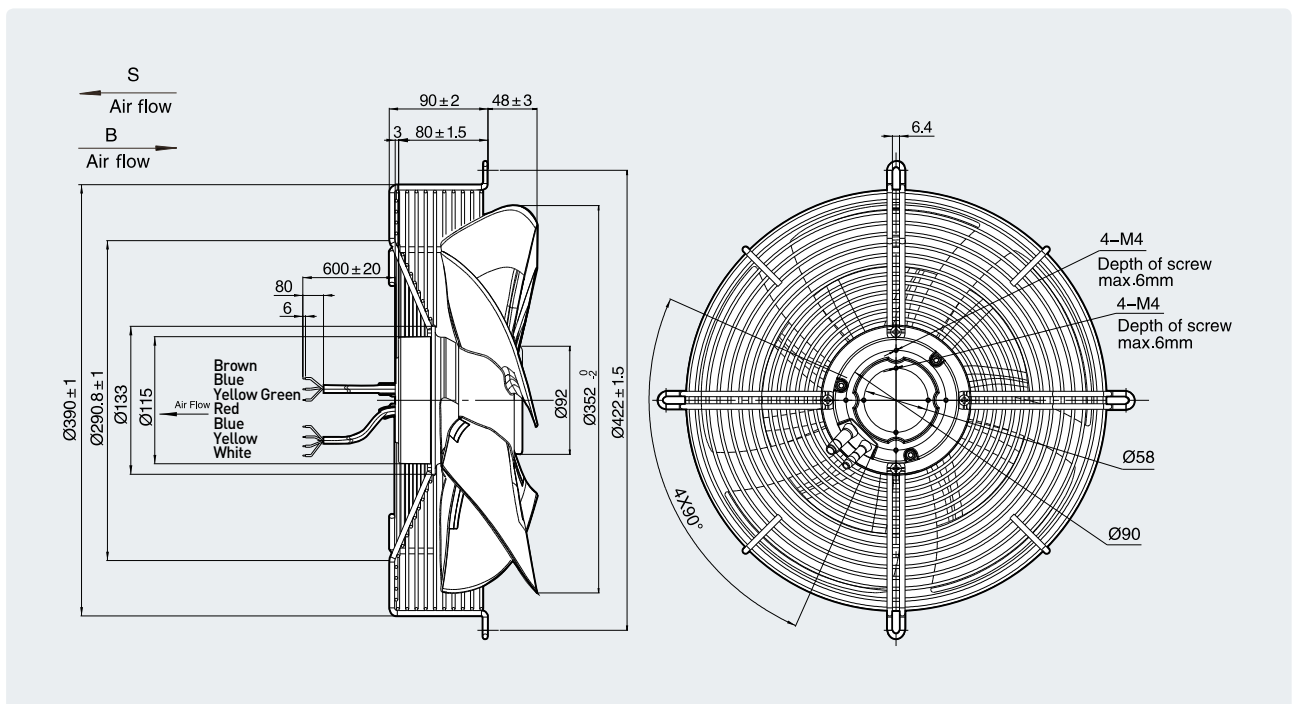


# EC MOTOR,LSECF,A092/25/01-AS350P/86G1-NN-01

- Introduction**
- Plastic impellers
  - Protection degree : IP44
  - Noise level [dB] : 67



Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, A092/25/01-AS350P/86G1-NN-01	230	200~277	50/60	≤1.2	170	1,550	3,600	100	67	CCW	-25~+60

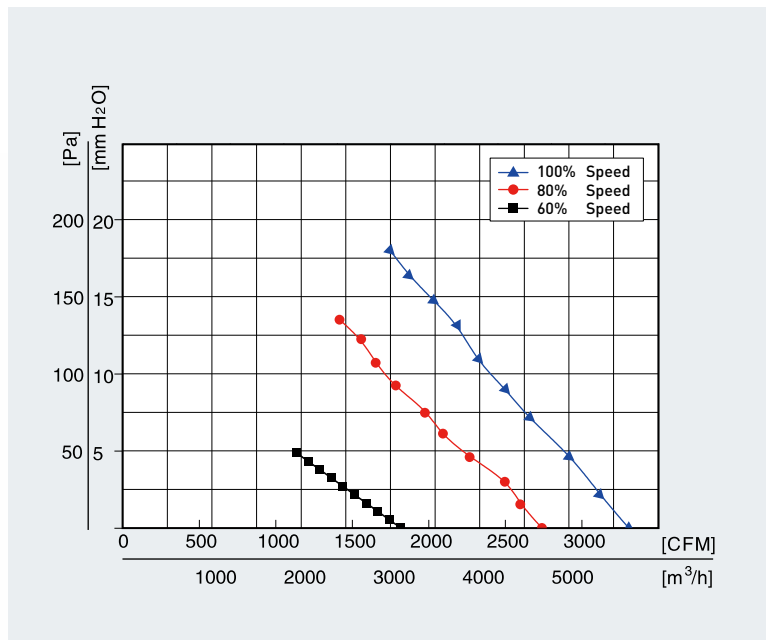


# EC MOTOR,LSECF,A102/50/01-AS400S/88G1-NN-01

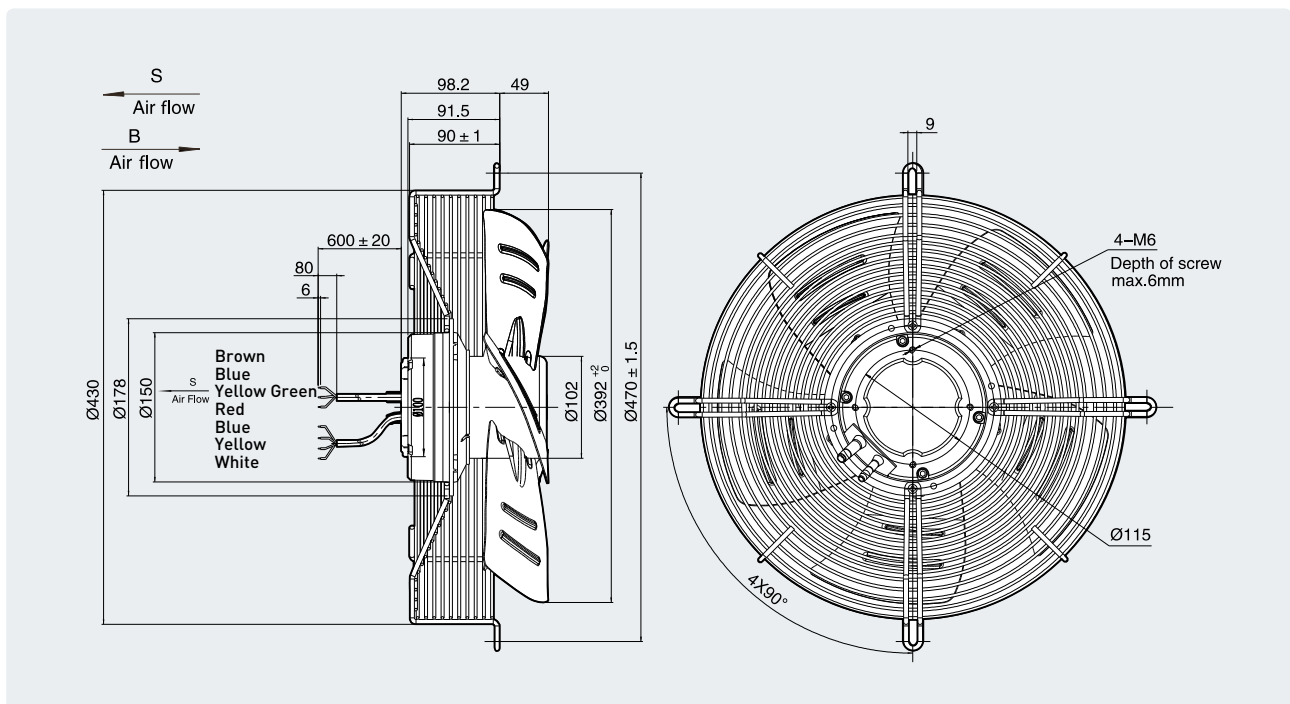
# EC MOTOR,LSECF,A102/50/01-AB400S/88G1-NN-01

## Introduction

- Steel impellers
- Protection degree : IP44
- Noise level [dB] : 64



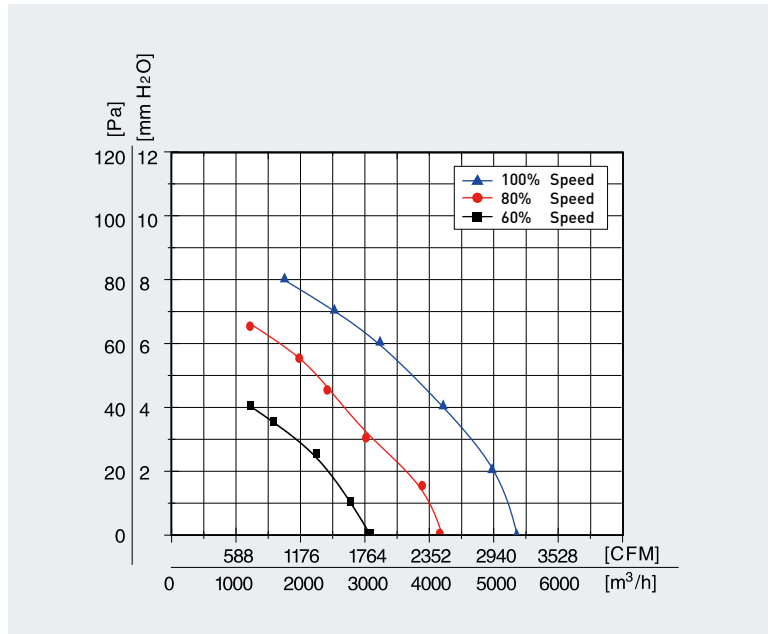
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, A102/50/01-AS400S/88G1-NN-01	230	200~277	50/60	≤2.5	390	1,700	5,500	180	64	CCW	-25~+60
EC MOTOR,LSECF, A102/50/01-AB400S/88G1-NN-01	230	200~277	50/60	≤2.5	390	1,700	5,500	180	64	CW	-25~+60



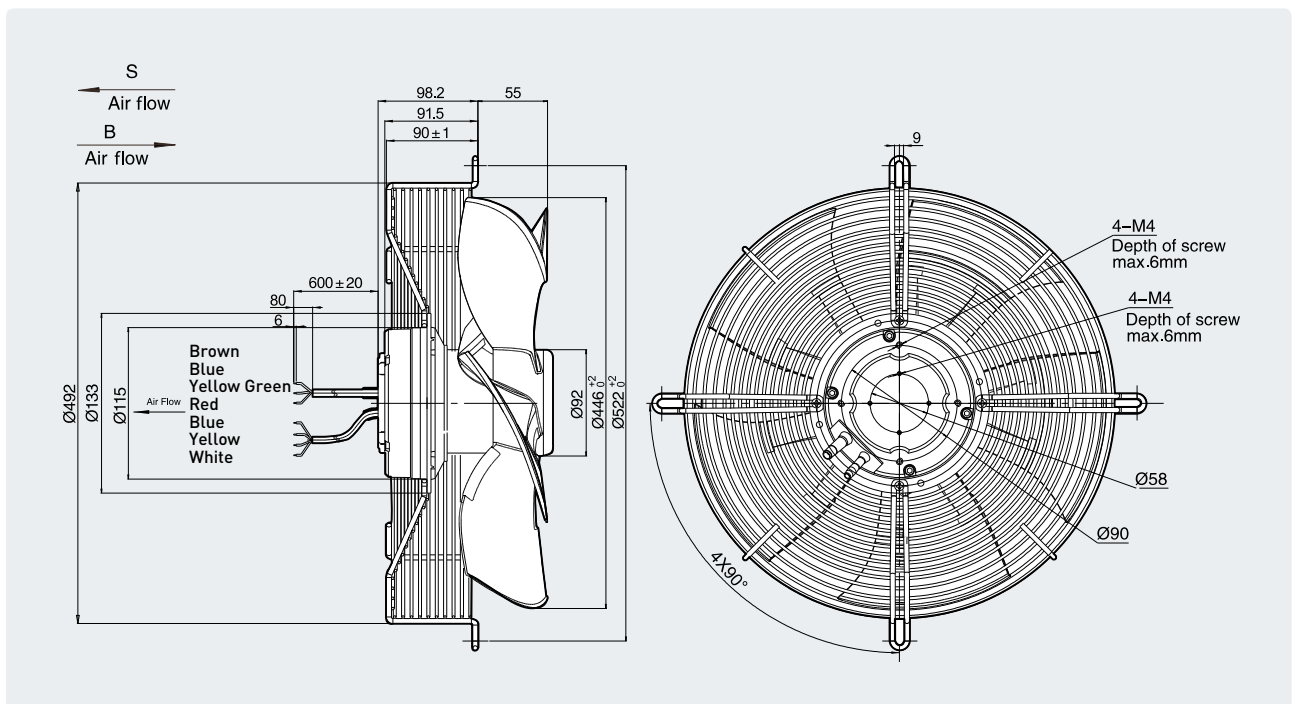
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## Introduction

- Plastic impellers
- Protection degree : IP44
- Noise level [dB] : 67



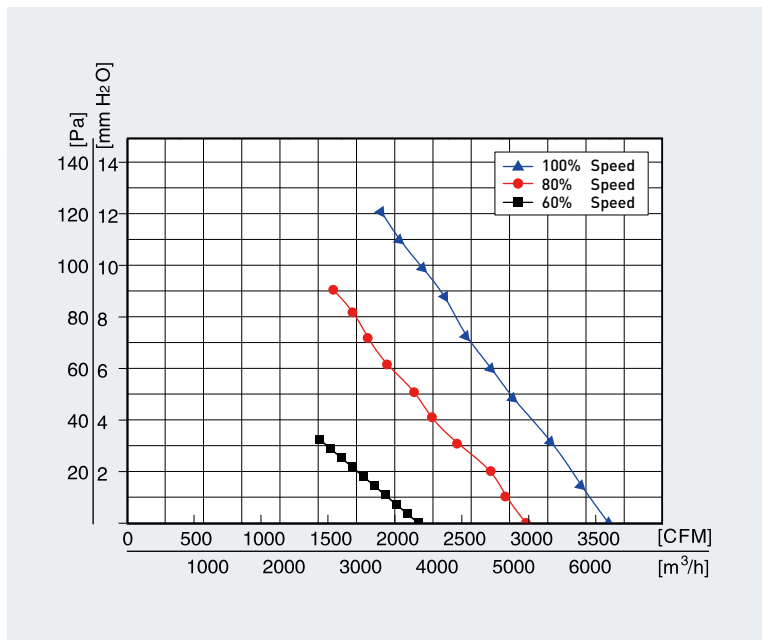
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, A092/35/01-AS450P/96G1-NN-01	230	200~277	50/60	≤1.4	170	980	5,350	75	67	CCW	-25~+60



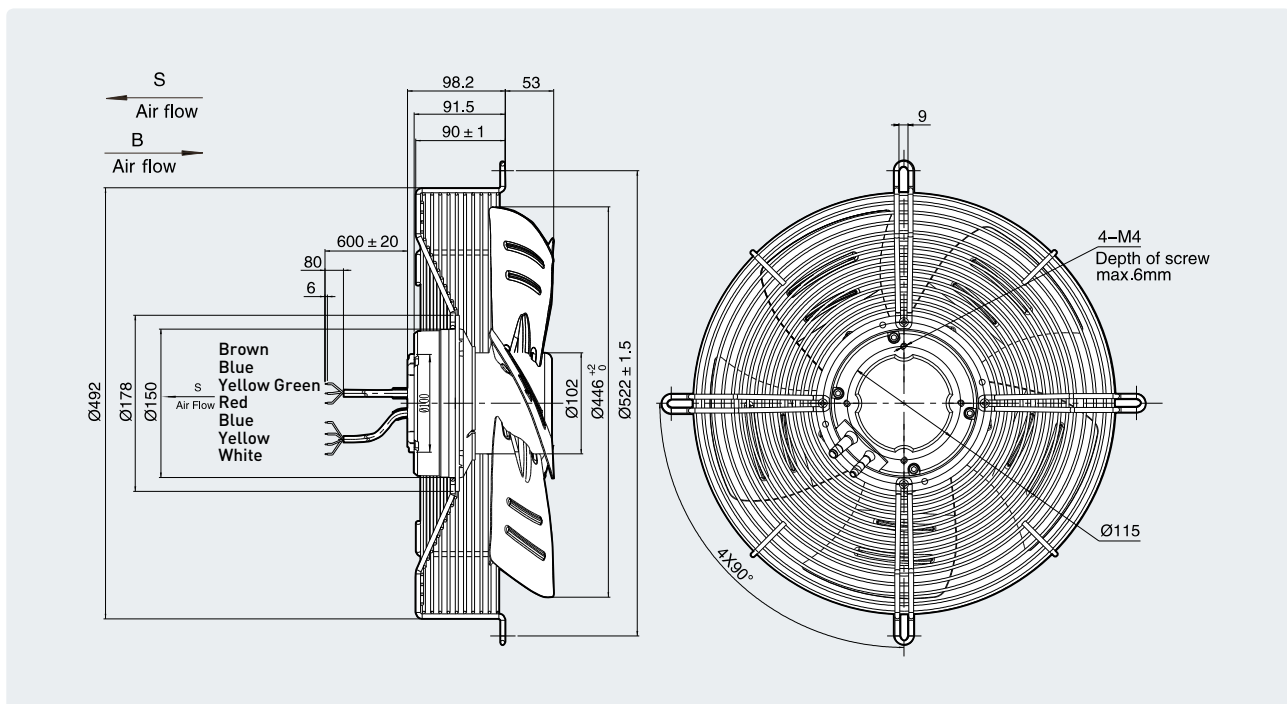
# EC MOTOR,LSECF,A102/50/01-AS450S/92G1-NN-01

# EC MOTOR,LSECF,A102/50/01-AB450S/92G1-NN-01

- Introduction**
- Steel impellers
  - Protection degree : IP44
  - Noise level [dB] : 64



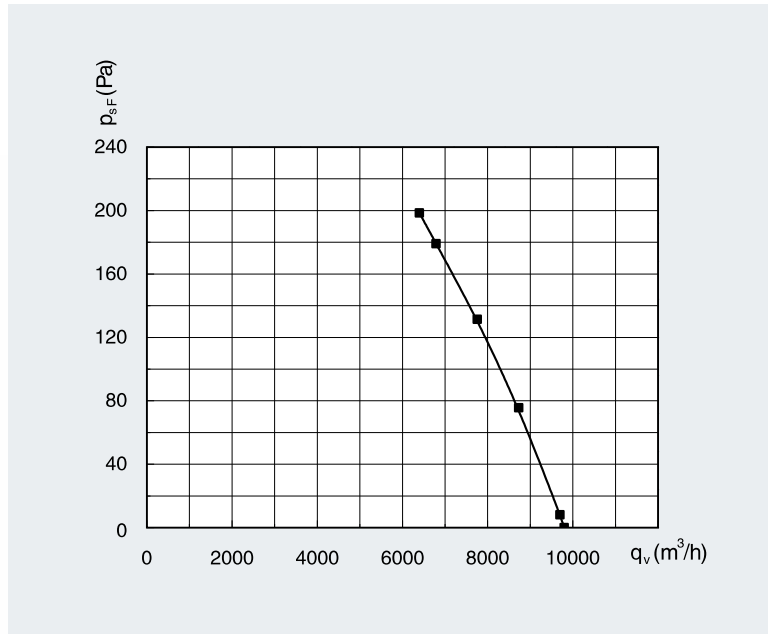
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, A102/50/01-AS450S/92G1-NN-01	230	200~277	50/60	≤2.1	330	1,300	6,000	120	64	CCW	-25~+60
EC MOTOR,LSECF, A102/50/01-AB450S/92G1-NN-01	230	200~277	50/60	≤2.1	330	1,300	6,000	120	64	CW	-25~+60



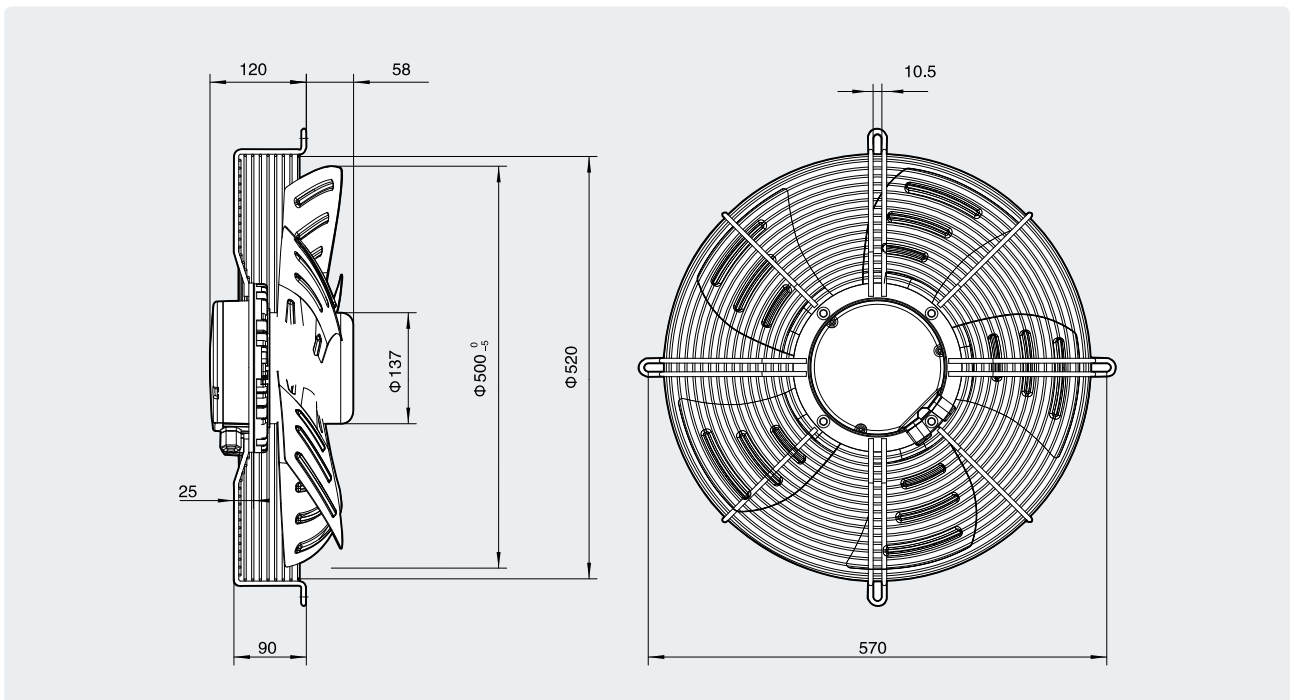


# EC MOTOR,LSECF,C137/60/01-AS500P/110G1-NN-01

- Introduction**
- Steel impellers
  - Protection degree : IP44
  - Noise level [dB] : 74



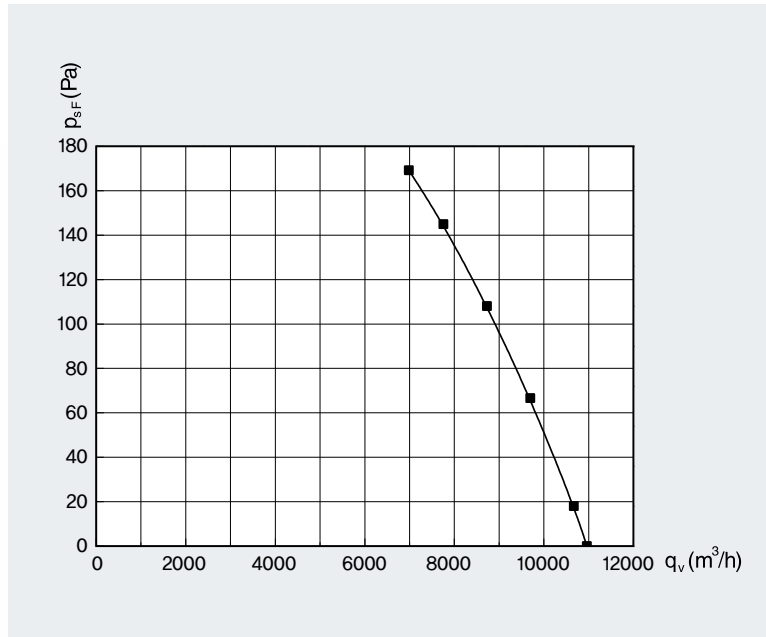
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m <sup>3</sup> /h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, C137/60/01-AS500P/110G1-NN-01	380	3-380~480	50/60	1.6	940	1,600	9,700	200	74	CCW	-25~+60



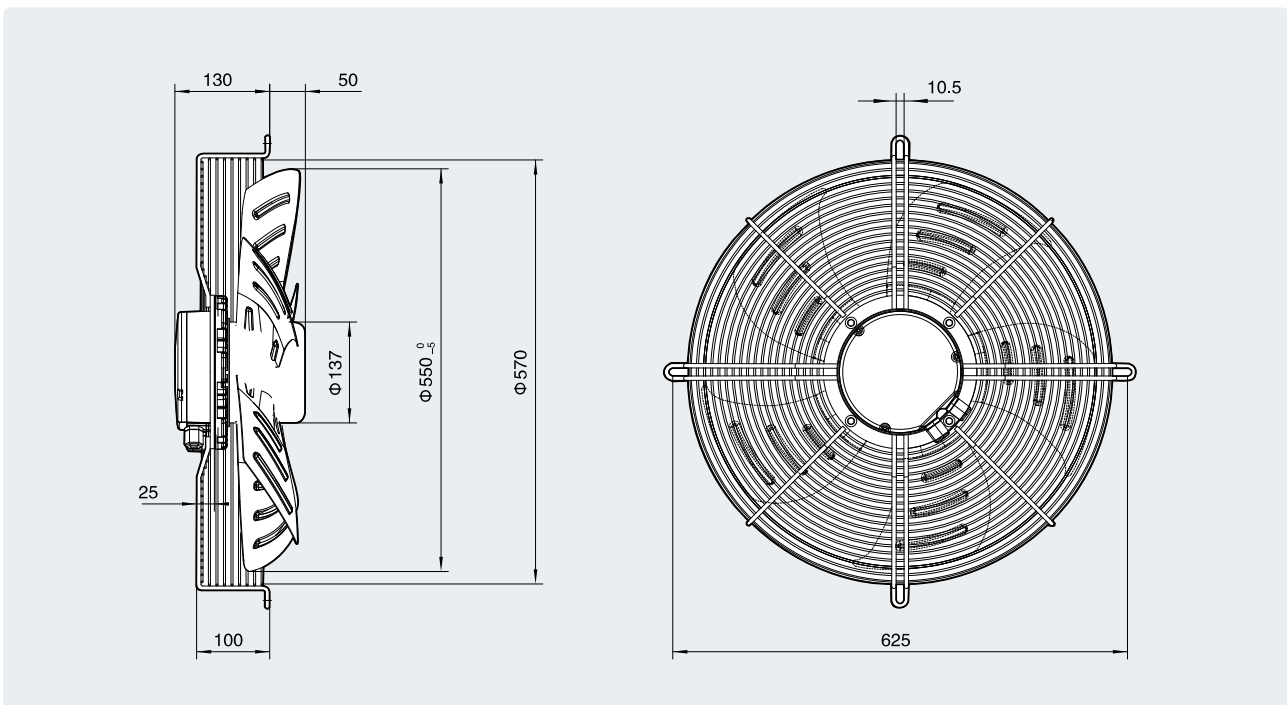
# EC MOTOR,LSECF,C137/60/01-AS560P/134G1-NN-01

## Introduction

- Steel impellers
- Protection degree : IP44
- Noise level [dB] : 75

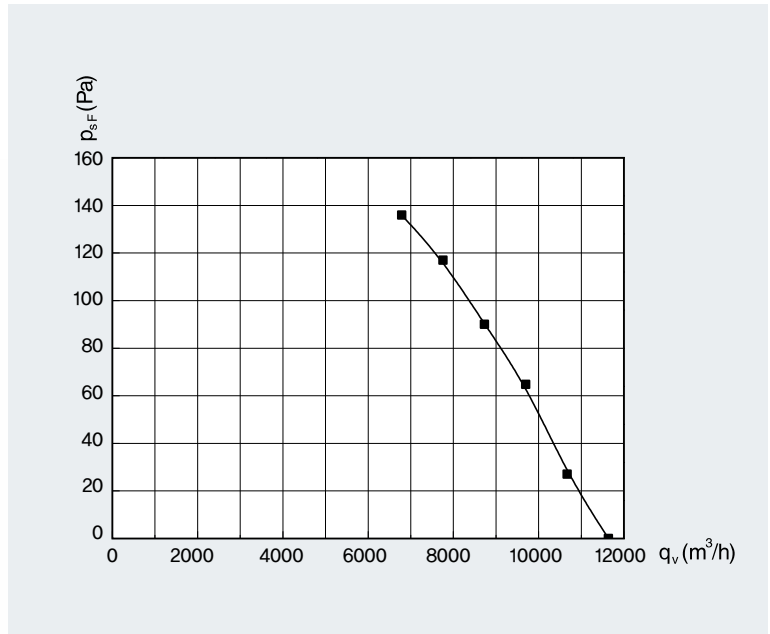


Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m <sup>3</sup> /h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,C137/60/01-AS560P/134G1-NN-01	380	3-380~480	50/60	1.5	900	1,350	10,900	170	75	CCW	-25~+60

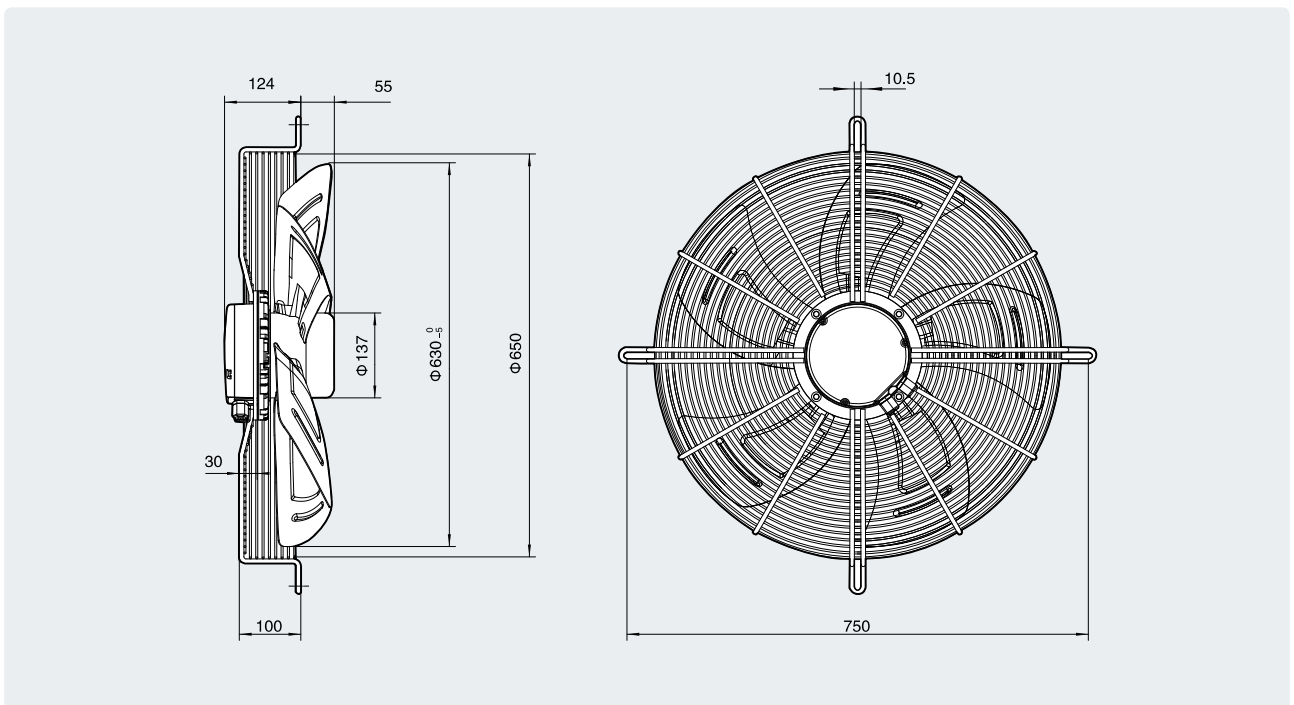


# EC MOTOR,LSECF,C137/60/01-AS630S/100G1-NN-01

- Introduction**
- Steel impellers
  - Protection degree : IP44
  - Noise level [dB] : 71



Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, C137/60/01-AS630S/100G1-NN-01	380	3-380~480	50/60	1.3	720	1,000	11,600	135	71	CCW	-25~+60



# Centrifugal Fan

**High Efficiency & High Performance EC Fan Motor!  
Excellent choice for Energy-saving**

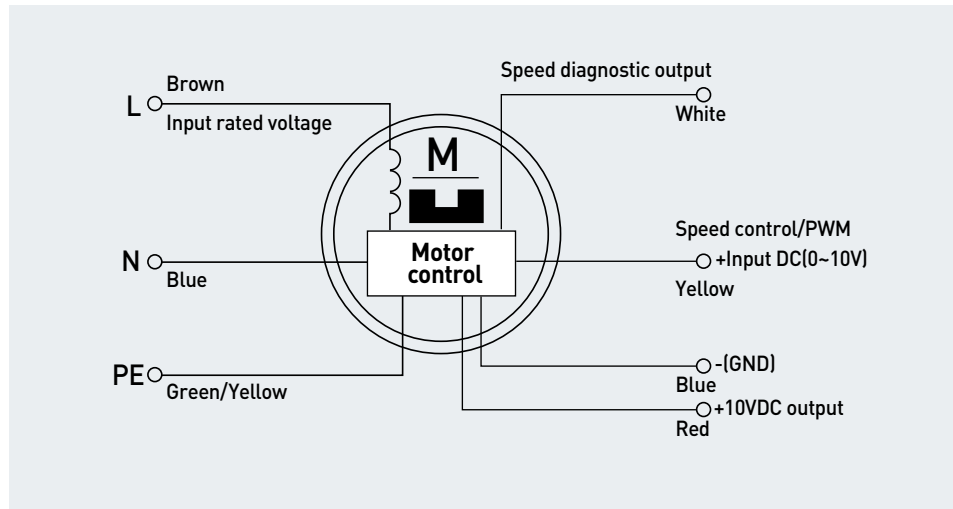


# Motors

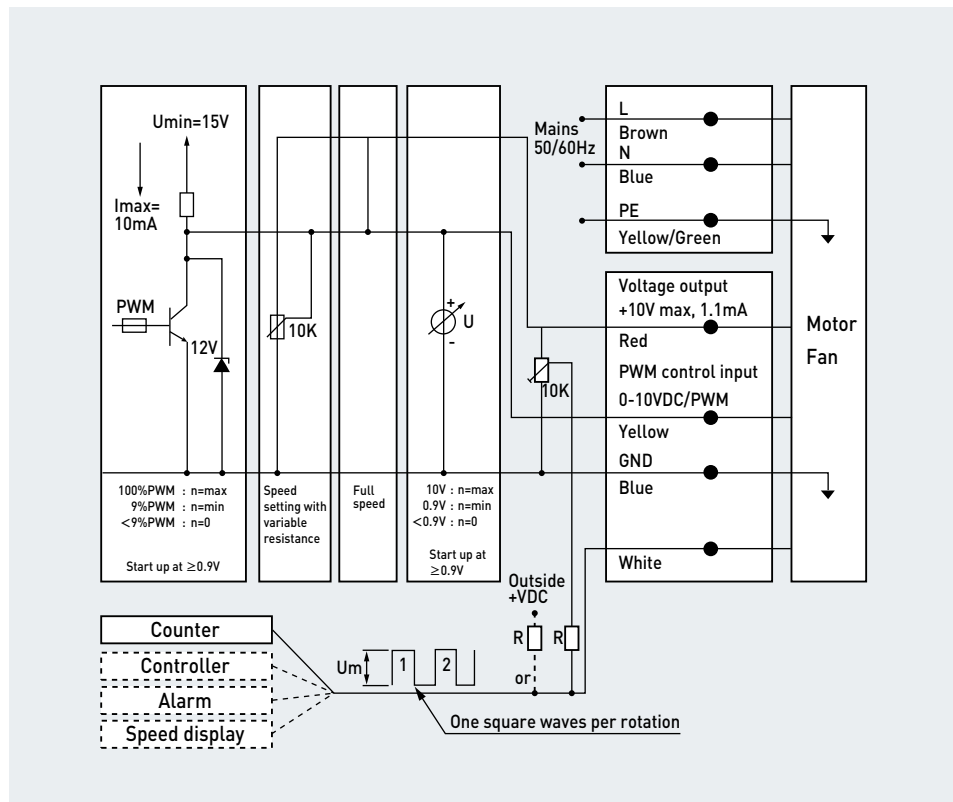


# Centrifugal Fan Motors

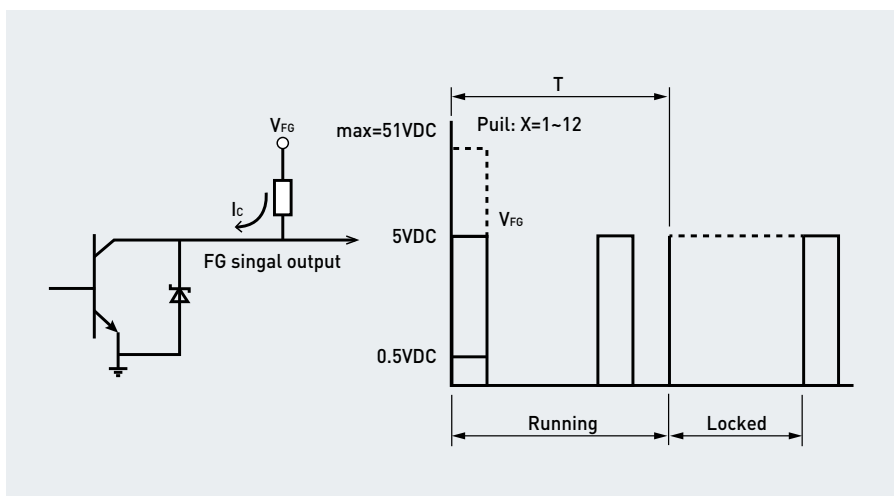
## Motor connection diagram



## Interface circuit

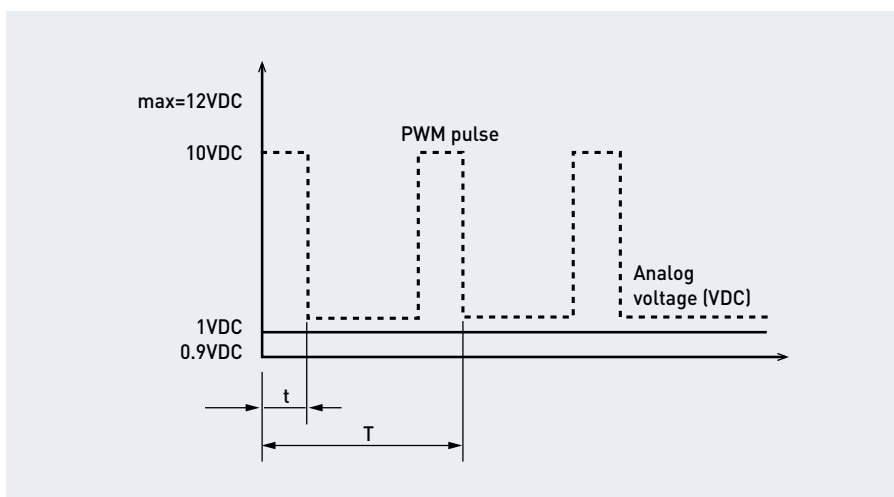


## FG signal connection



- Output type : Open collector
- R Design requirement:  $R \geq V_{FG}/I_c$ ,  $I_c=10\text{mA}(\text{max.})$   
Normal:  $V_{FG}=5\text{VDC}$ ,  $R=1\text{k}\Omega$
- Pulse number : 1 PPR
- Frequency speed calculation:  $F=(1/T)*X$ ,  $n=(60*F)/X$  r/min

## Speed control signal diagram



- Frequency speed calculation : 0.9~10Vdc
- Full speed from 9.5Vdc
- In PWM mode, amplitude is 10Vdc  
Adjusting duty cycle from 0~100%

# Centrifugal Fan Motors

## 제품 사양

Fan Diameter	LS Description	Phase	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (RPM)	Max Air Flow (m <sup>3</sup> /h)	Max Static Pressure (Pa)	Noise Level (dB)	Rotating Direction	Fan Material
133	EC MOTOR,LSECF,A072/25/01-CB133P/41N1-NN-01	1	200~277	50/60	≤0.4	43	4,480	430	400	75	CW	PLASTIC
175	EC MOTOR,LSECF,A072/25/01-CB175P/42N1-NN-01	1	200~277	50/60	≤0.7	78	4,070	720	600	72	CW	PLASTIC
190	EC MOTOR,LSECF,A072/25/01-CB190P/44N1-NN-01	1	200~277	50/60	≤0.54	71	3,320	750	550	64	CW	PLASTIC
190	EC MOTOR,LSECF,A092/25/01-CB190P/44N1-NN-01	1	200~277	50/60	≤1.18	149	4,050	820	620	74	CW	PLASTIC
220	EC MOTOR,LSECF,A072/25/01-CB220P/44N1-NN-01	1	200~277	50/60	≤0.54	62	2,700	960	440	64	CW	PLASTIC
220	EC MOTOR,LSECF,A092/25/01-CB220P/44N1-NN-01	1	200~277	50/60	≤1.18	157	3,510	1,100	550	75	CW	PLASTIC
225	EC MOTOR,LSECF,A072/25/01-CB225P/49N1-NN-01	1	200~277	50/60	≤0.5	70	2,200	800	330	71	CW	PLASTIC
225	EC MOTOR,LSECF,A092/25/01-CB225P/62N1-NN-01	1	200~277	50/60	≤1.07	139	3,010	1,270	510	71	CW	PLASTIC
250	EC MOTOR,LSECF,A092/25/01-CB250S/48N1-NN-01	1	200~277	50/60	≤0.96	157	3,000	1,600	650	71	CW	METAL
280	EC MOTOR,LSECF,A092/25/01-CB280S/50N1-NN-01	1	200~277	50/60	≤1.87	254	2,900	2,020	640	76	CW	METAL
280	EC MOTOR,LSECF,A092/25/01-CB280S/80N1-NN-01	1	200~277	50/60	≤1.07	130	1,910	2,020	300	72	CW	METAL
310	EC MOTOR,LSECF,A092/25/01-CB310A/70N1-NN-01	1	200~277	50/60	≤1.07	160	1,860	2,250	400	65	CW	METAL
310	EC MOTOR,LSECF,A102/50/01-CB310A/70N1-NN-01	1	200~277	50/60	≤3.0	410	2,600	3,000	1,000	76	CW	Aluminum
310	EC MOTOR,LSECF,A092/25/01-CB310A/100N1-NN-01	1	200~277	50/60	≤1.28	162	1,720	2,580	300	65	CW	Aluminum
310	EC MOTOR,LSECF,A102/50/01-CB310A/100N1-NN-01	1	200~277	50/60	≤3.2	350	2,300	3,400	500	75	CW	Aluminum
355	EC MOTOR,LSECF,A102/50/01-CB355A/96N1-NN-01	1	200~277	50/60	≤2.8	345	1,950	3,600	750	76	CW	Aluminum
400	EC MOTOR,LSECF,A102/50/01-CB400A/113N1-NN-02	1	200~277	50/60	≤2.7	390	1,400	3,600	600	72	CW	Aluminum
315	EC MOTOR,LSECF,C137/40/01-CB315A/98F1-NN-01	3	380~480	50/60	≤2.0	900	2,600	4,100	760	79	CW	Aluminum
355	EC MOTOR,LSECF,C137/60/01-CB355A/110F1-NN-01	3	380~480	50/60	≤2.7	1700	3,000	4,900	1,280	87	CW	Aluminum
355	EC MOTOR,LSECF,C137/40/01-CB355A/110F1-NN-01	3	380~480	50/60	≤1.6	940	2,200	4,600	870	83	CW	Aluminum
400	EC MOTOR,LSECF,C137/60/01-CB400A/108F1-NN-01	3	380~480	50/60	≤2.7	1700	2,500	6,000	1,150	89	CW	Aluminum
400	EC MOTOR,LSECF,C137/40/01-CB400A/108F1-NN-02	3	380~480	50/60	≤1.8	1000	2,100	5,000	800	83	CW	Aluminum
400	EC MOTOR,LSECF,C137/40/01-CB400A/108F1-NN-01	3	380~480	50/60	≤1.5	780	1,720	4,600	680	78	CW	Aluminum
450	EC MOTOR,LSECF,C137/60/01-CB450A/123F1-NN-01	3	380~480	50/60	≤1.8	1010	1,550	6,600	640	83	CW	Aluminum
500	EC MOTOR,LSECF,C137/60/01-CB500A/138F1-NN-01	3	380~480	50/60	≤1.6	830	1,150	7,300	400	81	CW	Aluminum

- Available both 100-130V and 200-277V types.
- For request except above specifications, please contact LS sales.



### ECFM control mode

Control Mode \ Motor Frame	072	092	102
Sensor + Quasai sine wave	●	●	
Sensor + Sine wave	●	●	●
Sensorless + Square wave	◎	◎	
Sensorless + Sine wave	◎	◎	◎
Closed Loop Constant Speed Control	◎	◎	◎
Closed Loop Constant Power Control	●	●	●
Closed Loop Constant Flow Control	◎	◎	◎
VVVF Control	●	●	
FOC Control	◎	◎	●
Remarks	● : Provided as standard ◎ : Customization required		

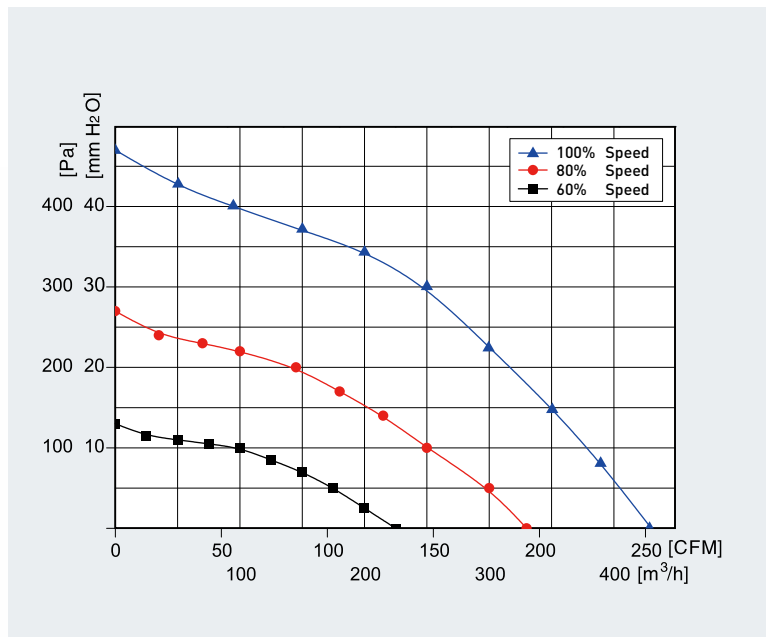
### ECFM protection function

Control Mode \ Motor Frame	072	092	102
Soft Start	●	●	●
Under-voltage Protection	●	●	●
Over-voltage Protection	●	●	●
Current limit Protection	●	●	●
Over-current Protection	●	●	●
Blocking Protection	●	●	●
Self Starting Function	●	●	●
The Function of Temperature Protection	◎	◎	◎
Reversible Switching Function	◎	◎	◎
Stepless Speed Regulating Function (0~10Vdc & PWM Compatible)	●	●	●
FG Speed Signal Output (Open Drain)	●	●	●
FG Speed Signal Output (Square Wave)	◎	◎	◎
+10Vdc Power Output	●	●	●
Remarks	● : Provided as standard ◎ : Customization required		

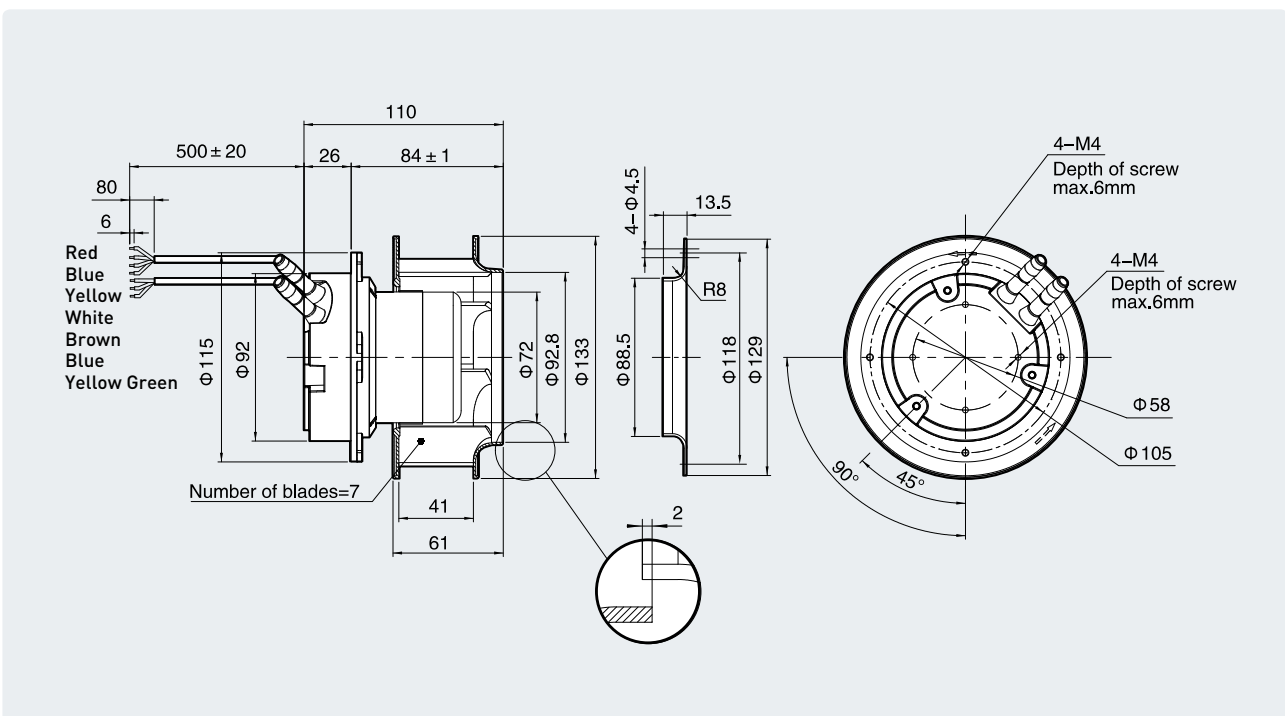
# EC MOTOR,LSECF,A072/25/01-CB133P/41N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 75



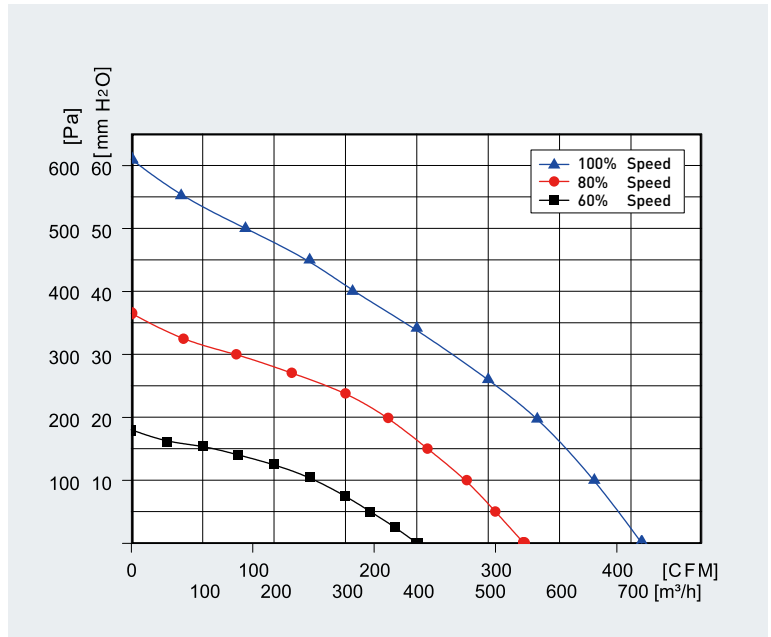
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A072/25/01-CB133P/41N1-NN-01	230	200~277	50/60	≤0.4	43	4,480	430	400	75	CW	-25~+60



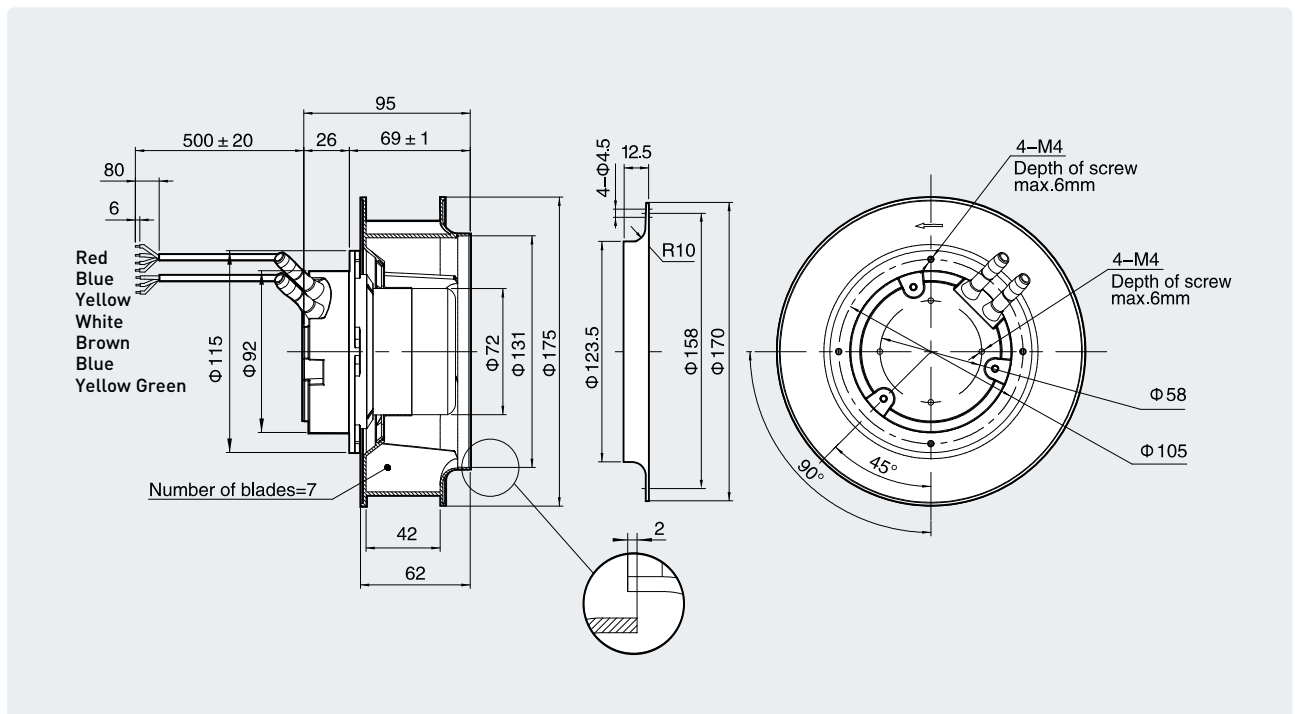
# EC MOTOR,LSECF,A072/25/01-CB175P/42N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 72



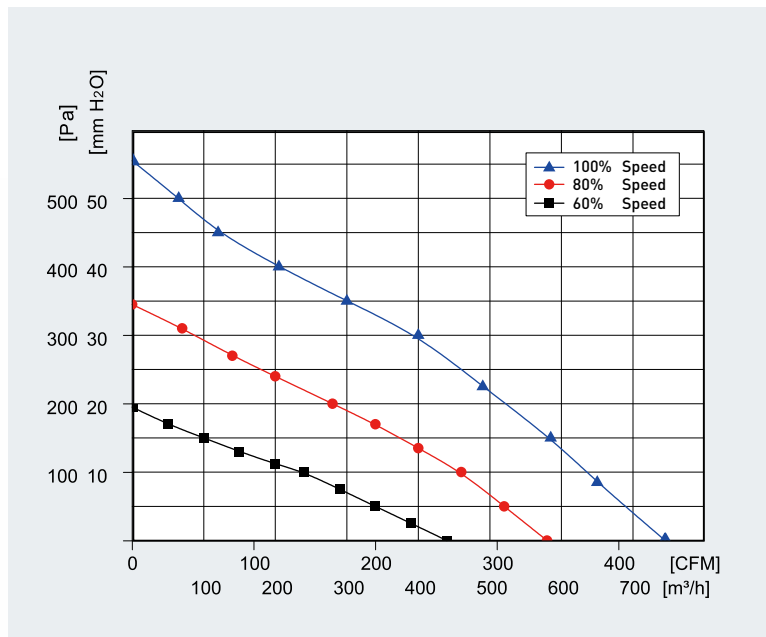
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A072/25/01-CB175P/42N1-NN-01	230	200~277	50/60	≤0.7	78	4,070	720	600	72	CW	-25~+60



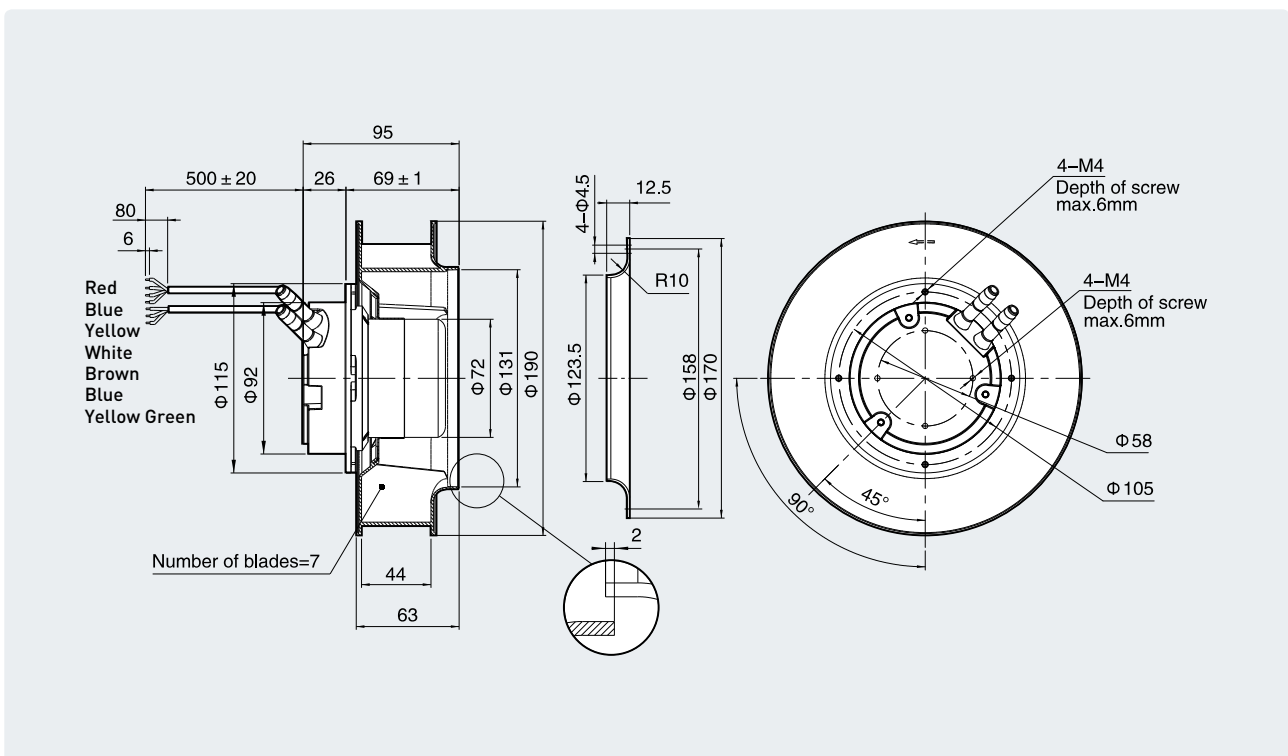
# EC MOTOR,LSECF,A072/25/01-CB190P/44N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 64



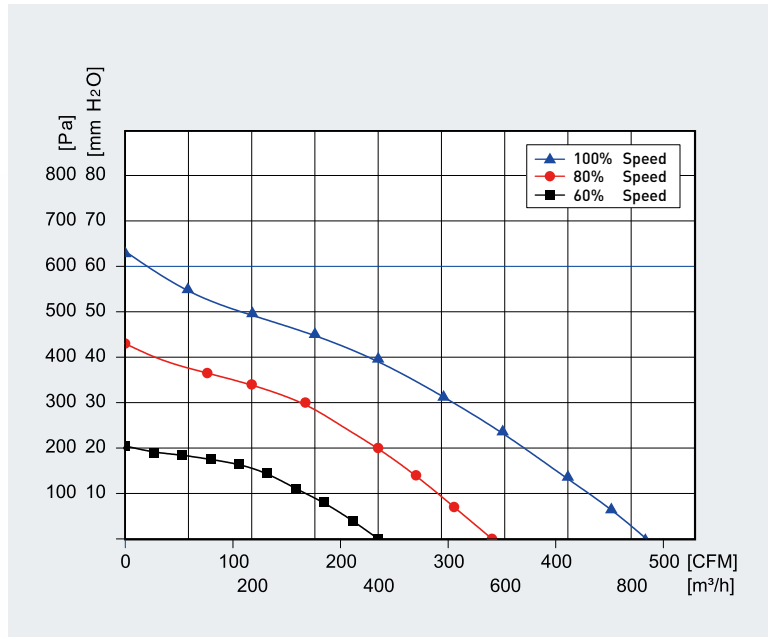
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m <sup>3</sup> /h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A072/25/01-CB190P/44N1-NN-01	230	200~277	50/60	≤0.54	71	3,320	750	550	64	CW	-25~+60



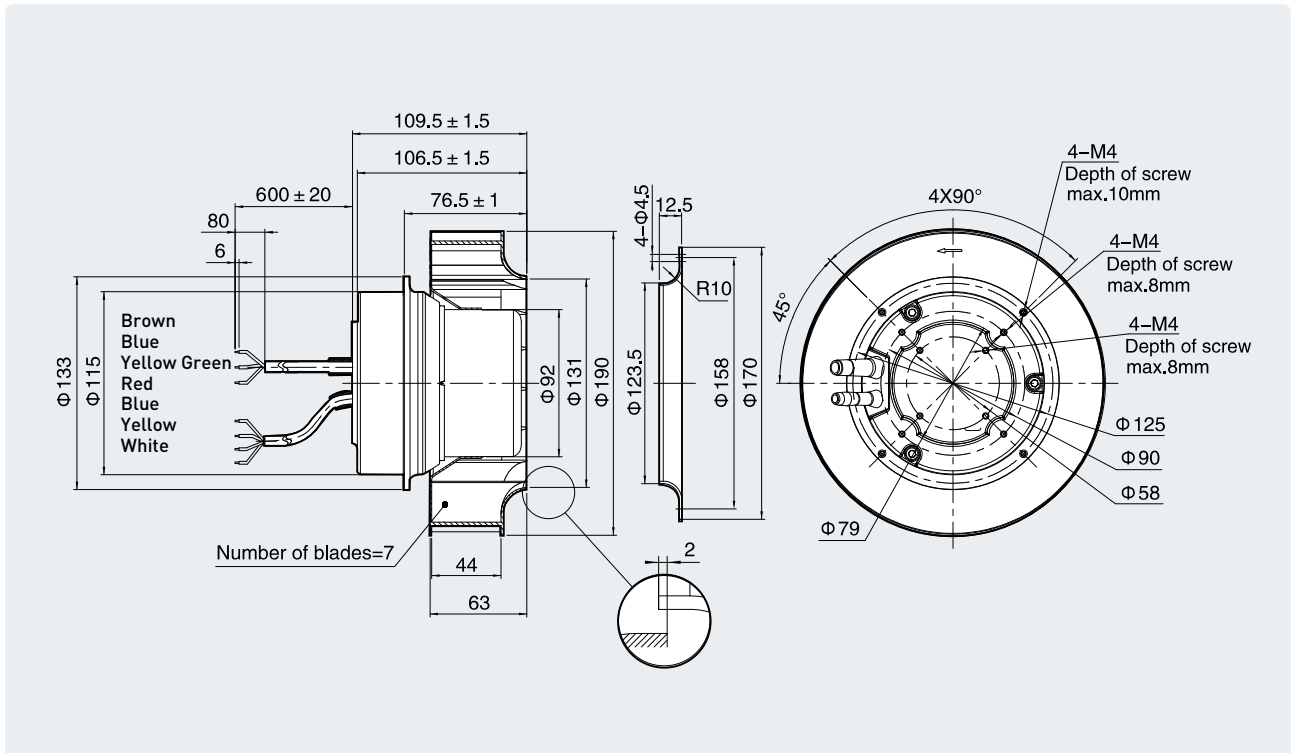
# EC MOTOR,LSECF,A092/25/01-CB190P/44N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 74



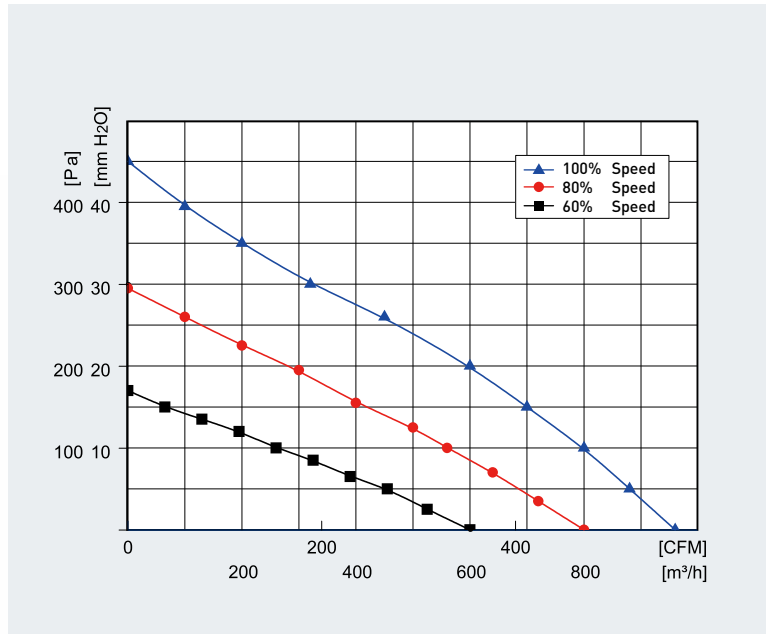
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A092/25/01-CB190P/44N1-NN-01	230	200~277	50/60	≤1.18	149	4,050	820	620	74	CW	-25~+60



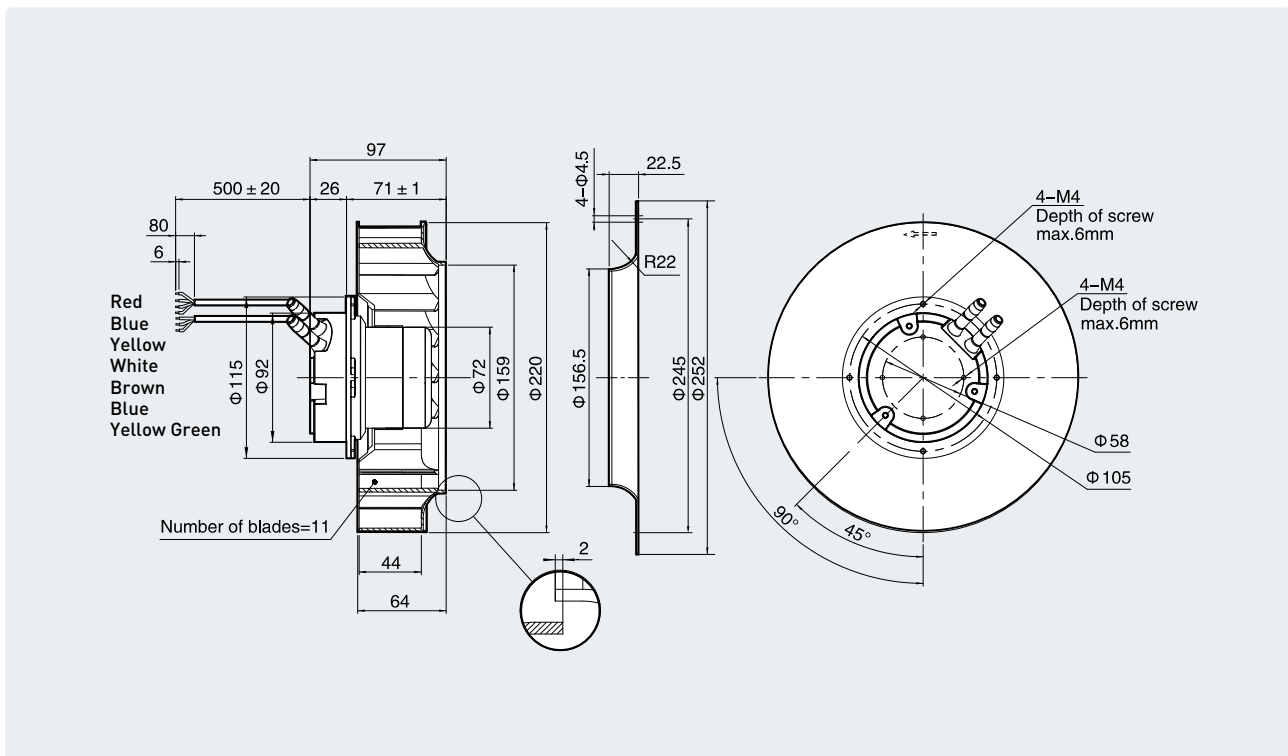
# EC MOTOR,LSECF,A072/25/01-CB220P/44N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 64



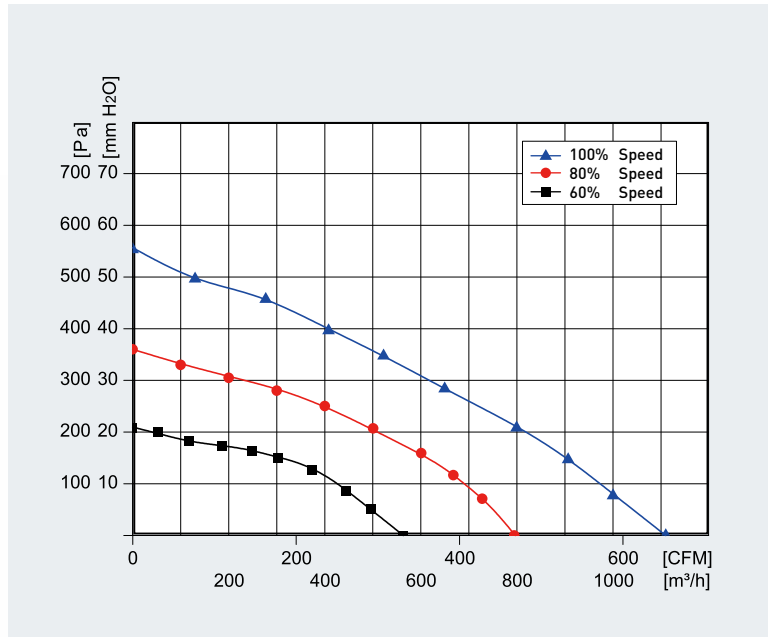
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A072/25/01-CB220P/44N1-NN-01	230	200~277	50/60	≤0.54	62	2,700	960	440	64	CW	-25~+60



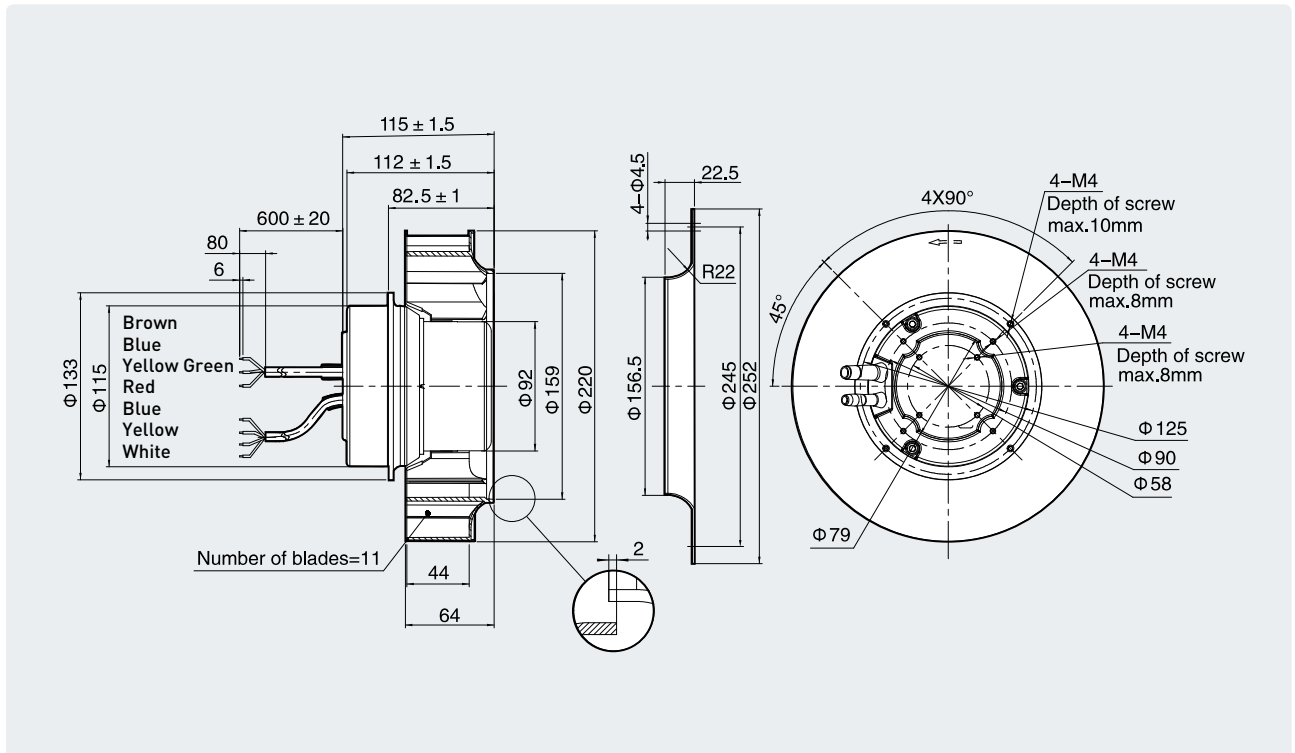
# EC MOTOR,LSECF,A092/25/01-CB220P/44N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 75



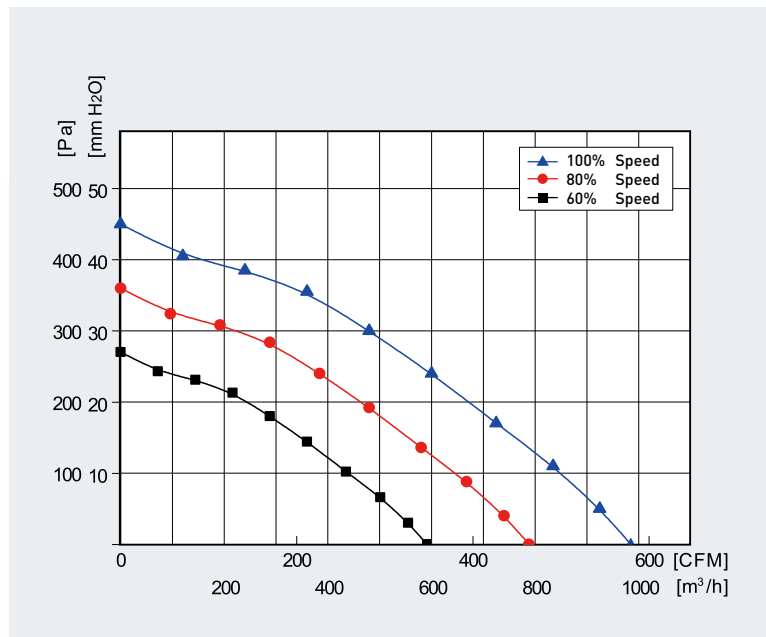
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A092/25/01-CB220P/44N1-NN-01	230	200~277	50/60	≤1.18	157	3,510	1,100	550	75	CW	-25~+60



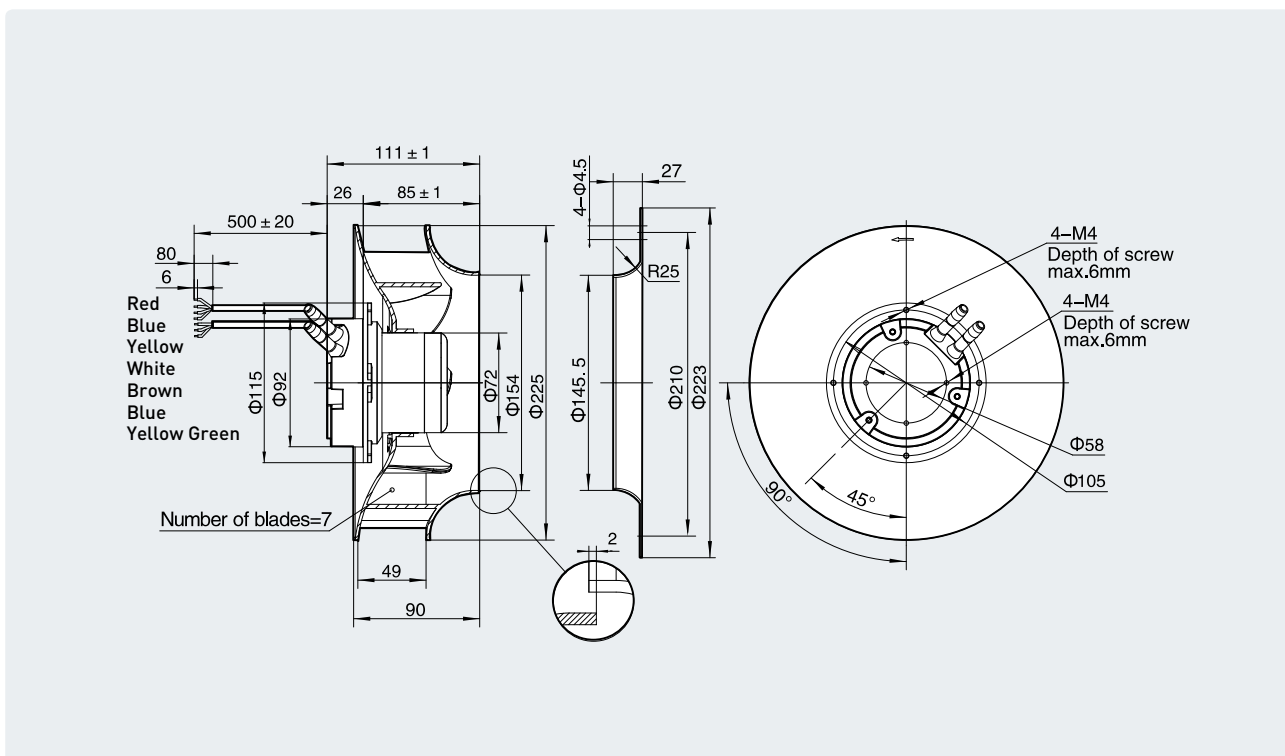
# EC MOTOR, LSECF, A072/25/01-CB225P/49N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 71



Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR, LSECF, A072/25/01-CB225P/49N1-NN-01	230	200~277	50/60	≤0.5	70	2,220	800	330	71	CW	-25~+60

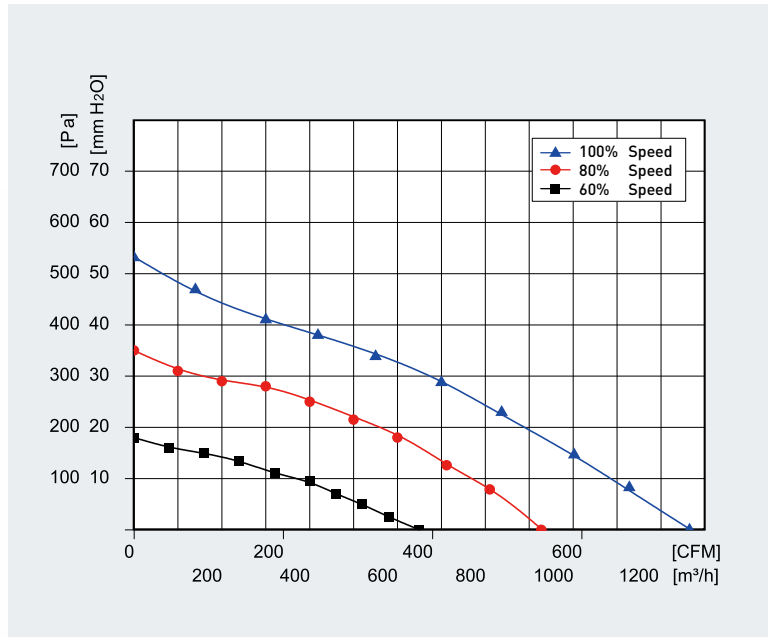




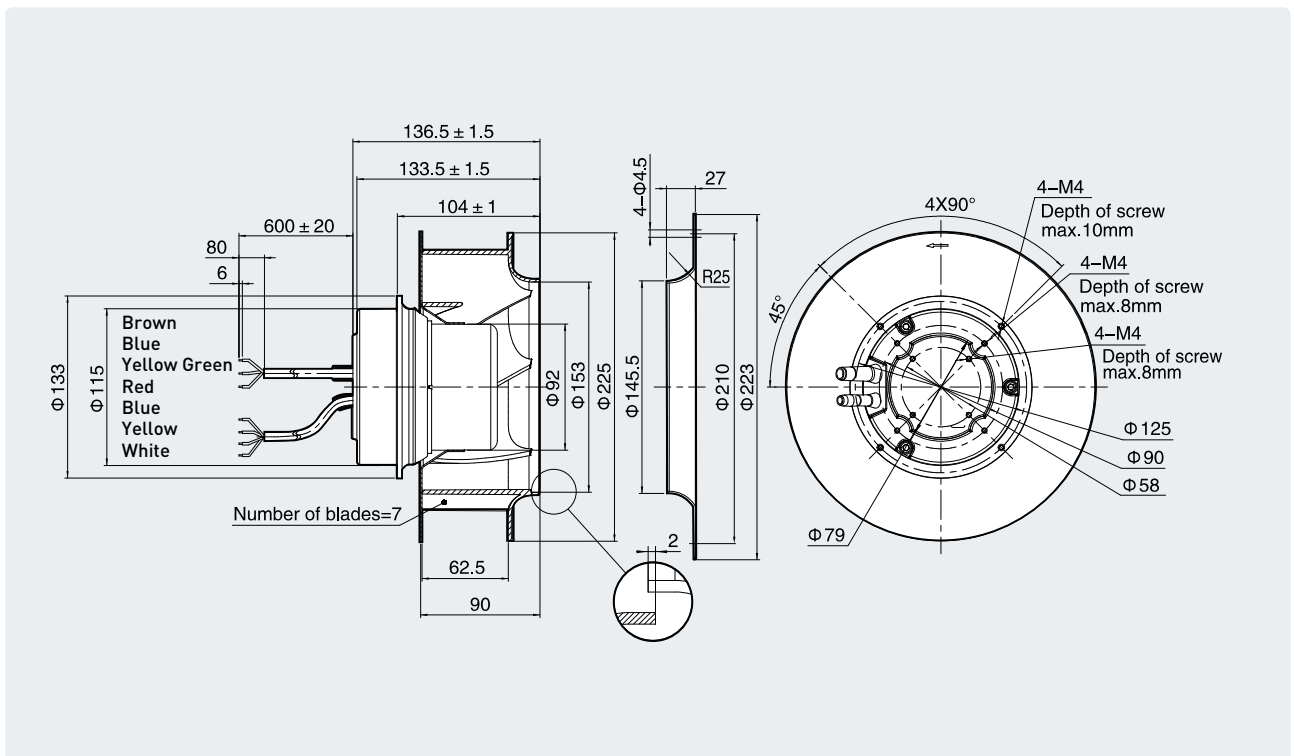
# EC MOTOR, LSECF, A092/25/01-CB225P/62N1-NN-01

## Introduction

- Plastic impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 71



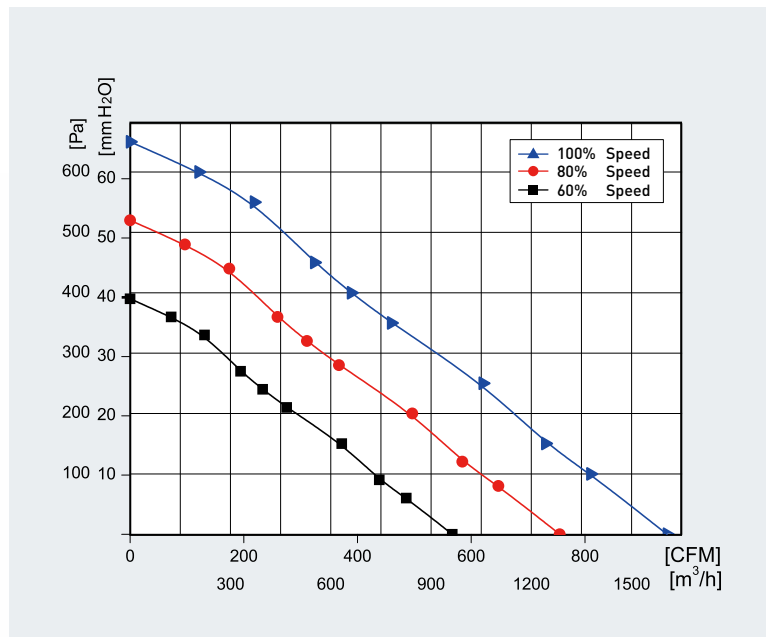
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR, LSECF, A092/25/01-CB225P/62N1-NN-01	230	200~277	50/60	≤1.07	139	3,010	1,270	510	71	CW	-25~+60



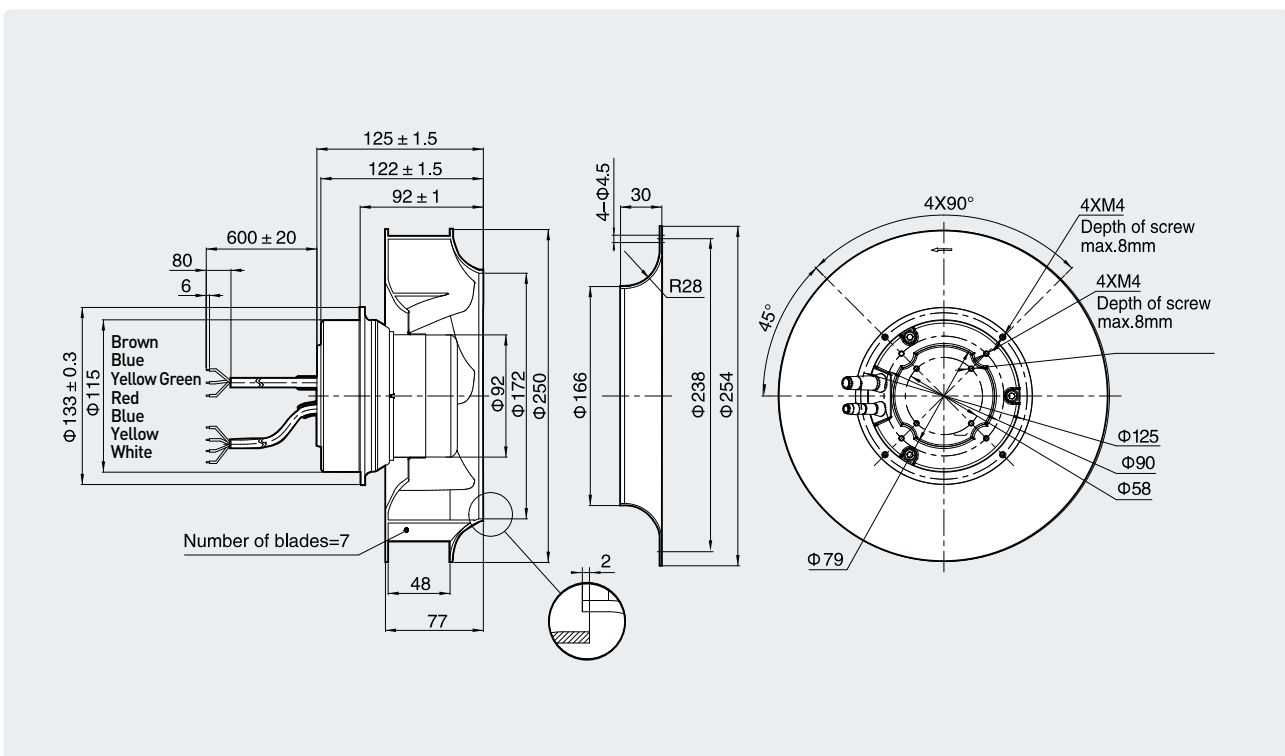
# EC MOTOR, LSECF, A092/25/01-CB250S/48N1-NN-01

## Introduction

- Steel impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : ≤71



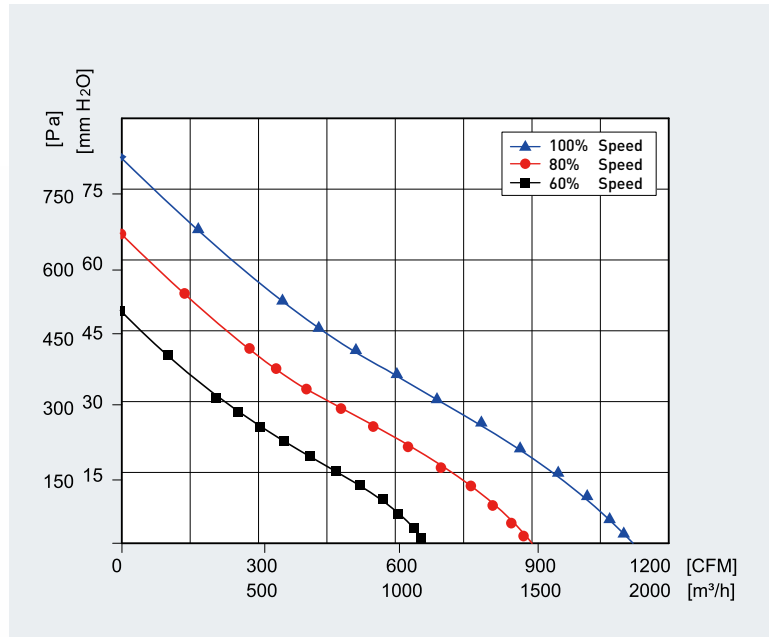
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR, LSECF, A092/25/01-CB250S/48N1-NN-01	230	200~277	50/60	≤0.96	157	3,000	1.600	650	71	CW	-25~+60



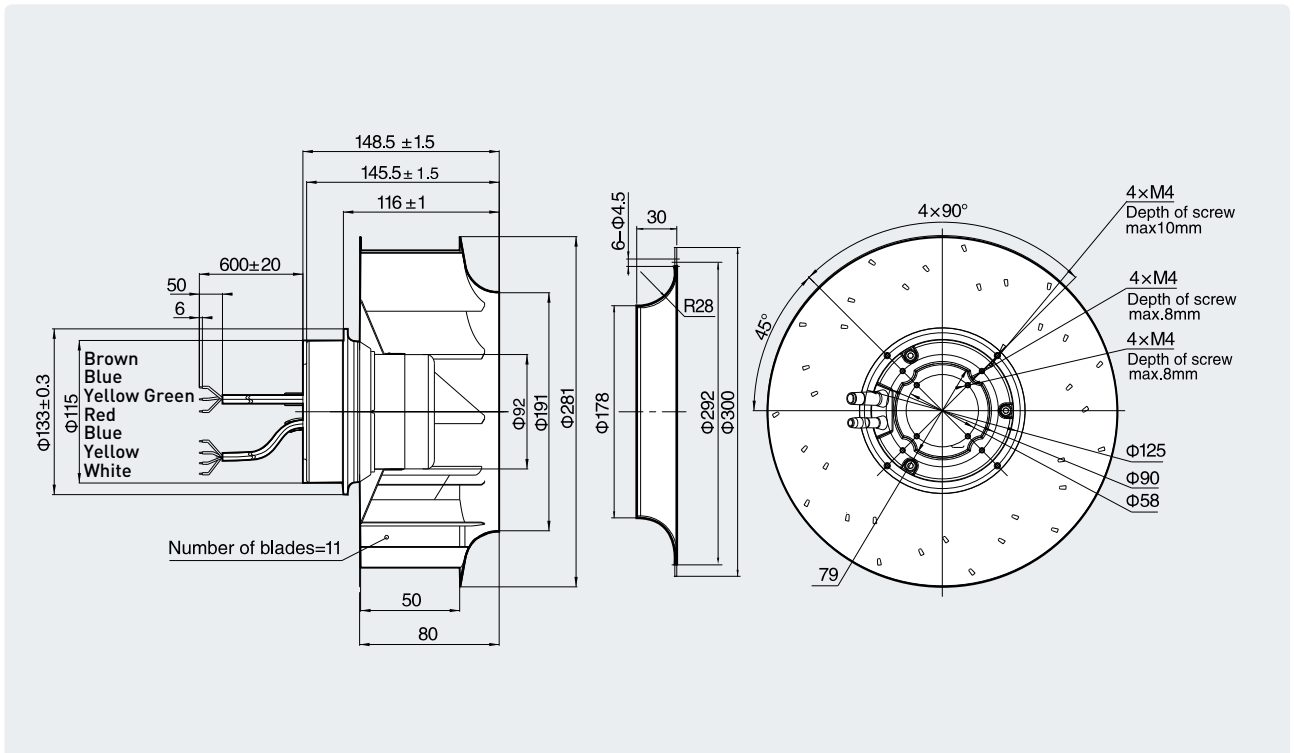
# EC MOTOR,LSECF,A092/25/01-CB280S/50N1-NN-01

## Introduction

- Steel impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 76



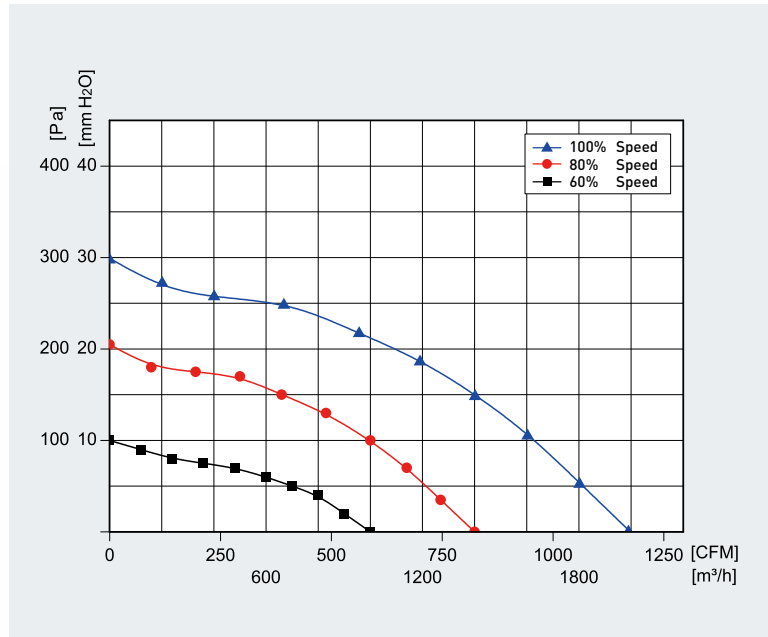
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A092/25/01-CB280S/50N1-NN-01	230	200~277	50/60	≤1.87	254	2,900	2,020	640	76	CW	-25~+60



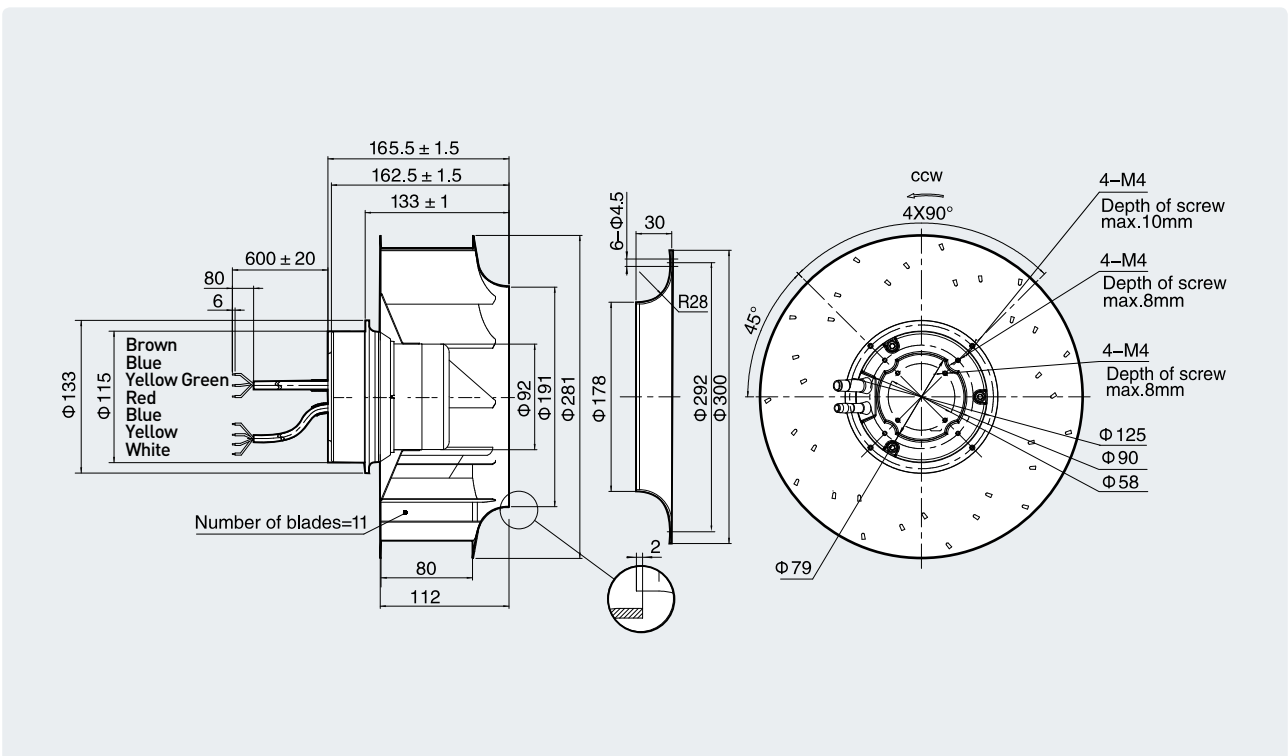
# EC MOTOR,LSECF,A092/25/01-CB280S/80N1-NN-01

## Introduction

- Steel impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 72



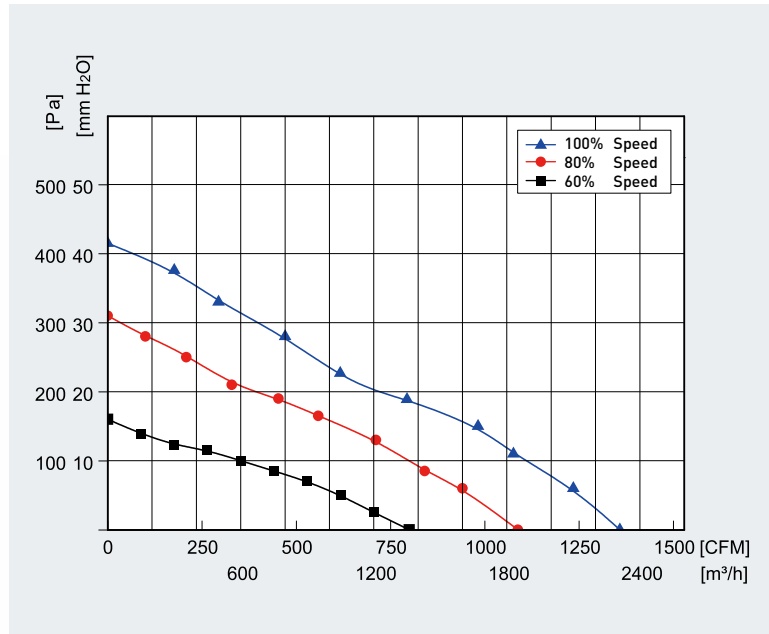
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A092/25/01-CB280S/80N1-NN-01	230	200~277	50/60	≤1.07	130	1,910	2,020	300	72	CW	-25~+60



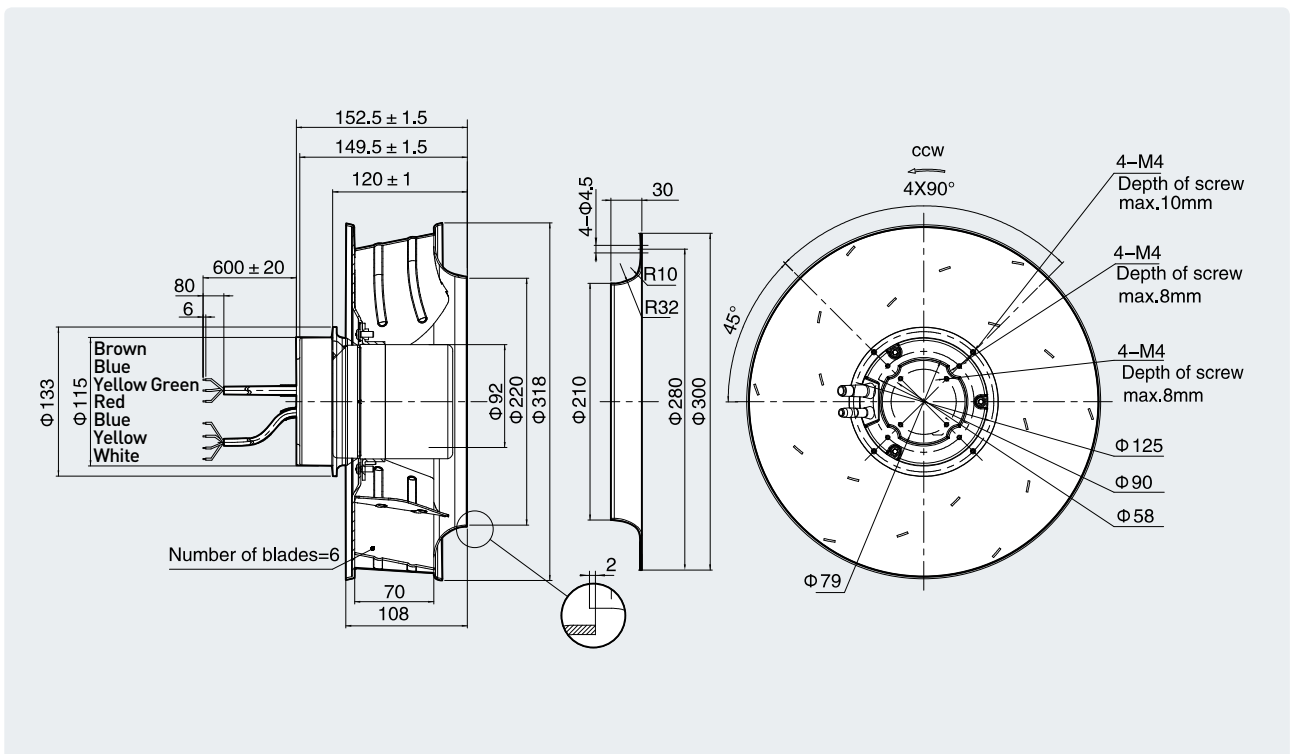
# EC MOTOR, LSECF, A092/25/01-CB310A/70N1-NN-01

## Introduction

- Steel impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 65



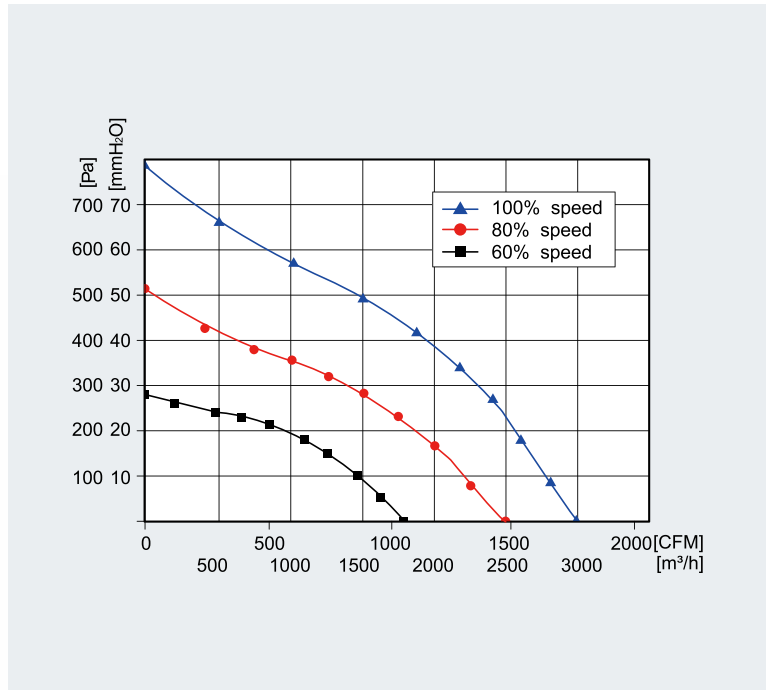
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR, LSECF, A092/25/01-CB310A/70N1-NN-01	230	200~277	50/60	≤1.07	160	1,860	2,250	400	65	CW	-25~+60



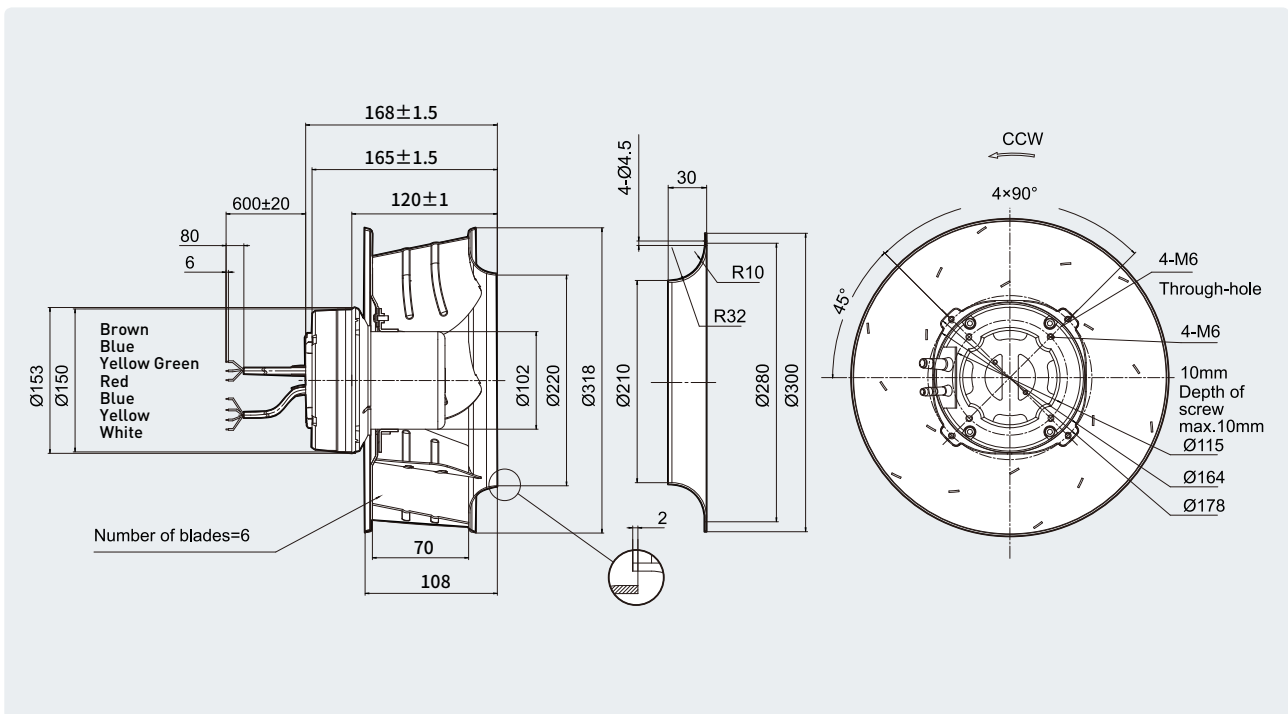
# EC MOTOR,LSECF,A102/50/01-CB310A/70N1-NN-01

## Introduction

- Aluminum impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 76



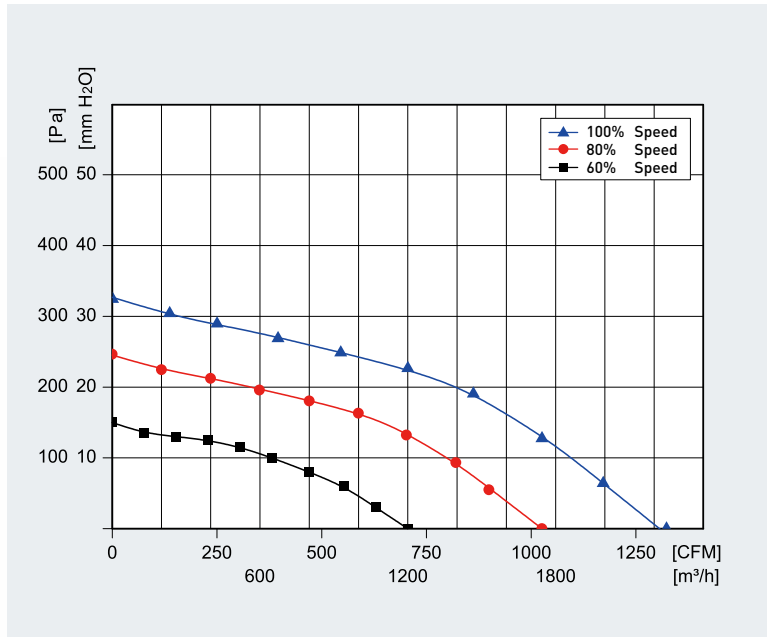
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, A102/50/01-CB310A/70N1-NN-01	230	200~277	50/60	≤3.0	410	2,600	3,000	1,000	76	CW	-25~+60



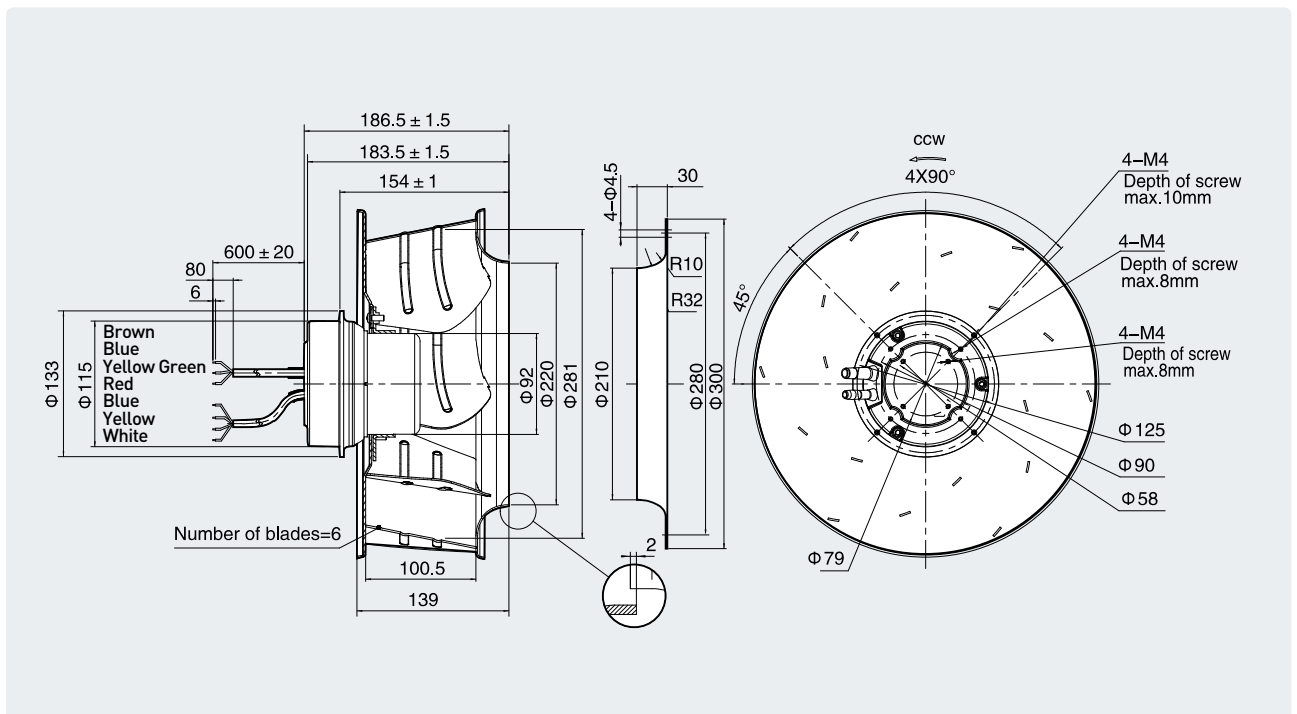
# EC MOTOR, LSECF, A092/25/01-CB310A/100N1-NN-01

## Introduction

- Aluminum impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 65



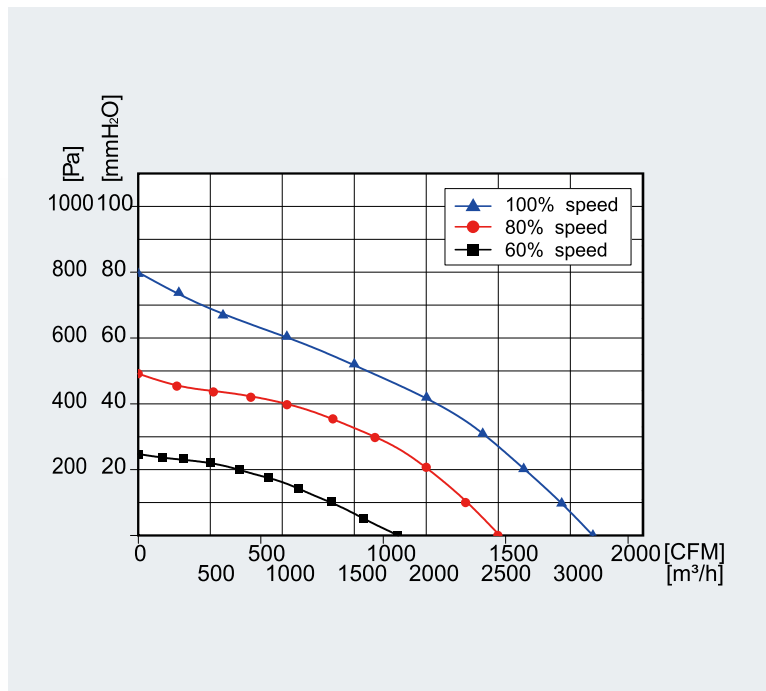
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR, LSECF, A092/25/01-CB310A/100N1-NN-01	230	200~277	50/60	≤1.28	162	1,720	2,580	300	65	CW	-25~+60



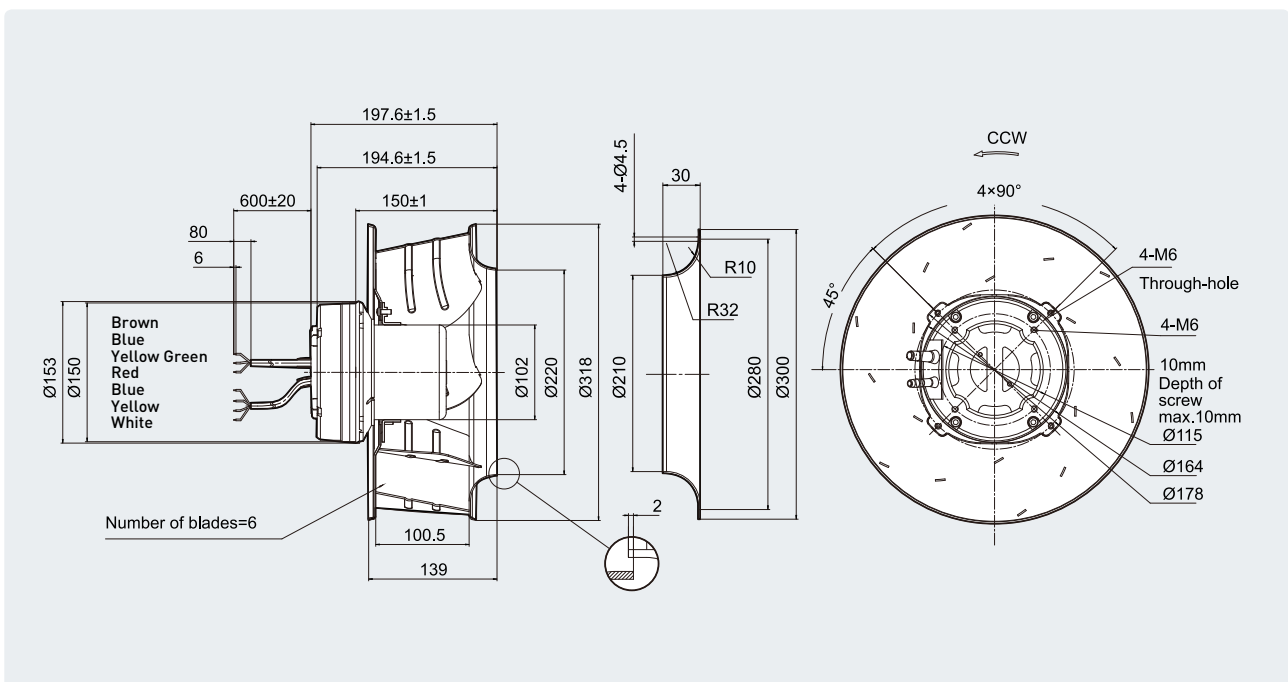
# EC MOTOR, LSECF, A102/50/01-CB310A/100N1-NN-01

## Introduction

- Aluminum impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 75



Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR, LSECF, A102/50/01-CB310A/100N1-NN-01	230	200~277	50/60	≤3.2	350	2,300	3,400	500	75	CW	-25~+60

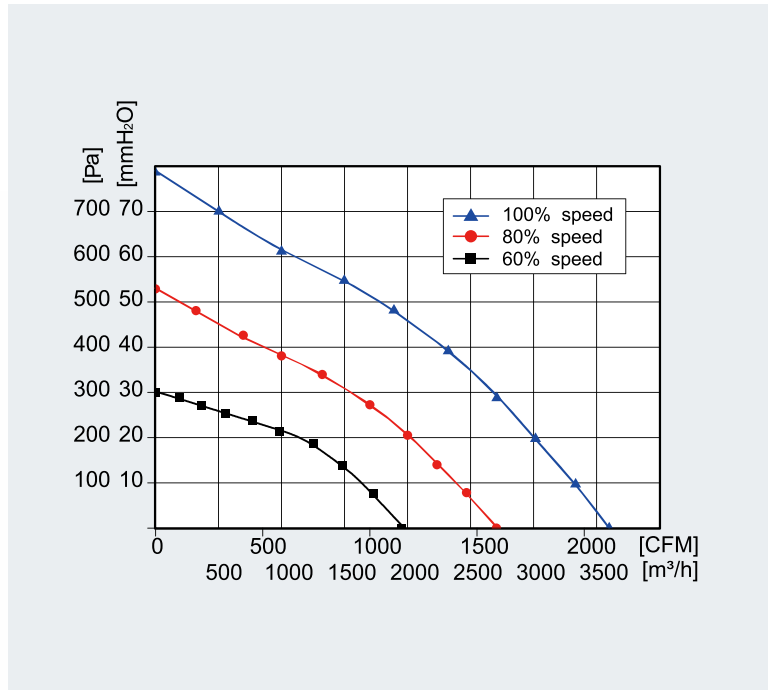




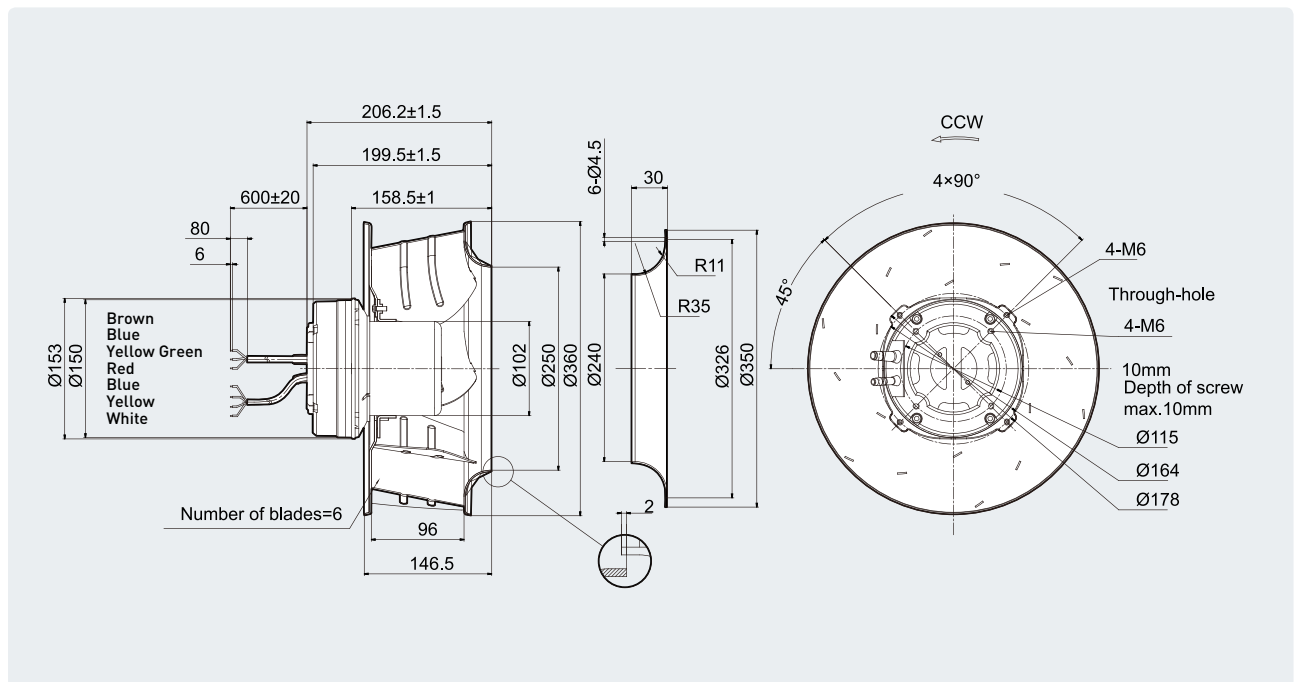
# EC MOTOR,LSECF,A102/50/01-CB355A/96N1-NN-01

## Introduction

- Aluminum impellers
- Insulation class : B/F
- Protection degree : IP44
- Noise level [dB] : 76



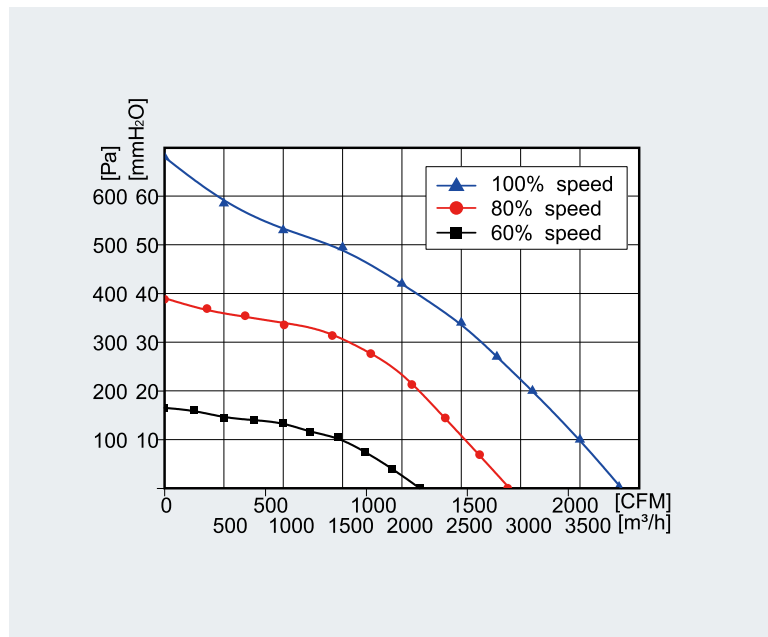
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,A102/50/01-CB355A/96N1-NN-01	230	200~277	50/60	≤2.8	345	1,950	3,600	750	76	CW	-25~+60



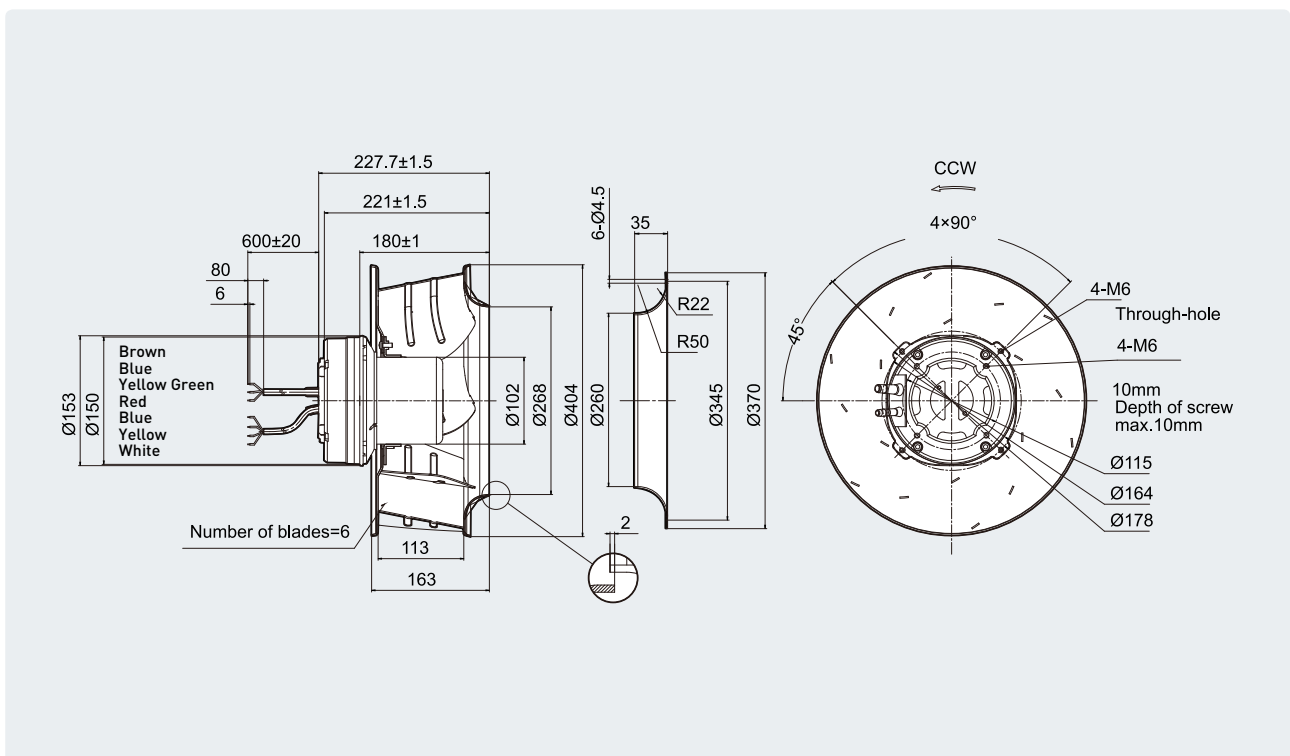
# EC MOTOR,LSECF,A102/50/01-CB400A/113N1-NN-02

## Introduction

- Aluminum impellers
- Insulation class :
- Protection degree :
- Noise level [dB] : 72



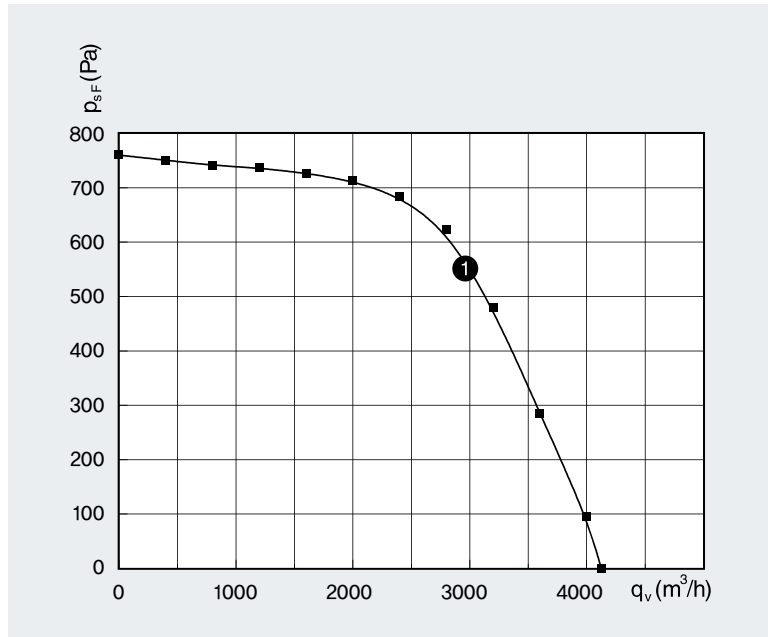
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, A102/50/01-CB400A/113N1-NN-02	230	200~277	50/60	≤2.7	390	1,400	3,600	600	72	CW	-25~+60



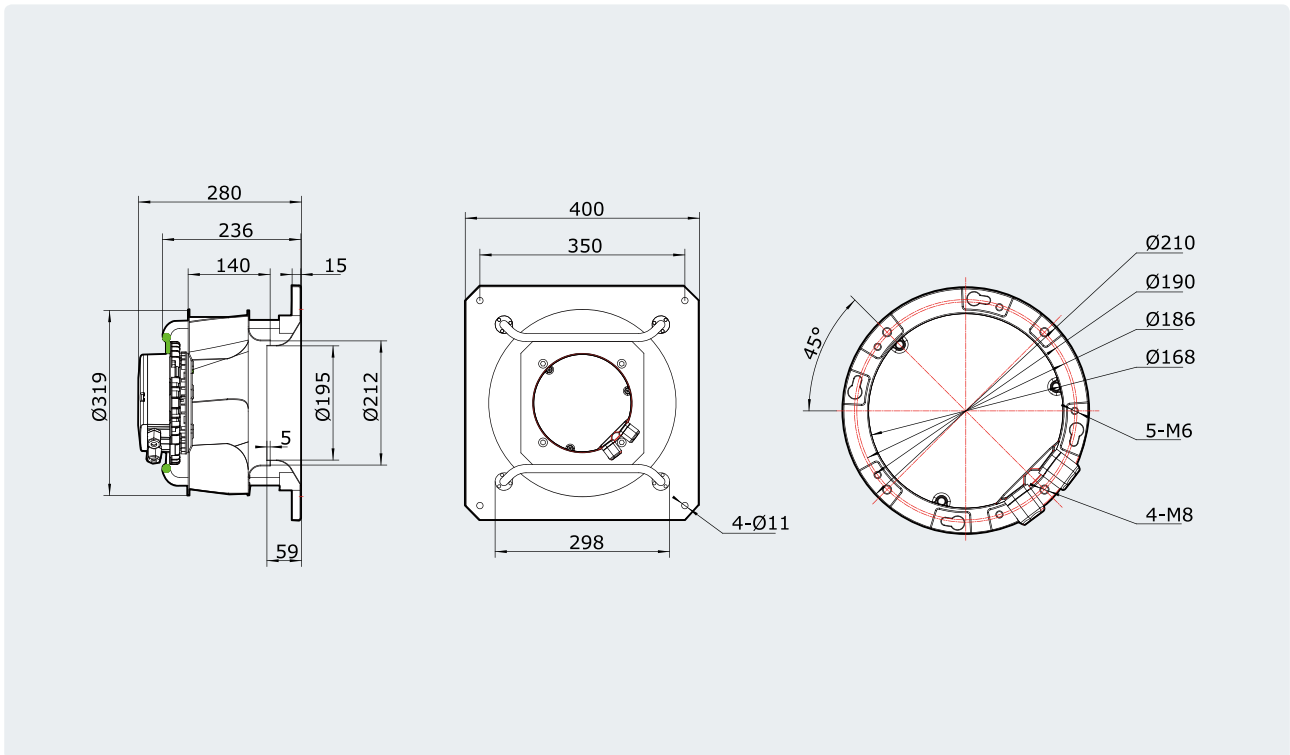
# EC MOTOR,LSECF,C137/40/01-CB315A/98F1-NN-01

## Introduction

- Aluminum impellers
- Insulation class :
- Protection degree :
- Noise level [dB] : 79



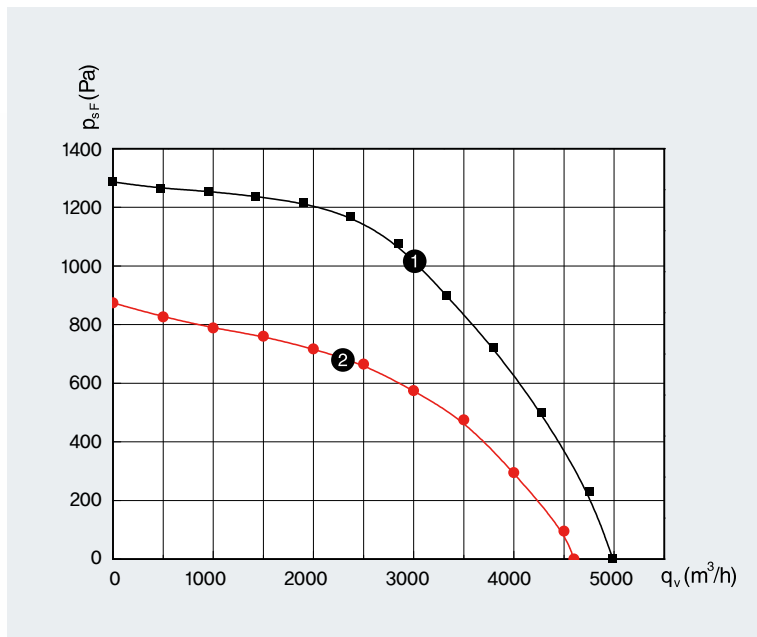
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,C137/40/01-CB315A/98F1-NN-01	380	3-380~480	50/60	≤2.0	900	2,600	4,100	760	79	CW	-25~+60



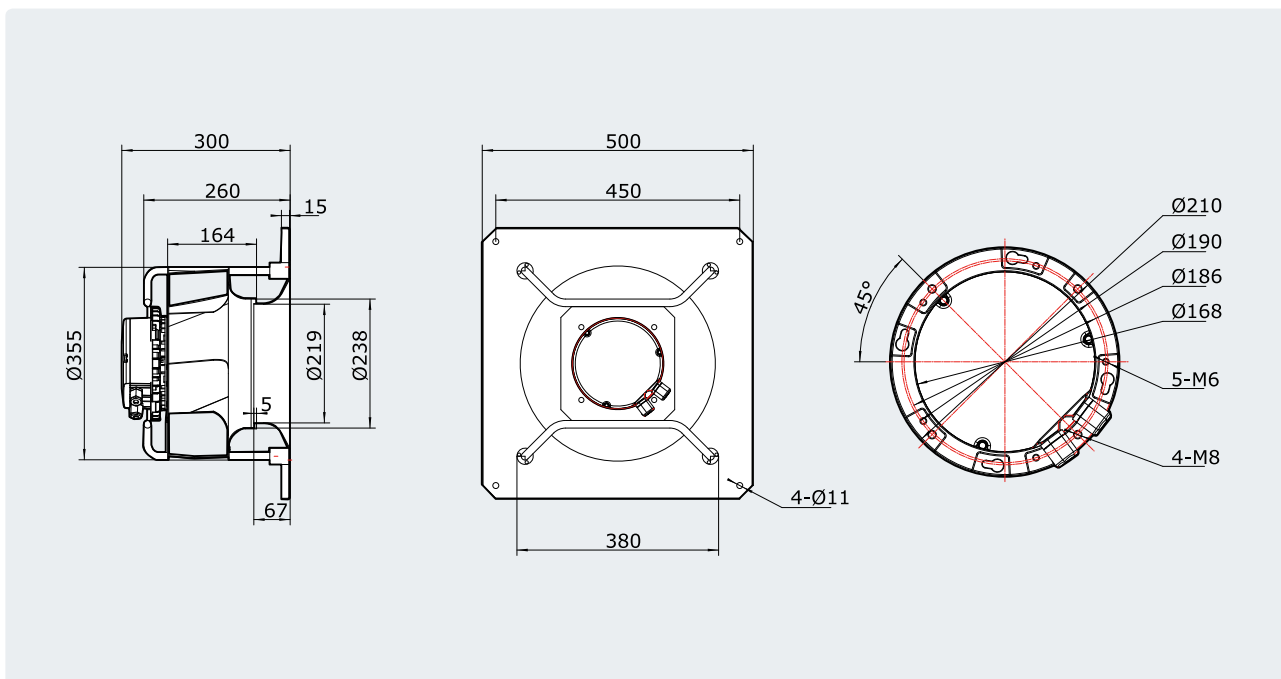
# EC MOTOR,LSECF,C137/60/01-CB355A/110F1-NN-01

## EC MOTOR,LSECF,C137/40/01-CB355A/110F1-NN-01

- Introduction**
- Aluminum impellers
  - Insulation class :
  - Protection degree :
  - Noise level [dB] :



Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF, C137/60/01-CB355A/110F1-NN-01	380	3-380~480	50/60	2.7	1700	3,000	4,900	1,280	87	CW	-25~+60
EC MOTOR,LSECF, C137/40/01-CB355A/110F1-NN-01	380	3-380~480	50/60	1.6	940	2,200	4,600	870	83	CW	-25~+60

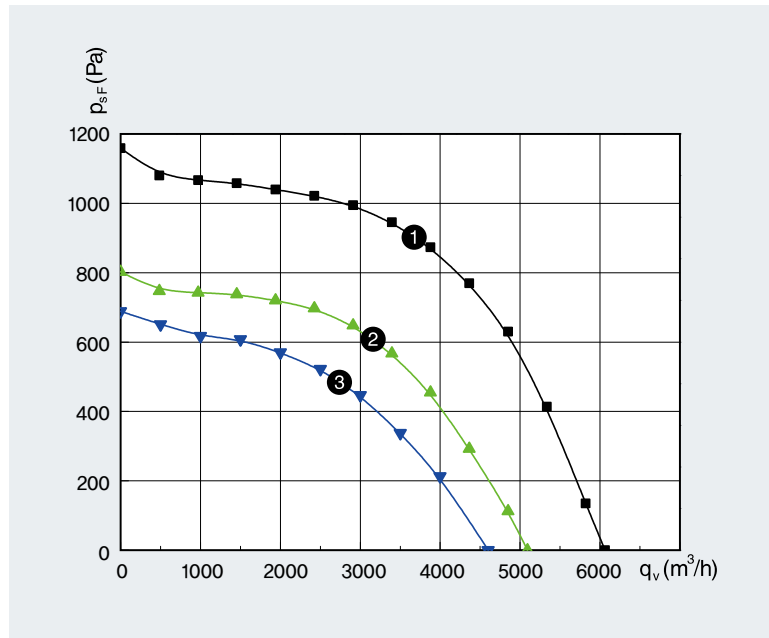


# EC MOTOR,LSECF,C137/60/01-CB400A/108F1-NN-01

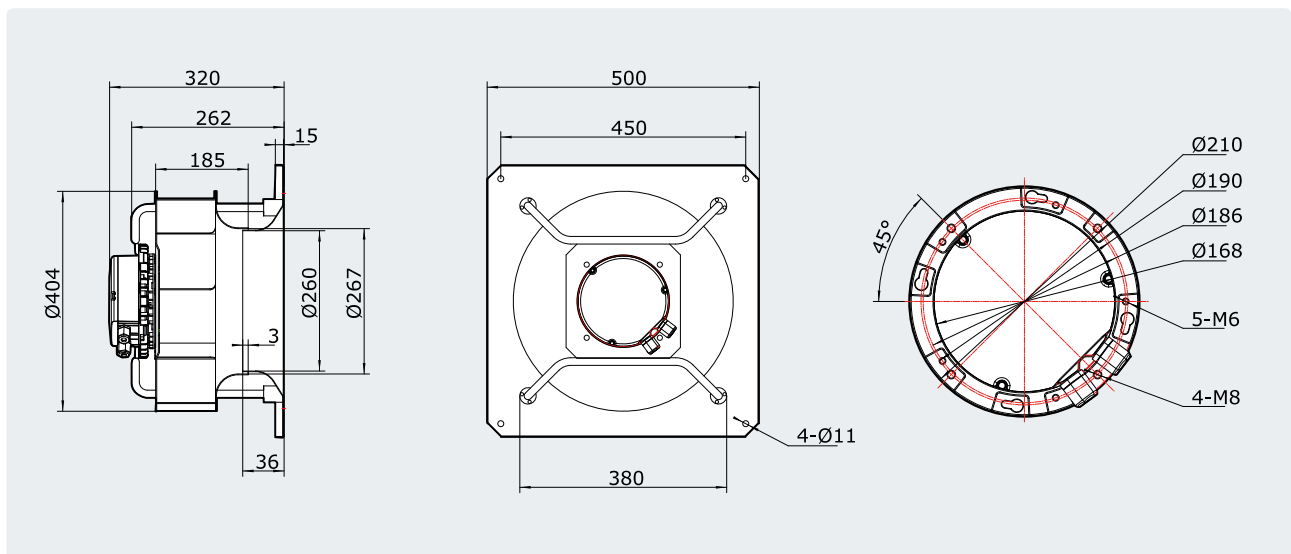
## EC MOTOR,LSECF,C137/40/01-CB400A/108F1-NN-02

## EC MOTOR,LSECF,C137/40/01-CB400A/108F1-NN-01

- Introduction**
- Aluminum impellers
  - Insulation class :
  - Protection degree :
  - Noise level [dB] :



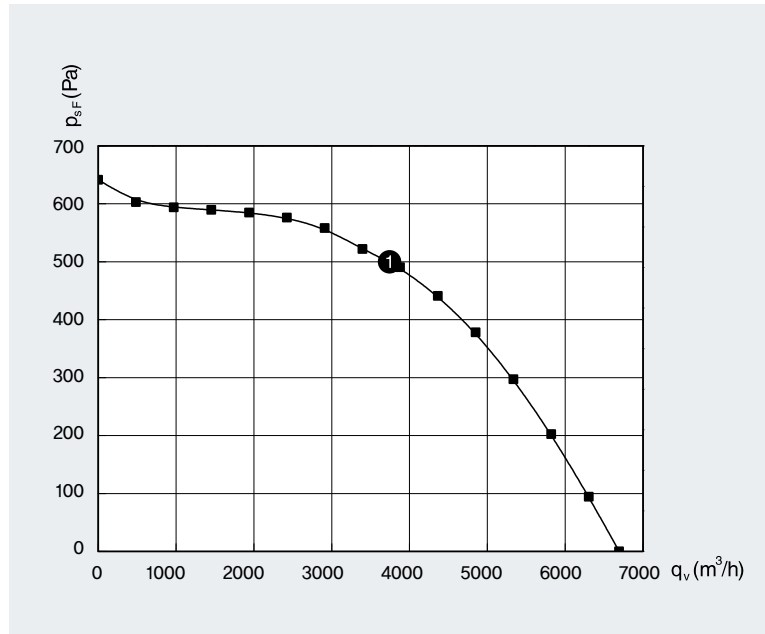
Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm.Amb. Temp. (°C)
EC MOTOR,LSECF,C137/60/01-CB400A/108F1-NN-01	380	3-380~480	50/60	2.7	1,700	2,500	6,000	1,150	89	CW	-25~+60
EC MOTOR,LSECF,C137/40/01-CB400A/108F1-NN-02	380	3-380~480	50/60	1.8	1,000	2,100	5,000	800	83	CW	-25~+60
EC MOTOR,LSECF,C137/40/01-CB400A/108F1-NN-01	380	3-380~480	50/60	1.5	780	1,720	4,600	680	78	CW	-25~+60



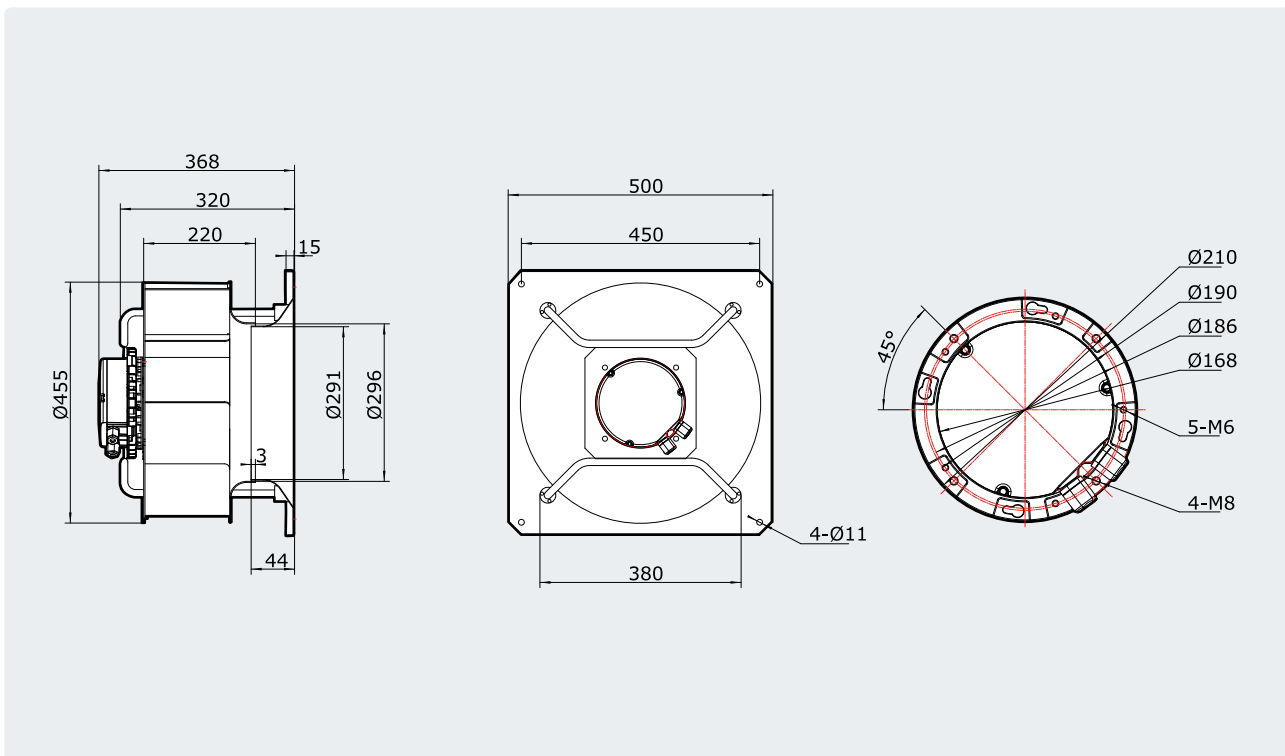
# EC MOTOR, LSECF, C137/60/01-CB450A/123F1-NN-01

## Introduction

- Aluminum impellers
- Insulation class :
- Protection degree :
- Noise level [dB] : 83

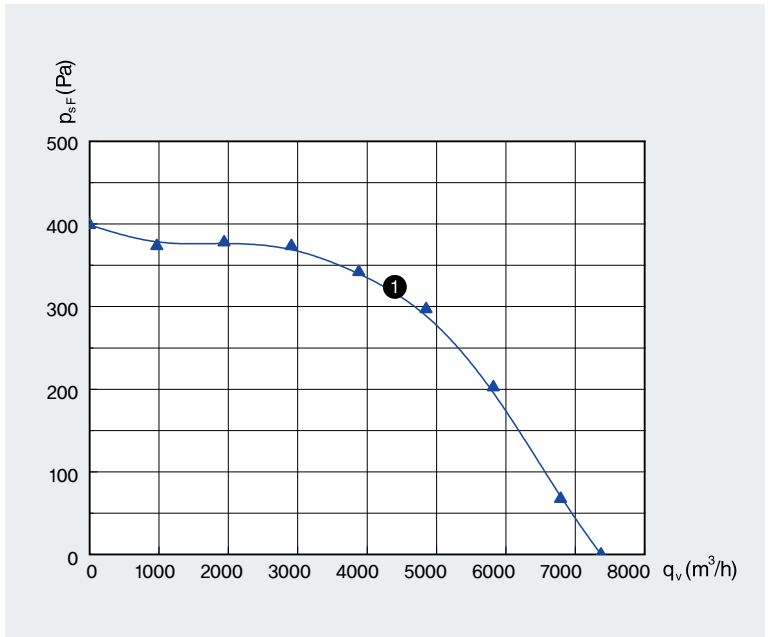


Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m³/h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm. Amb. Temp. (°C)
EC MOTOR, LSECF, C137/60/01-CB450A/123F1-NN-01	380	3-380~480	50/60	1.8	1,010	1,550	6,600	640	83	CW	-25~+60

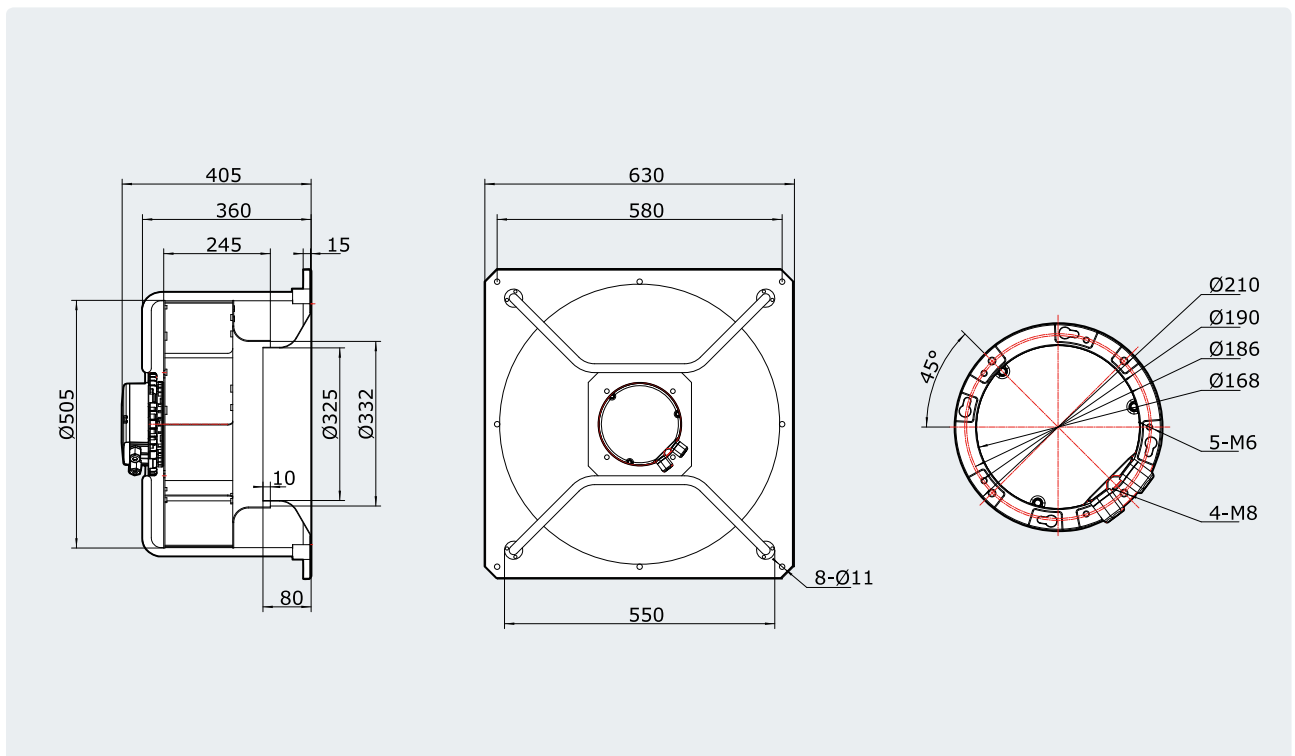


# EC MOTOR, LSECF, C137/60/01-CB500A/138F1-NN-01

- Introduction**
- Aluminum impellers
  - Insulation class :
  - Protection degree :
  - Noise level [dB] : 81



Type	Rated Voltage (V)	Operating Voltage (V)	Frequency (Hz)	Input Current (A)	Input Power (W)	Rated Speed (r/min)	Max air Flow (m <sup>3</sup> /h)	Max static Pressure (Pa)	Noise Level (dB(A))	Rotating Direction	Perm. Amb. Temp. (°C)
EC MOTOR, LSECF, C137/60/01-CB500A/138F1-NN-01	380	3-380~480	50/60	1.6	830	1,150	7,300	400	81	CW	-25~+60





### Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance. Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.



- According to The WEEE Directive, please do not discard the device with your household waste.



#### ■ Head Quarter

LS Yongsan Tower, Hangang-daero 92, Yongsan-gu, Seoul 04386, Korea  
Tel: 82-2-2034-4902, 4684, 4429 Fax: 82-2-2034-4555

#### ■ Overseas Subsidiaries

- **LS(Shanghai) Co., Ltd. /CHINA**  
Tel : 86-21-5237-9977(609) Fax : 86-21-5237-7189
- **LS(Dalian) Co., Ltd. (Dalian, China)**  
Tel: 86-411-8730-7510 Fax: 86-411-8730-7560 E-Mail: jiheo@lsis.com
- **LS(Wuxi) Co., Ltd. (Wuxi, China)**  
Tel: 86-510-8534-6666-8005 Fax: 86-510-8534-4078 E-Mail: sunhwank@lsis.com
- **LS VINA Industrial Systems Co., Ltd. (Hanoi, Vietnam)**  
Tel: 84-24-3882-0222 Fax: 84-24-3882-0220 E-Mail: jhchoi4@lsis.com
- **LS Middle East FZE (Dubai, U.A.E.)**  
Tel: 971-4-886-5360 Fax: 971-4-886-5361 E-Mail: hschoib@lsis.com
- **LS Europe B.V. (Hoofddorf, Netherlands)**  
Tel: 31-20-654-1424 Fax: 31-20-654-1429 E-Mail: europartner@lsis.com
- **LS Japan Co., Ltd. (Tokyo, Japan)**  
Tel: 81-3-6268-8241 Fax: 81-3-6268-8240 E-Mail: jschuna@lsis.com
- **LS USA Inc. (Chicago, U.S.A.)**  
Tel: 1-800-891-2941 Fax: 1-847-383-6543 E-Mail: sales.us@lsis.com

#### ■ Overseas Branches

- **LS Shanghai Office (China)**  
Tel: 86-21-5237-9977(609) Fax: 86-21-5237-7189 E-Mail: ygeo@lsis.com
- **LS Beijing Office (China)**  
Tel: 86-10-5761-3127 Fax: 86-10-5761-3128 E-Mail: sson@lsis.com
- **LS Guangzhou Office (China)**  
Tel: 86-20-8326-6784 Fax: 86-20-8326-6287 E-Mail: sojhtroh@lsis.com
- **LS Qingdao Office (China)**  
Tel: 86-532-8501-6058 Fax: 86-532-8501-6057 E-Mail: sson@lsis.com
- **LSIS Chengdu Office (China)**  
Tel: 86-28-8670-3200 Fax: 86-28-8670-3203 E-Mail: yangcf@lsis.com
- **LS ShenYang Office (China)**  
Tel: 86-24-2321-9050 Fax: 86-24-8386-7210 E-Mail: lixf@lsis.com
- **LS Jinan Office (China)**  
Tel: 86-531-8699-7826 Fax: 86-531-8697-7628 E-Mail: yangcf@lsis.com
- **LS Co., Ltd. Tokyo Office (Japan)**  
Tel: 81-3-6268-8241 Fax: 81-3-6268-8240 E-Mail: jschuna@lsis.com
- **LS Co., Ltd. Rep. Office (Vietnam)**  
Tel: 84-28-3823-7890 E-Mail: sjbaik@lsis.com
- **LS Moscow Office (Russia)**  
Tel: 7-499-682-6130 E-Mail: jdpark1@lsis.com
- **LS Jakarta Office (Indonesia)**  
Tel: 62-21-2933-7614 E-Mail: dioh@lsis.com
- **LS Bangkok Office (Thailand)**  
Tel: 66-90-950-9683 E-Mail: sjleet@lsis.com
- **LS USA Western Office (U.S.A)**  
Tel: 66-90-950-9683 E-Mail: sjleet@lsis.com