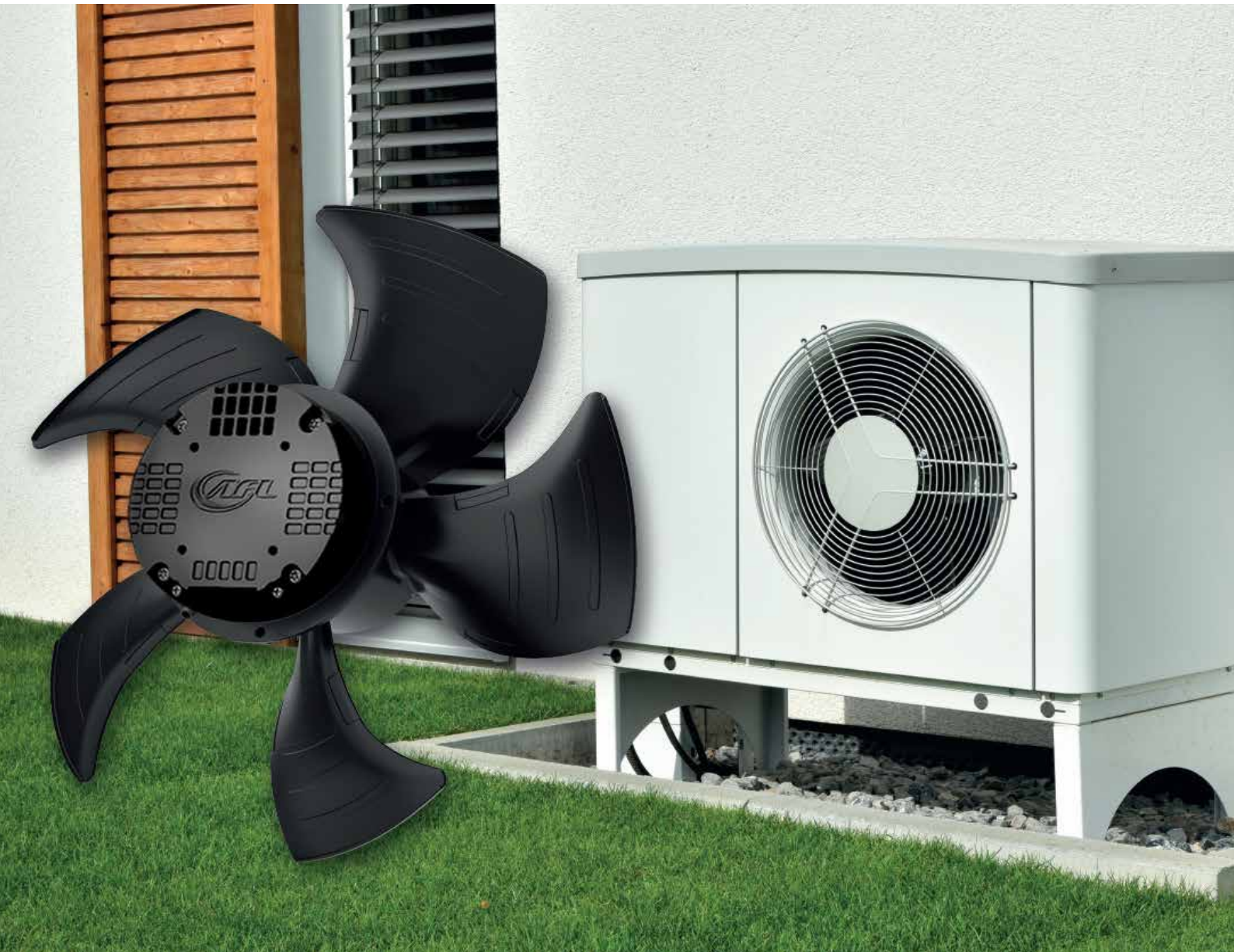
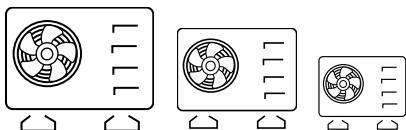


Fans for Heat Pumps

EC 450 / EC 500 / EC 630



**HEAT
PUMP
READY**



Let's talk about fans
aflmotors.com

INTELLIGENT EC FANS

in modern heat pumps



Axial fans are compact, versatile industrial fans that provide high airflow performance and help maintain low operating costs in the long term.

Manufacturers of industrial solutions appreciate them for their high efficiency, low noise levels, and lower price compared to radial fans.

Compact EC fans are used wherever high airflow performance is required with relatively low resistance. Adapted drives and control technology ensure directed airflow in refrigeration and air conditioning systems and ventilation or renewable energy sources.

If a specific application, system or device requires high airflow, low noise, low power consumption and the design does not pose significant static resistance, an axial fan will be the best solution. They are an ideal choice for products such as heat pumps.

EC fans dedicated to heat pumps are designed to be: compact, efficient, energy saving and quiet.

Experience the power of efficiency, silence and savings

EC FANS
for heat pumps

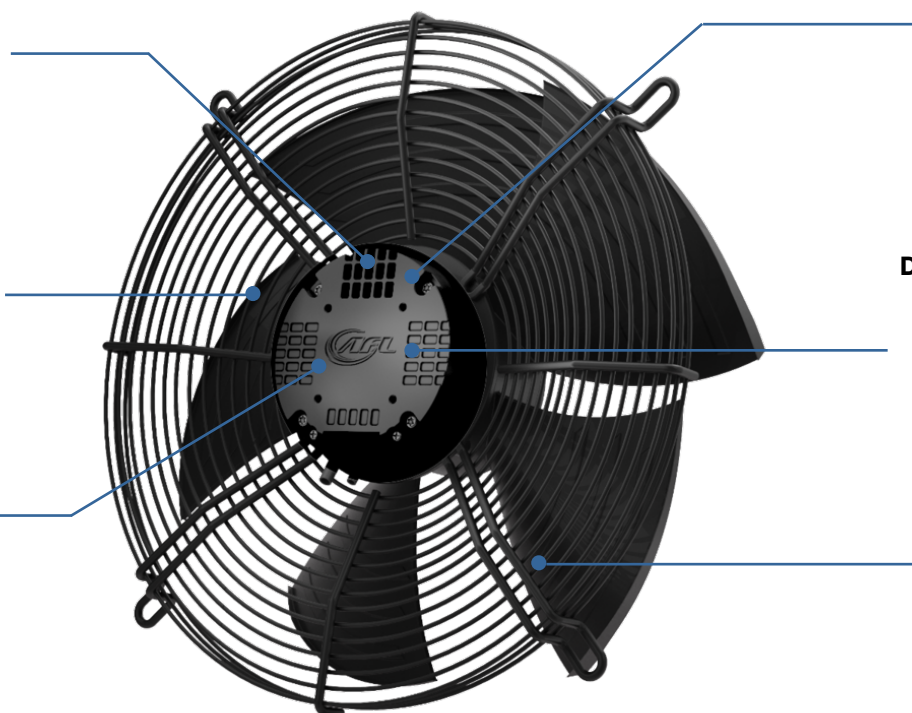


// Unique features of the fan

HIGH EFFICIENCY EC MOTOR
for effective, energy saving works

COMPACT SIZE
and low weight

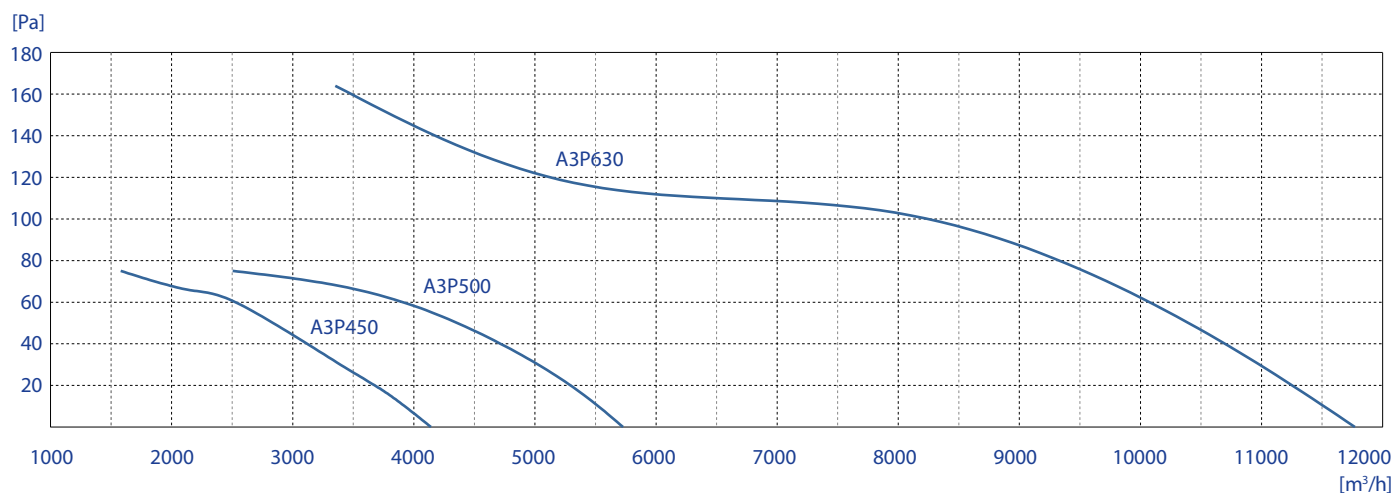
ELECTROLYTIC CATAPHORESIS LAYER
for anticorrosion protection



SOFTWARE OPTIMISATION
for effective speed control and fan protection

ESPECIALLY DESIGNED MOTOR CONSTRUCTION AND INSULATION
for outdoor use

OPTIMIZED BLADE SHAPE
for increased acoustic comfort



// Basic technical data

	A3P450-EC092-001/002/003/004	A3P500-EC102-100/001	A3P630-EC137-260/263
Impeller diameter	447 [mm]	500 [mm]	630 [mm]
Voltage	AC 230 [V]	AC 230 [V]	AC 230 [V]
Speed	1080 [min ⁻¹]	900 [min ⁻¹]	960 [min ⁻¹]
Power max.	132 [W]	200 [W]	658 [W]
Air flow	max. 4140 [m³/h]	max. 5730 [m³/h]	max. 11770 [m³/h]

// Technical data

Model No. A3P450-EC092-001
 Model No. A3P450-EC092-002
 Model No. A3P450-EC092-003
 Model No. A3P450-EC092-004



Voltage ⁽¹⁾	AC 230 [V]
Frequency	50/60 [Hz]
Speed	1080 ±10% [min ⁻¹]
Power nom. / Current nom.	100 [W] / 0.72 [A]
Power max. / Current max	132 [W] / 0.97 [A]
Air flow	max. 4140 [m ³ /h]
Noise	52 [dBA]
Degree of protection	IP54
Leakage current ⁽²⁾	max. 3.5 [mA]
Dielectric resistance ⁽³⁾	AC 1800V
Insulation class	B class
Control input ⁽⁴⁾	0-10V VDC/PWM
Output	+10VDC
Tach output ⁽⁵⁾	1 Pulse/R
Protected mode	Over-temperature / over-current/ locked protected
Appearance	There should not be any defects and dirty which spoil goods value
Mass	Approx 5.0 [kg] (-001) Approx 10.0 [kg] (-002)
Lead wire pulled Out strength	min. 20
L10 life	min. 40.000 [h]
Impeller material	PA66

⁽¹⁾ AC 200 – 277 V range

⁽²⁾ Testing conditions: AC 260 V, 3 s

⁽³⁾ Tripping current 10 mA, 1s

⁽⁴⁾ See Fig.1, Fig.2

⁽⁵⁾ Duty 30% ~ 70%, +10V, tach output 10KΩ, it needs 10KΩ pull-up resistance between +10V line and tach output line

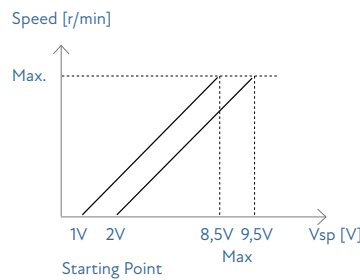


Fig. 1

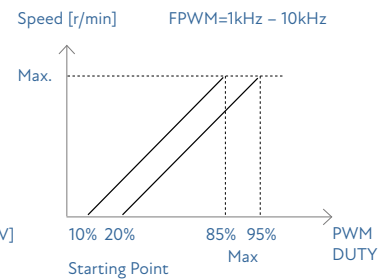


Fig. 2

// Environmental requirement

Storage temperature range	-25 – 60 [°C]
Operating, storage humidity	30 – 95 [%] RH non condensing
Operating temperature range	-25 – 60 [°C] heat sink of ic 115 [°C] max other electronic parts 85 [°C] max ball bearing 80 [°C] max coil 120 [°C] max

Angle Tolerance	Classification of a shorter side of subjected angle			
	X≤10	10<X≤50	50<X≤120	120<X≤400
Tolerance	±1°	±30'	±20'	±10'

General Tolerance	Classification of basic dimension			
	X≤6	6<X≤30	0<X≤120	120<X≤400
Tolerance	±0.1	±0.2	±0.3	±0.5

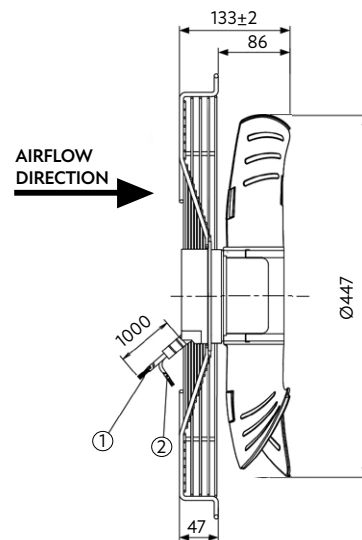
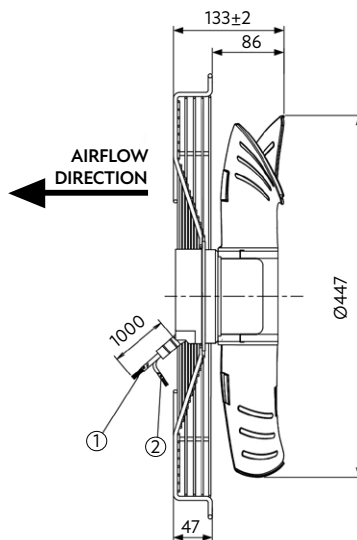
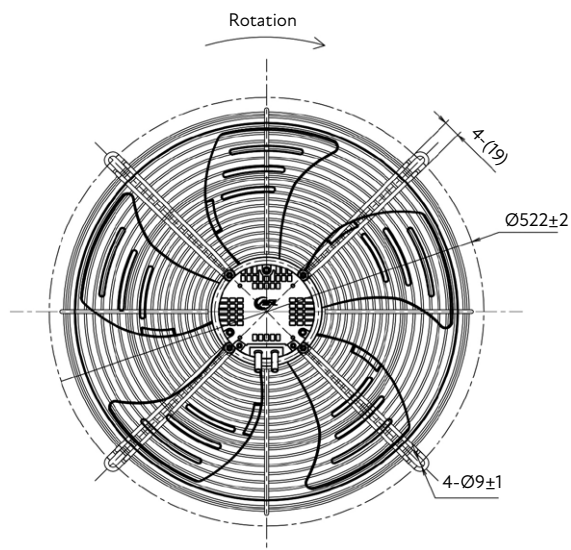
// Product drawing

Model No. A3P450-EC092-001

□ suction

Model No. A3P450-EC092-003

□ blowing

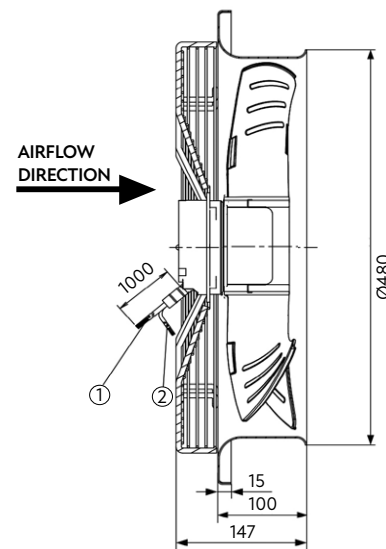
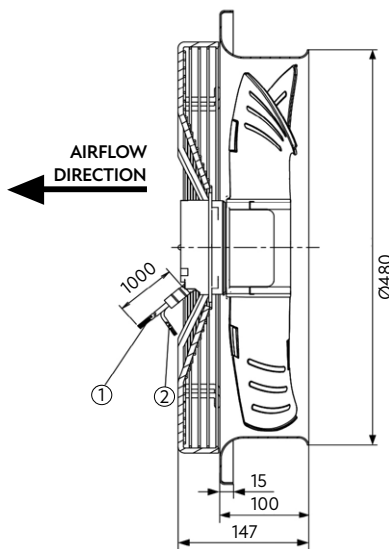
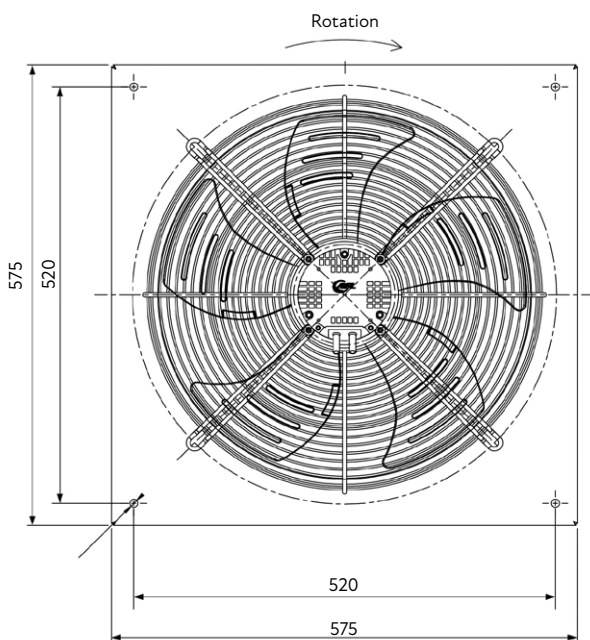


Model No. A3P450-EC092-002

□ suction

Model No. A3P450-EC092-004

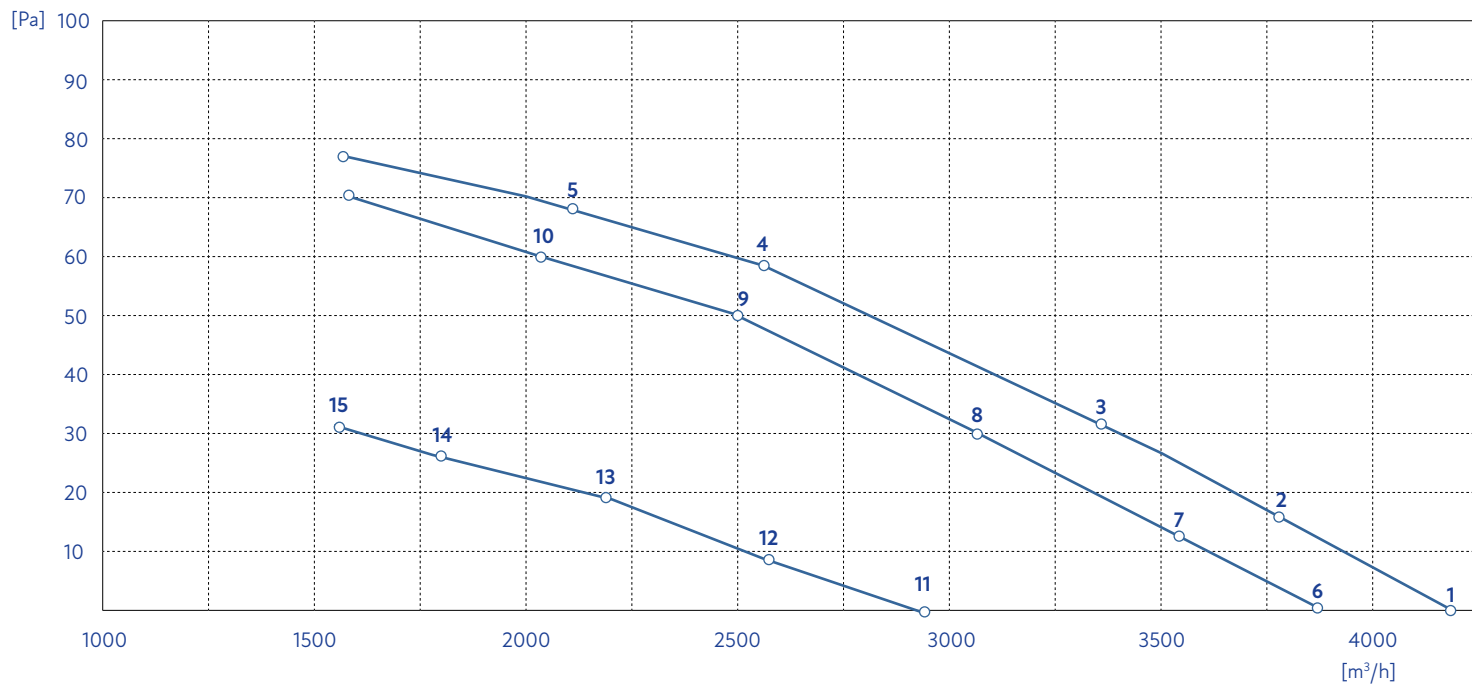
□ blowing



1	Connection	Color	Function
	L	brown	230V 50/60Hz
	N	blue	
PE	yellow/green	Protective earth	

2	Connection	Color	Function
	Vcc	red	DC 10V
	Vsp	yellow	0-10V/PWM
	GND	blue	GND
	FG	white	1 Pulse/R

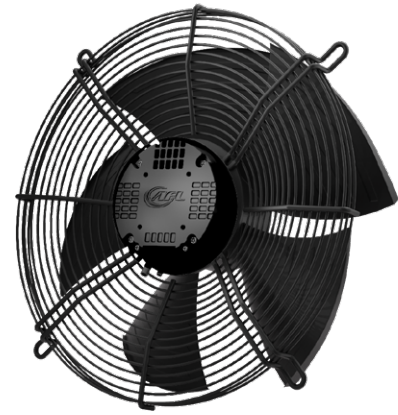
// Air performance



Item	Voltage [V]	Frequency [Hz]	Speed [min ⁻¹]	Power [W]	Current [A]	Airflow [m³/h]	Pressure [Pa]	Vsp [V]
1	230	50	1086	94	0.71	4142	0	
2	230	50	1086	101	0.76	3784	16	
3	230	50	1086	116	0.86	3366	31	10
4	230	50	1077	132	0.97	2562	59	
5	230	50	1063	130	0.95	2131	66	
6	230	50	1005	80	0.62	3873	0	
7	230	50	1005	90	0.67	3578	13	
8	230	50	1007	93	0.72	3090	30	7
9	230	50	1007	109	0.82	2491	51	
10	230	50	1006	108	0.82	2033	61	
11	230	50	760	35	0.29	2896	0	
12	230	50	760	37	0.31	2589	9	
13	230	50	760	43	0.35	2229	19	5
14	230	50	749	44	0.36	1811	28	
15	230	50	749	44	0.35	1560	31	

// Technical data

Model No. A3P500-EC102-100
 Model No. A3P500-EC102-001



Voltage ⁽¹⁾	AC 230 [V]
Frequency	50/60 [Hz]
Speed	900 ±10% [min ⁻¹]
Power nom. / Current nom.	200 [W] / 1.4 [A]
Power max. / Current max	200 [W] / 1.4 [A]
Air flow	max. 5730 [m ³ /h]
Noise	56 [dBA]
Degree of protection	IP54
Leakage current ⁽²⁾	max. 3.5 [mA]
Dielectric resistance ⁽³⁾	AC 1800V
Insulation class	B class
Control input ⁽⁴⁾	0-10V VDC/PWM
Output	+10VDC
Tach output ⁽⁵⁾	12 Pulse/R
Protected mode	Over-temperature / over-current/ locked protected
Appearance	There should not be any defects and dirty which spoil goods value
Mass	Approx 8.0 [kg]
Lead wire pulled Out strength	min. 20
L10 life	min. 40.000 [h]
Impeller material	PA66

⁽¹⁾ AC 200 – 277 V range

⁽²⁾ Testing conditions: AC 260 V, 3 s

⁽³⁾ Tripping current 10 mA, 1s

⁽⁴⁾ See Fig.1, Fig.2

⁽⁵⁾ Duty 30% ~ 70%, +10V, tach output 10KΩ, it needs 10KΩ
pull-up resistance between +10V line and tach output line

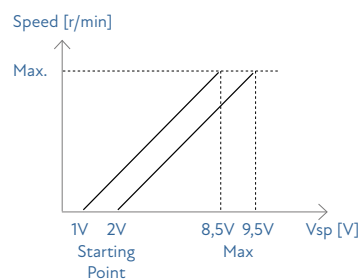


Fig. 1

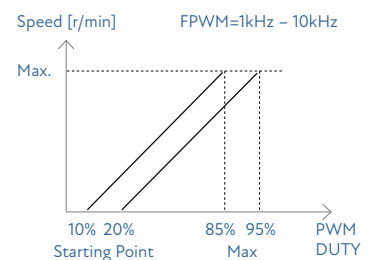


Fig. 2

// Environmental requirement

Storage temperature range	-25 – 60 [°C]
Operating, storage humidity	30 – 95 [%] RH non condensing
	-25 – 60 [°C]
Operating temperature range	heat sink of ic 115 [°C] max other electronic parts 85 [°C] max ball bearing 80 [°C] max coil 120 [°C] max

Angle Tolerance	Classification of a shorter side of subjected angle			
	X≤10	10<X≤50	50<X≤120	120<X≤400
Tolerance	±1°	±30'	±20'	±10'

General Tolerance	Classification of basic dimension			
	X≤6	6<X≤30	0<X≤120	120<X≤400
Tolerance	±0.1	±0.2	±0.3	±0.5

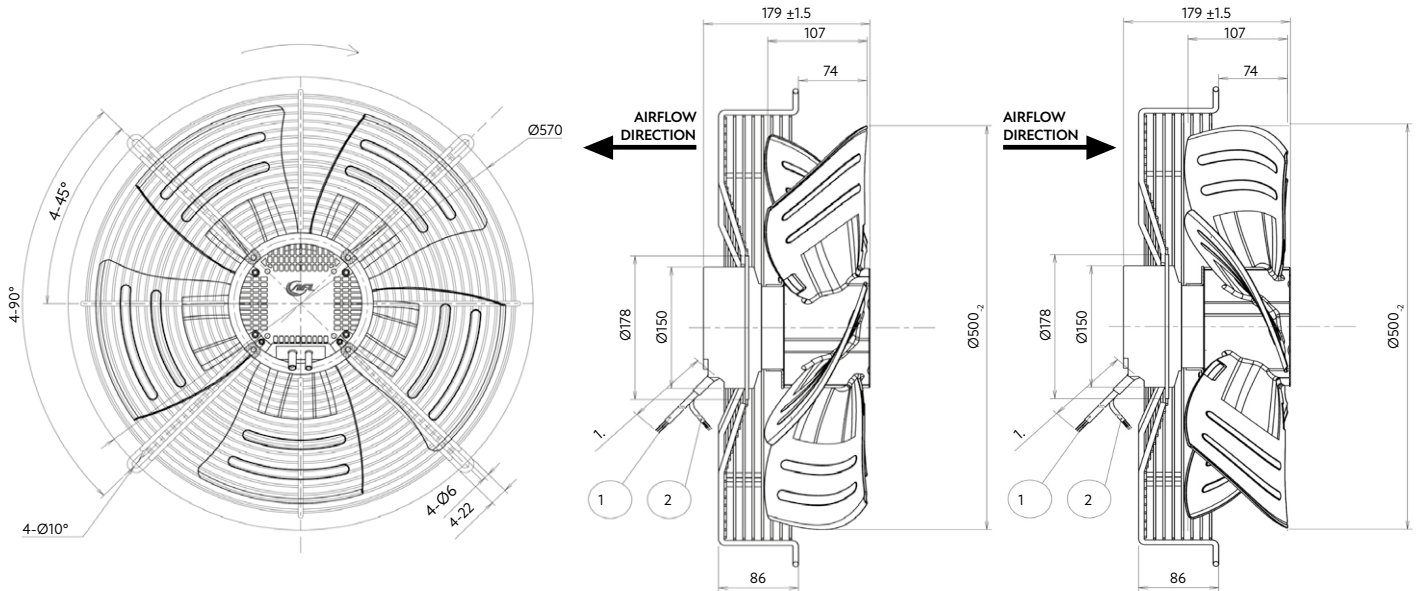
// Product drawing

Model No. A3P500-EC102-100

☐ suction

Model No. A3P500-EC102-001

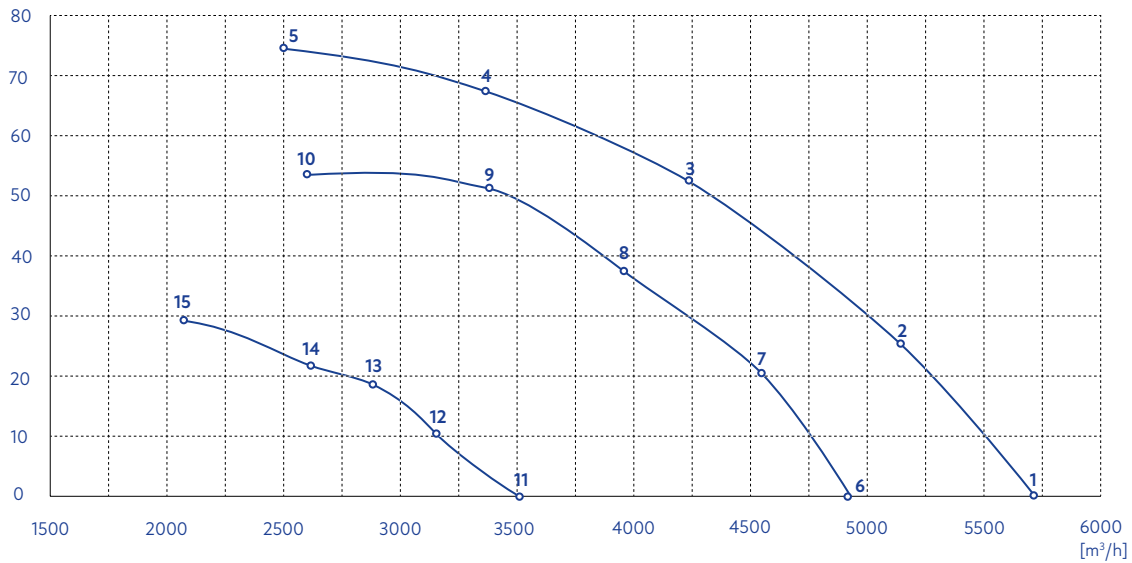
☐ blowing



1	Connection	Color	Function
	L	brown	230V 50/60Hz
	N	blue	
PE	yellow/green	Protective earth	

2	Connection	Color	Function
	Vcc	red	DC 10V
	Vsp	yellow	0-10V/PWM
	GND	blue	GND
	FG	white	1 Pulse/R

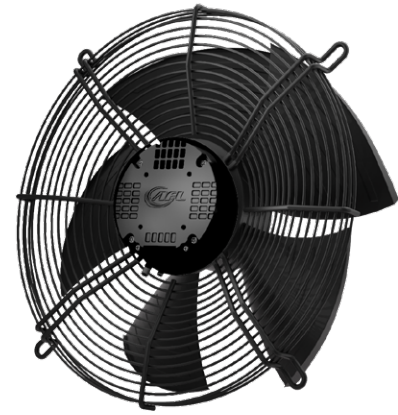
// Air performance



Item	Voltage [V]	Frequency [Hz]	Speed [min ⁻¹]	Power [W]	Current [A]	Airflow [m ³ /h]	Pressure [Pa]	Vsp [V]
1	230	50	887	176	1.29	5728	0	10
2	230	50	885	197	1.42	5139	26	
3	230	50	856	196	1.43	4238	53	
4	230	50	831	189	1.40	3367	68	
5	230	50	851	195	1.44	2504	75	
6	230	50	759	115	0.89	4916	0	7
7	230	50	758	117	0.92	4554	21	
8	230	50	758	133	1.02	3959	38	
9	230	50	758	138	1.06	3380	52	
10	230	50	760	138	1.05	2608	54	
11	230	50	541	43	0.38	3516	0	5
12	230	50	541	49	0.42	3158	11	
13	230	50	541	51	0.43	2889	19	
14	230	50	540	52	0.44	2623	22	
15	230	50	540	56	0.47	2077	30	

// Technical data

Model No. A3P630-EC137-260
 Model No. A3P630-EC137-263



Voltage ⁽¹⁾	AC 230 [V]
Frequency	50/60 [Hz]
Speed	960 ±10% [min ⁻¹]
Power nom. / Current nom.	600 [W] / 2.75 [A]
Power max. / Current max	658 [W] / 3.04 [A]
Air flow	max. 11772 [m ³ /h]
Noise	65 [dBA]
Degree of protection	IP54
Leakage current ⁽²⁾	max. 3.5 [mA]
Dielectric resistance ⁽³⁾	AC 2200V
Insulation class	F class
Control input ⁽⁴⁾	0-10V VDC/PWM
Output	+10VDC
Tach output ⁽⁵⁾	12 Pulse/R
Protected mode	Over-temperature / over-current/ locked protected
Appearance	There should not be any defects and dirty which spoil goods value
Mass	Approx 18.0 [kg]
Lead wire pulled Out strength	min. 20
L10 life	min. 40.000 [h]
Impeller material	PA66

⁽¹⁾ AC 200 – 277 V range

⁽²⁾ Testing conditions: AC 520 V, 3 s

⁽³⁾ Tripping current 10 mA, 1s

⁽⁴⁾ See Fig.1, Fig.2

⁽⁵⁾ Duty 30% ~ 70%, +10V, tach output 10KΩ, it needs 10KΩ
pull-up resistance between +10V line and tach output line

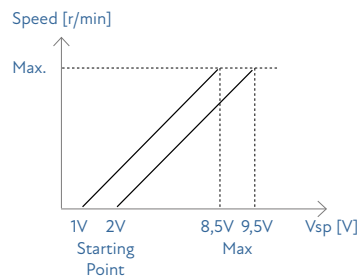


Fig. 1

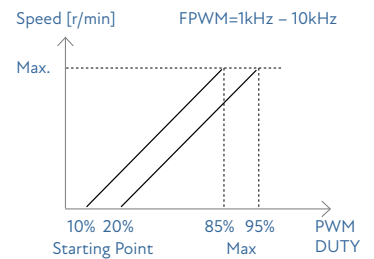


Fig. 2

// Environmental requirement

Storage temperature range	-25 – 60 [°C]
Operating, storage humidity	30 – 95 [%] RH non condensing
Operating temperature range	-25 – 60 [°C] heat sink of ic 115 [°C] max other electronic parts 85 [°C] max ball bearing 80 [°C] max coil 120 [°C] max

Angle Tolerance	Classification of a shorter side of subjected angle			
	X≤10	10<X≤50	50<X≤120	120<X≤400
Tolerance	±1°	±30'	±20'	±10'

General Tolerance	Classification of basic dimension			
	X≤6	6<X≤30	0<X≤120	120<X≤400
Tolerance	±0.1	±0.2	±0.3	±0.5

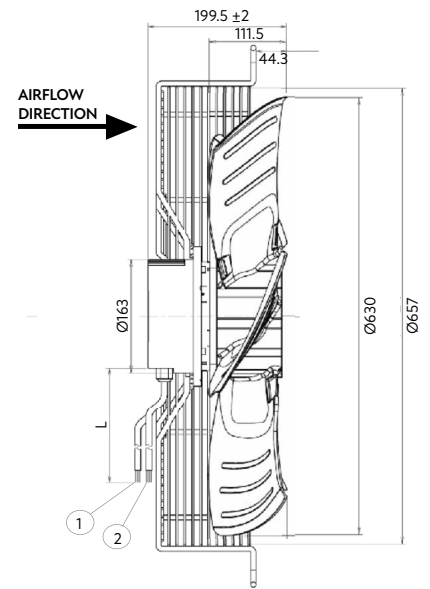
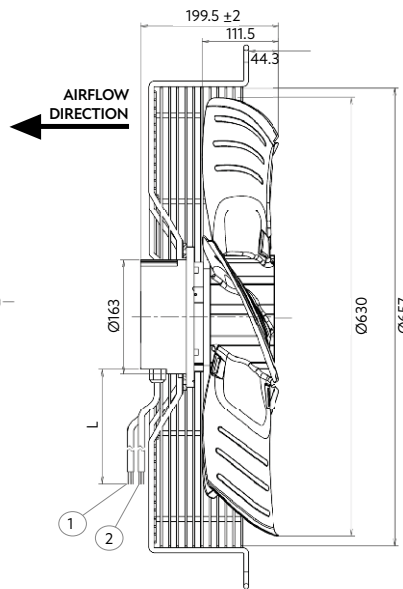
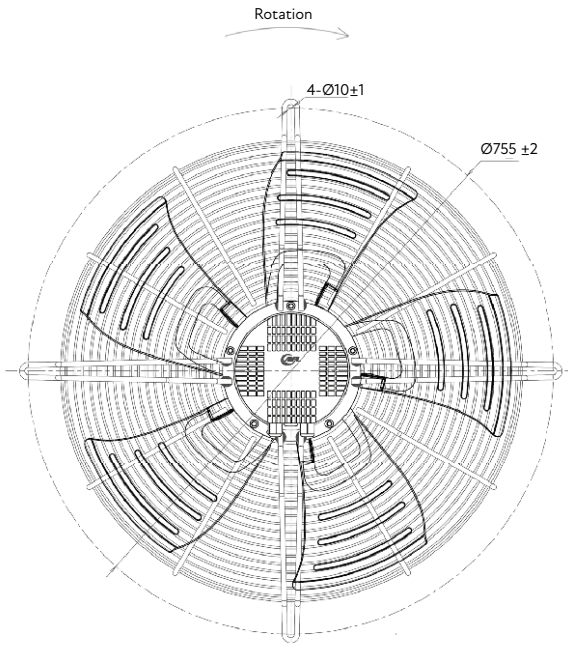
// Product drawing

Model No. A3P630-EC137-260

Model No. A3P630-EC137-263

suction

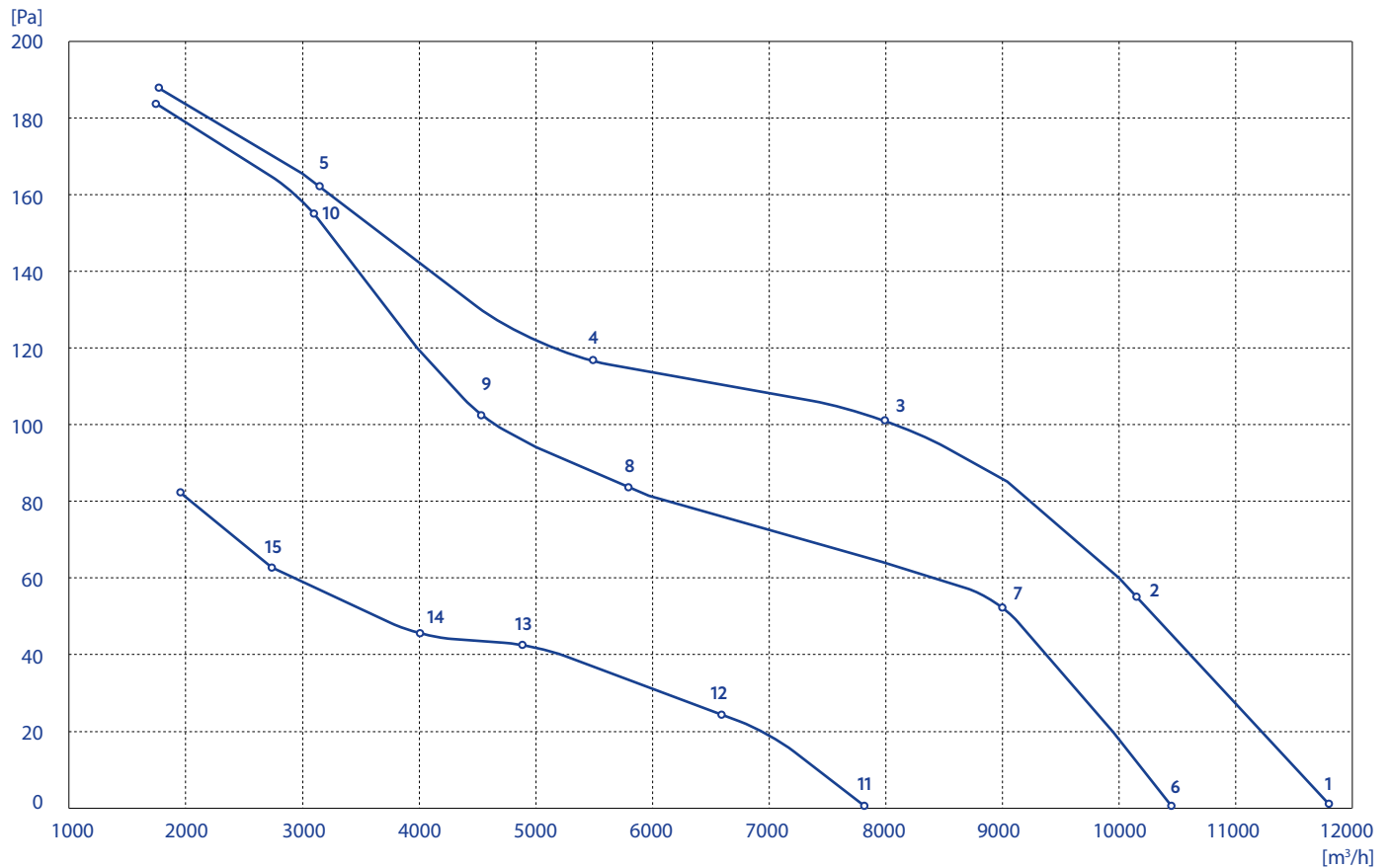
blowing



1	Connection	Color	Function
	L	brown	Single-phase 50/60 Hz
	N	blue	
PE	yellow/green	Protective earth	

2	Connection	Color	Function
	Vcc	red	DC 10V
	Vsp	yellow	0-10V/PWM
	GND	blue	GND
	FG	white	12 Pulse/R

// Air performance



Item	Voltage [V]	Frequency [Hz]	Speed [min ⁻¹]	Power [W]	Current [A]	Airflow [m ³ /h]	Pressure [Pa]	Vsp [V]
1	230	50	947	512	2.39	11772	0	10
2	230	50	957	633	2.89	10206	56	
3	230	50	941	658	3.04	7977	103	
4	230	50	947	620	2.87	5440	116	
5	230	50	886	629	2.91	3351	164	
6	230	50	836	346	1.64	10510	0	7
7	230	50	838	425	2.00	8948	51	
8	230	50	837	440	2.07	5907	84	
9	230	50	849	474	2.23	4589	102	
10	230	50	844	545	2.54	3174	155	
11	230	50	603	135	0.77	7687	0	5
12	230	50	616	177	0.94	6621	28	
13	230	50	607	181	0.96	4928	43	
14	230	50	604	163	0.88	3946	47	
15	230	50	604	184	0.97	2770	62	

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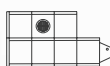
Chillers



Air curtains



Heat pumps



Air handling units



Refrigeration condensers



Hoods



Air purifiers



Roof fans



Heat recovery units



Server rooms