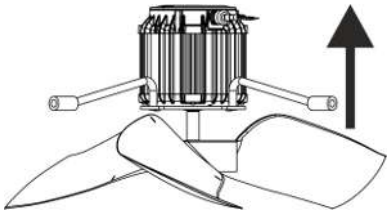
DA 600 LPC -3 A • DA 600-7F-3 A

Fans

Technical Info

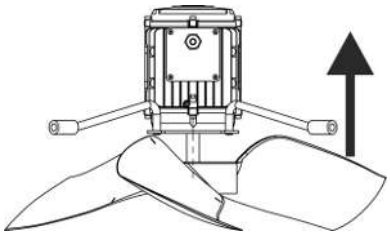
TI • 2023-06-01

1 Product description



An LPC fan is an energy efficient fan unit consisting of a PM motor with matching motor controller and optimized fan blade design for LPC (Low Power Consumption) and Dynamic MultiStep systems.

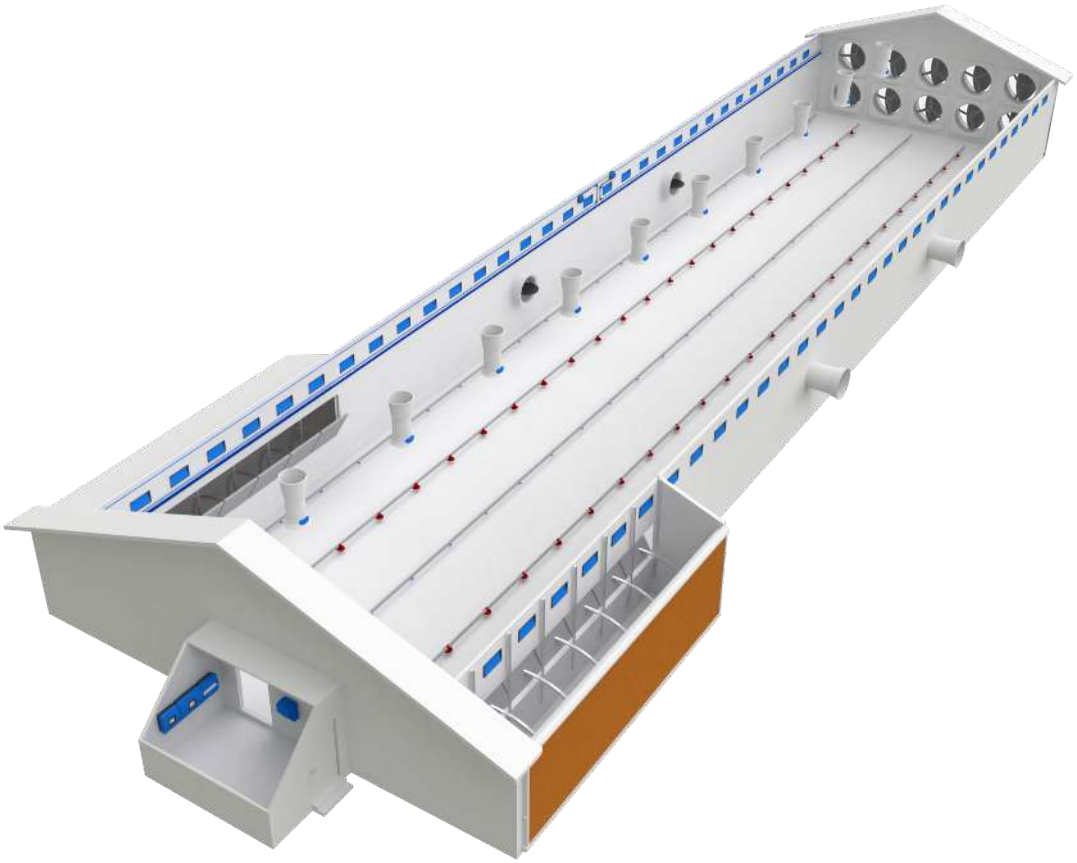
All variants of LPC fans are completed at the factory, so both the motor and fan blade match the current application.



ON/OFF fans are constructed using a standard-dimensioned AC motor, as well as an optimized blade design.
All ON/OFF fans are completed at the factory, so both the motor and fan blade match the current application.

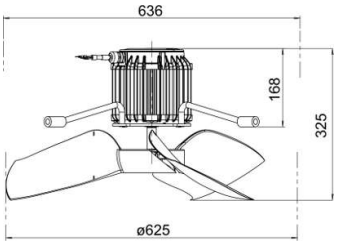
The fans are designed for mounting in exhaust units and wall exhaustion in livestock houses where the ventilation system operates in the low-pressure range, i.e. in LPV, diffuse livestock houses and Combi-Tunnel livestock houses.

The fans bear a CE marking and have a sturdy four-point suspension.



2 Product survey

2.1 DA 600 LPC -3 A



445116 DA 600 LPC 11-3 A fan 230V1 50/60Hz

445117 DA 600 LPC 13-3 A fan 230V1 50/60Hz

The motor controller is to receive a 10-0 V signal.

The fan comes with a 2-meter cable for the wiring between motor and motor controller.

445927 DA 600 LPC cable set 5m can be ordered, if 2m is insufficient.

The power supply to the motor controller does not require a shielded cable.

It comes with motor controller, fan blades and fan suspension.

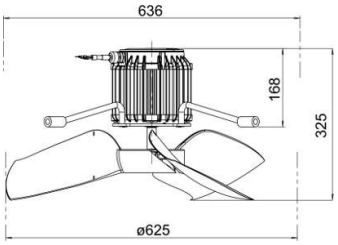
3 blade, 230 V adjustable fan.

To be applied if you require a low energy consumption, both at partial and full load.

ErP 2015 approved.

DA 600 LPC 11-3 A should not be used for negative pressure higher than 90 Pa.

DA 600 LPC 13-3 A should not be used for negative pressure higher than 120 Pa.



445118 DA 600 LPC 11-3 A fan 230V1 50/60Hz TH

The fan is the same as part no. 445116, but includes a thermal cutout.

445119 DA 600 LPC 13-3 A fan 230V1 50/60Hz TH

The fan is the same as part no. 445117, but includes a thermal cutout.

The thermal circuit breaker ensures that the motor disconnects if it gets too hot. For safety reasons, the fan must be connected manually before it can be activated again.

Fans with thermal circuit breakers are normally only used in places where this is a legal requirement, e.g. in Sweden.

ErP 2015 approved.

DA 600 LPC 11-3 A should not be used for negative pressure higher than 90 Pa.

DA 600 LPC 13-3 A should not be used for negative pressure higher than 120 Pa.

2.2 LPC accessories

409145 Thermal protection for fan 230 V with alarm contact

409147 Thermal protection for fan 400 V with alarm contact

For the protection of a LPC fan with thermal cutout.

445927 DA 600 LPC cable set 5M

It is used for replacement of the supplied 2m cable in cases where 2 m cable is insufficient

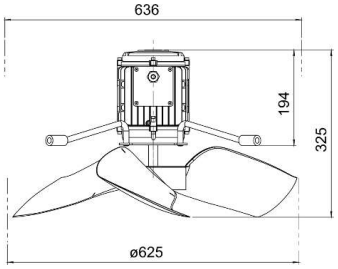
434097 Bracket for LPC fire safety, complete

Is used if there are requirements for fire protection.

Can be used for DA 600 and DA 820 LPC motor controller.

1 per LPC motor controller.

2.3 DA 600 A



445122 DA 600-7F-3 A VFD fan 230V1 50/60Hz

This product consists of the fan and a DOL 38-2 frequency converter.

The frequency controller reduces the energy consumption of the individual fan at partial load compared with a similar triac-controlled fan.

High pressure stability, high performance, and relatively high energy consumption.

The fan is often used where high working pressure is required, for instance in connection with under-floor exhaustion, air cleaning etc.

The frequency converter included is controlled via a 10-0 V signal.

A pre-mounted, shielded cable used between the motor and the frequency converter, is included. The distance between the frequency converter and the motor must not exceed 5m. The supply to the frequency converter is not dependent on a shielded cable.

ErP 2015 approved.

DA 600-7F-3 A VFD should not be used for negative pressure higher than 100 Pa.

3 Technical data

3.1 DA 600 LPC -3 A

		445116/445118 DA 600 LPC-11-3 A	445117/445119 DA 600 LPC-13-3 A
Electrical			
Rated voltage	V AC	230 ± 10 %	
Operating voltage	V AC	180 – 253 For supply voltages below the rated voltage range, a reduction of the fan's RPM may occur depending on the load and ambient temperature.	
RCD		To be installed in accordance with applicable laws and standards. RCD 300 mA (type B) may be used in front of the supply voltage for LPC regulated fans.	
Frequency	Hz	50/60	
Leakage current to ground	mA	Max. 9.10 Pay attention to other leakage current sources in the house.	
Max. ballast fuse	A	10	
Max. current consumption At 230 V AC supply	A	5.4	7.5
Max. input power (P1)	W	639	946
CosPhi [Φ]	Factor	0.51	0.54
Regulation ability		10 to 100% / 9 - 0 V	
Motor protection		Built-in current limiter in LPC motor control. Use fuse in front of LPC motor control.	
Thermal cutout (PTO) 445170, 445172		-	
Thermal cutout (PTO) 445173, 445175		Thermik S01.120.05 Separate cable	
Interface			
Inputs			
A1: Analog fan speed	V DC	10 – 0 (default)	
D1: Start / Stop	V DC	0 / 24 with internal pull-up	
D3: Reversal	V DC	0 - 24 with internal pull-up	
R1: Alarm relay		1 A, 30 V DC, 24 V AC	
Mechanical			
Cable length	m	2 shielded	
Min. duct diameter	mm	636	
The diameter of the fan blade	mm	625	
Number of fan blades	pcs.	3	
Fan blade pitch	°	Periferi 25 / Nav 45	
Fan output			
Revolutions (rated current) per minute	RPM	1122	1300
Air output at 0 Pa	m^3/h	14400	16300

		445116/445118 DA 600 LPC-11-3 A	445117/445119 DA 600 LPC-13-3 A
Air output at -10 Pa	m^3/h	14000	15900
Air output at -20 Pa	m^3/h	13600	15700
Air output at -30 Pa	m^3/h	13200	15400
Air output at -40 Pa	m^3/h	13000	15100
Air output at -50 Pa	m^3/h	12600	14700
Air output at -60 Pa	m^3/h	12100	14400
Air output at -70 Pa	m^3/h	11700	14100
Air output at -80 Pa	m^3/h	11100	13800
Air output at -90 Pa	m^3/h	10500	13300
Air output at -100 Pa	m^3/h	-	12900
Air output at -110 Pa	m^3/h	-	12300
Air output at -120 Pa	m^3/h	-	11600
Power consumption at -10 Pa	W	454	673
Specific output at -10 Pa	m^3/kWh	30800	23600
Specific energy at -10 Pa	Watt/1000 m^3/h	33	42
Testing body		SKOV A/S	
Environment			
Temperature, operation	°C	- 20 to +40	
Start temperature	°C	- 15 to +40	
Temperature, storage	°C	- 40 to +60	
Ambient humidity, operation	% RH	10-95	
Protection class	IP	Motor controller: IP 66. Fan motor: IP 55	
Fan noise, outside (2 m, 45 degrees) Without/with air direction baffle	dB (A)	67 / 68	71 / 73
Shipment			
Motor controller dimensions HxWxD	mm	232x161x148	
Fan dimensions HxWxD	mm	325x636x636	
Weight	g	13755	
Shipping weight	g	17067	

3.1.1 ErP/Ecodesign

Fan type		DA 600 LPC-11-3 A	DA 600 LPC-11-3 w/thermal cutout	DA 600 LPC-13-3 A	DA 600 LPC-13-3 w/thermal cutout
Ecodesign		ErP 2015 (58)			
Efficiency classification	N	77.0		72.7	
Efficiency (η)	%	69.0		65.8	
Measurement setup		D			
Efficiency category		Total			
VSD required		Yes			
Year of production		2023			
Name of manufacturer		SKOV A/S			
Item number		445116	445118	445117	445119
Motor power input	kW	0.542		0.836	
Flow rate	m^3/s	3.50		3.92	
Optimum pressure	Pa	50		70	
Total pressure	Pa	97		129	
Revolutions per minute	RPM	1124		1303	
Pressure conditions		1.0			
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to SKOV A/S or their local collection points/recycling centers in accordance with local instructions.			
Environmental impact		-			
Components used for determining the energy efficiency of the fan.		Bell mouth, flap, air direction baffle, 0.5 m DA 600 duct and outlet cone.			

3.2 DA 600-7F-3 A

		445122 DA 600-7F-3 A VFD fan 230V1 50/60Hz
Electrical		
Rated voltage	V AC	230 ± 10 %
Operating voltage	V AC	185 – 265 For supply voltages below the rated voltage range, a reduction of the fan's RPM may occur depending on the load and ambient temperature.
RCD		To be installed in accordance with applicable laws and standards. RCD 300 mA (type B) may be used in front of the supply voltage for DOL 38-3 regulated fans.
Frequency	Hz	50/60
Leakage current to ground	mA	Max. 9.10 Pay attention to other leakage current sources in the house
Max. ballast fuse	A	16
Max. current consumption At 230 V AC	A	9.1
Max. input power (P1)	W	1170
CosPhi [Φ]	Factor	0.55
Regulation ability		Frequency
Motor protection		DOL 38-3
Mechanical		
Cable length	m	1.5
Min. duct diameter	mm	636
The diameter of the fan blade	mm	625
Number of fan blades	pcs.	3
Fan blade pitch	°	Periferi 25 / Nav 45
Fan output		
Revolutions (rated current) per minute	RPM	1390-1410
Air output at 0 Pa	m^3/h	17400
Air output at -10 Pa	m^3/h	17000
Air output at -20 Pa	m^3/h	16600
Air output at -30 Pa	m^3/h	16300
Air output at -40 Pa	m^3/h	15900
Air output at -50 Pa	m^3/h	15600
Air output at -60 Pa	m^3/h	15200
Air output at -70 Pa	m^3/h	14900
Air output at -80 Pa	m^3/h	14500
Air output at -90 Pa	m^3/h	14000
Air output at -100 Pa	m^3/h	13600
Power consumption -10 Pa	W	919
Specific output at -10 Pa	m^3/kWh	18500

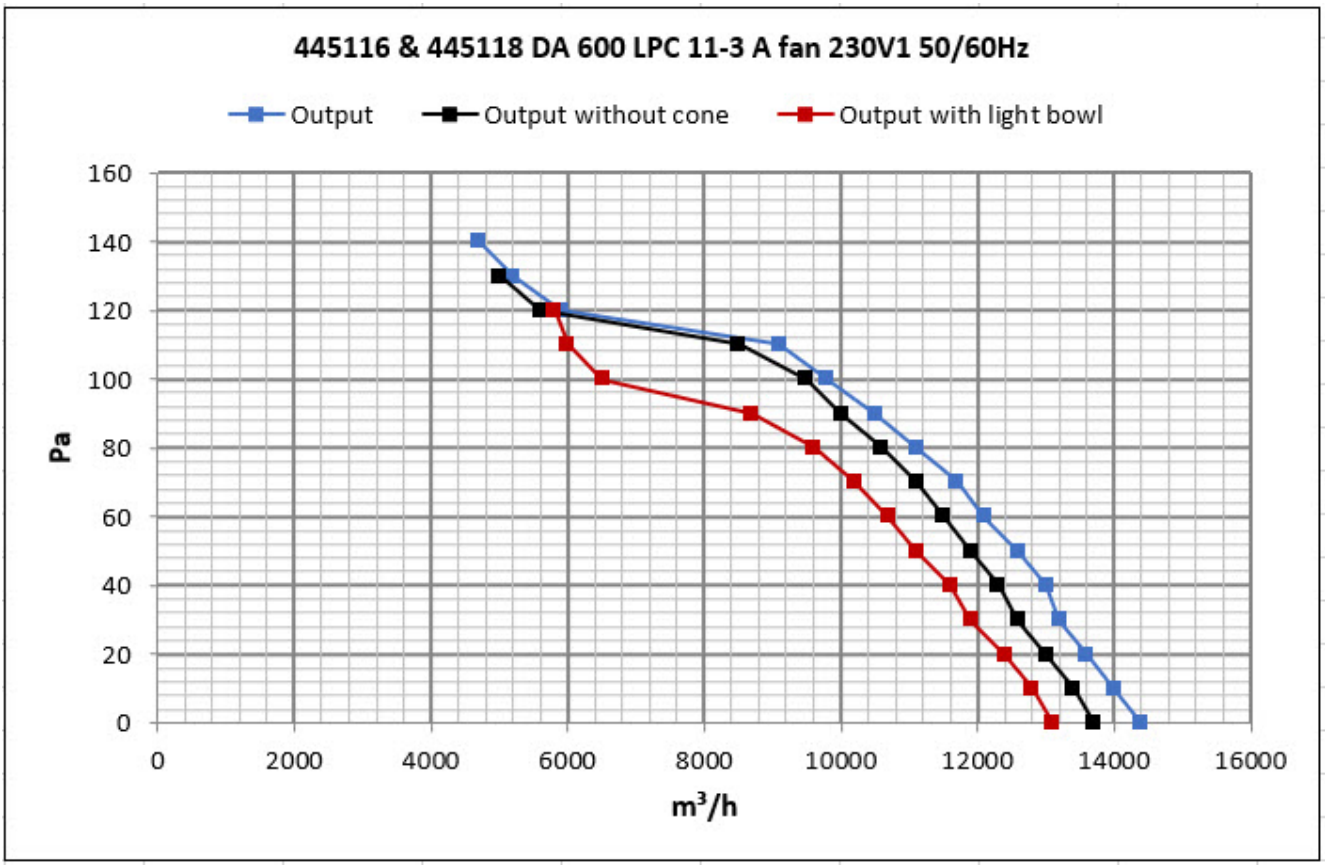
		445122 DA 600-7F-3 A VFD fan 230V1 50/60Hz
Specific energy at -10 Pa	Watt/1000 m^3/h	54
Testing body		SKOV A/S
Environment		
Temperature, operation	°C	- 20 to +40
Start temperature	°C	- 15 to +50
Temperature, storage	°C	- 40 to +60
Ambient humidity, operation	% RH	10-95
Protection class	IP	55
Fan noise, outside (2 m, 45 degrees) Without/with air direction baffle	dB (A)	73 / 74
Shipment		
Dimension HxWxD	mm	325x636x636
Weight	g	16786
Shipping weight	g	19750

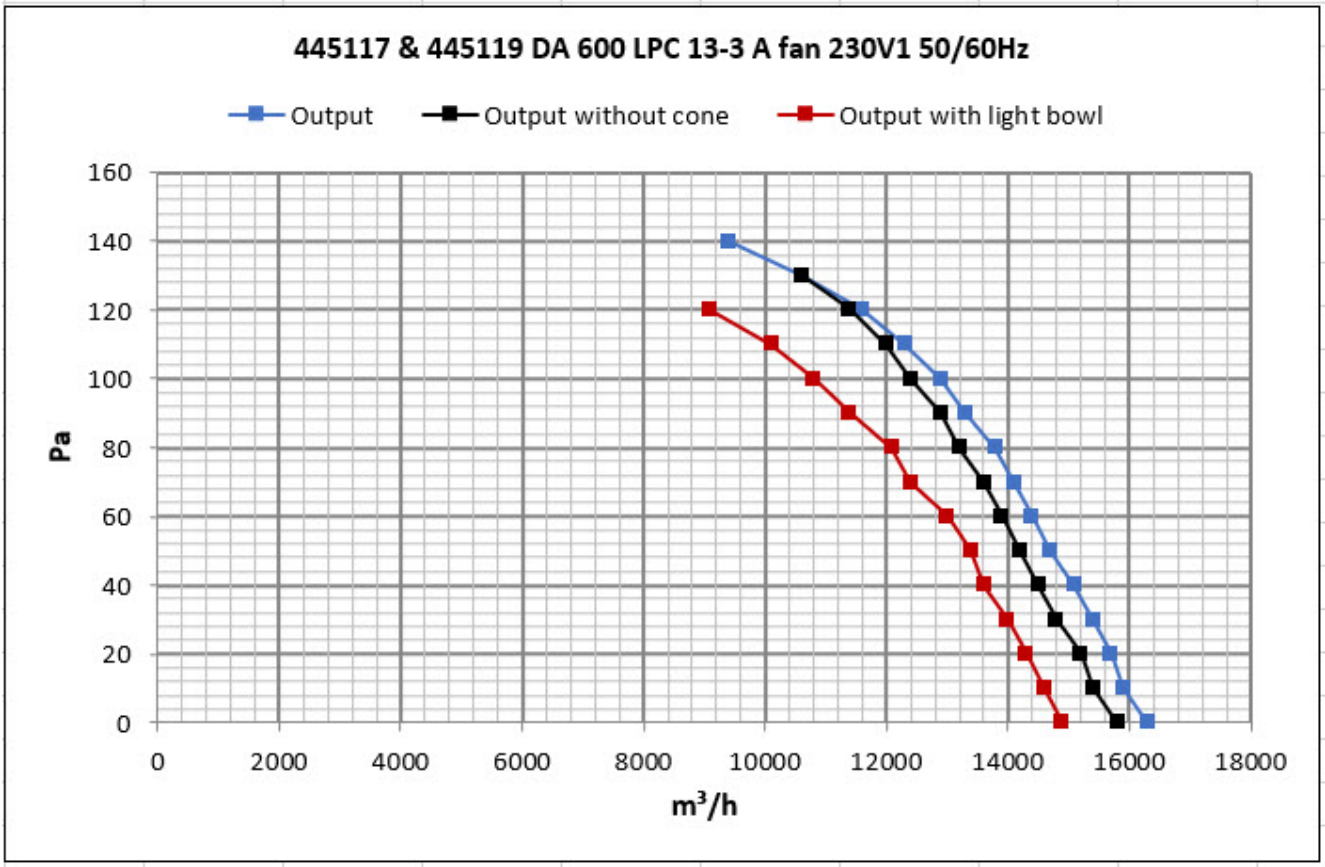
3.2.1 ErP/Ecodesign

Fan type		DA 600-7F-3 A VFD fan 230V1 50/60Hz
Ecodesign		ErP 2015 (N58)
Efficiency classification	N	60.1
Efficiency (η)	%	54.1
Measurement setup		D
Efficiency category		Total
VSD required		Yes
Year of production		2023
Name of manufacturer		SKOV A/S
Item number		445122
Motor power input	kW	1.150
Flow rate	m^3/s	3.89
Optimum pressure	Pa	90
Total pressure	Pa	148
Revolutions per minute	RPM	1354
Pressure conditions		1
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to SKOV A/S or their local collection points/ recycling centers in accordance with local instructions.
Environmental impact		-
Components used for determining the energy efficiency of the fan.		Bell mouth, flap, air direction baffle, 0.5 m DA 600 duct and outlet cone.

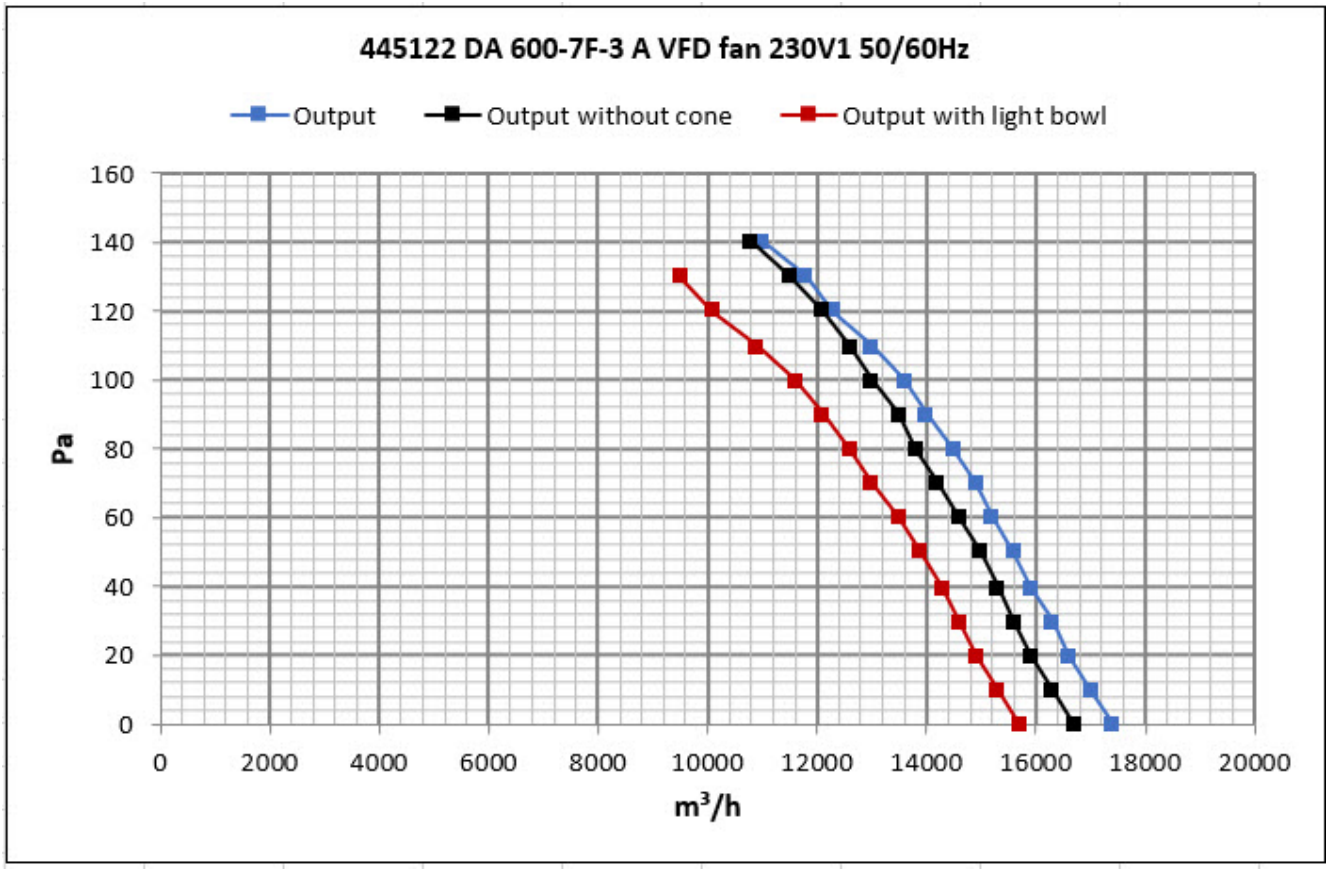
3.3 Performance diagrams

3.3.1 DA 600 LPC -3 A





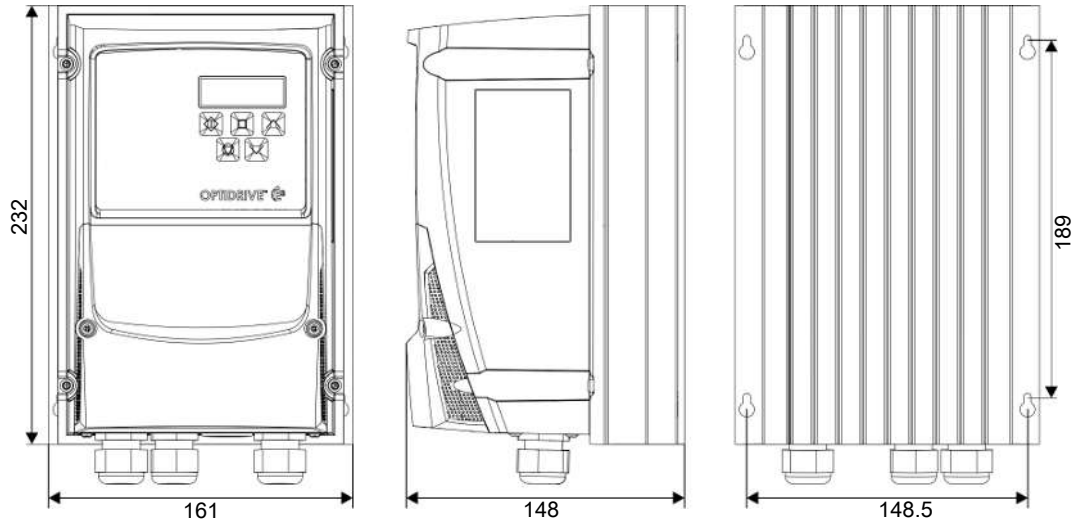
3.3.2 DA 600-7F-3 A



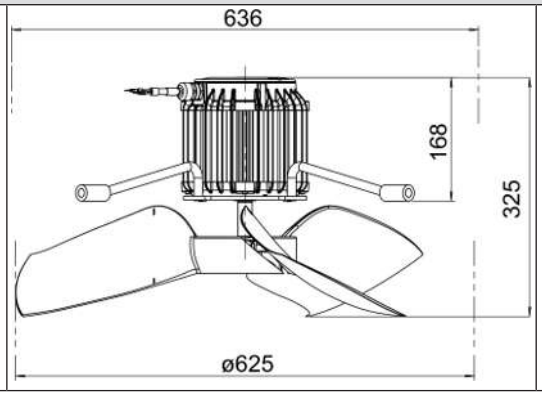
3.4 Dimensioned sketch

3.4.1 DA 600 LPC -3 A

LPC motor controller

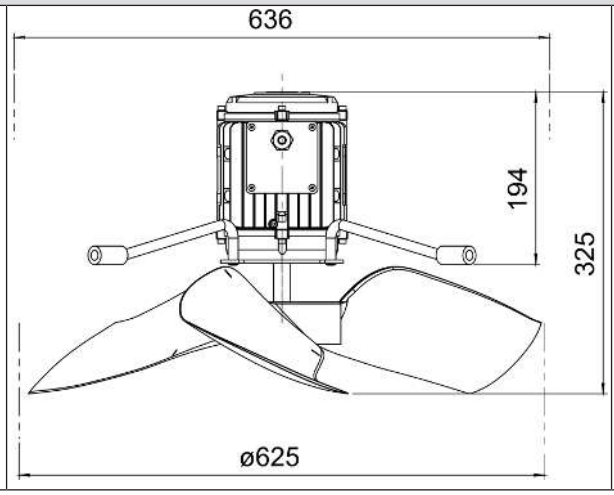


LPC fan



3.4.2 DA 600-7F-3 A

DA 600-7F-3



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