

# DA 60-820

## Roof Inlet

### Technical Info





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<b>1</b>	<b>Product description</b>	<b>4</b>
<b>2</b>	<b>Product survey</b>	<b>5</b>
2.1	Above roof	6
2.2	Lead-through	7
2.3	Attic/section	7
2.4	Inlet	9
<b>3</b>	<b>Technical data</b>	<b>11</b>
3.1	DA 820 LPC	11
3.2	Chimney	13
3.3	Outlet	14
3.4	ErP/Ecodesign	15
3.5	Dimensions	16
3.5.1	Motor drive	16
3.5.2	DA 820 LPC	16
3.5.3	Air inlet	17
3.5.4	Outlet	17

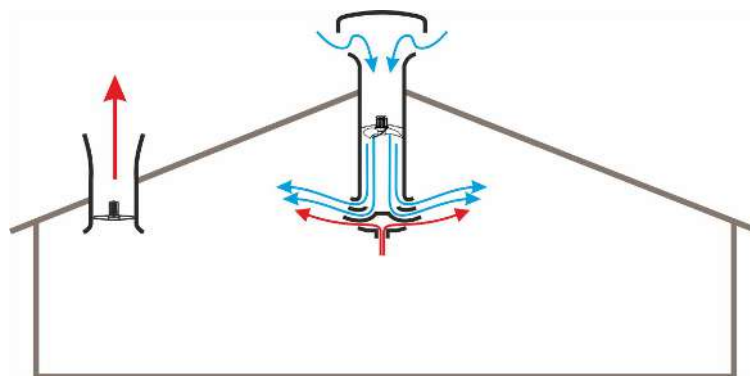
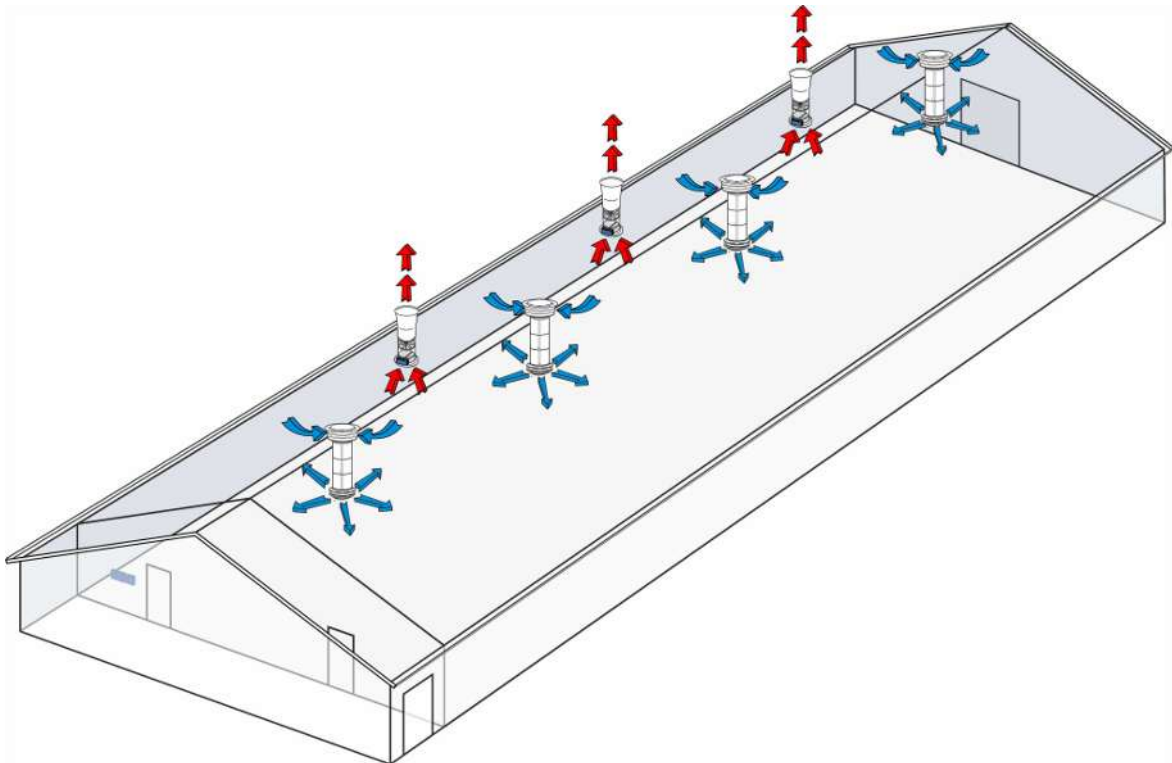
## 1 Product description

DA 60-820 is an air intake that combines high output with low air speed in the animal zone.

DA 60-820 performs up to 16200 m<sup>3</sup>/h at 40 Pa negative pressure. The high output is created without using a fan. The output is regulated steplessly via the a parallel motion system which makes sure that the unit opens uniformly all the way round the unit to ensure uniform distribution of air throughout the house. When installing an air diffusion fan, an equal pressure system with an output up to 25800 m<sup>3</sup>/h at 0 Pa per unit is achieved.

The DA 60-820 is equipped with a recirculation fan that ensures the required air jet range, even though the amount of inbound air is reduced.

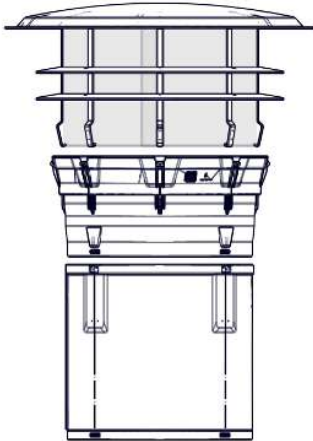
The system can be set to the air jet range required for the current time of year. In this way it is always possible to create a combination of negative pressure and opening that provides the desired relation between output and air speed.



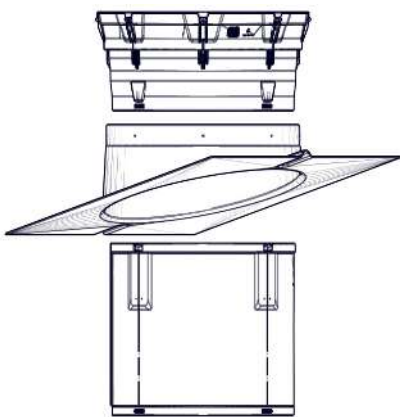
## 2 Product survey

With roof cap

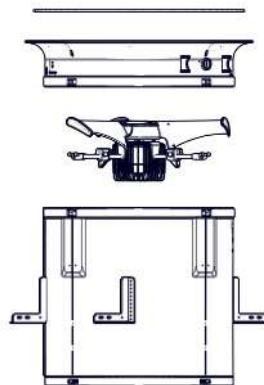
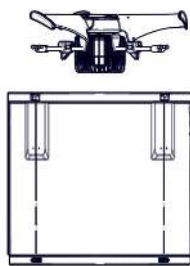
Attic space



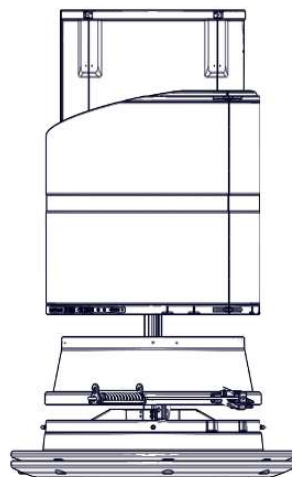
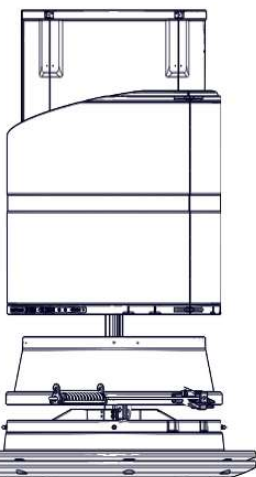
Above roof



Lead-through



Attic/section



Inlet

## 2.1 Above roof



**433470 DA 60-820 roof cap gray**  
**433464 DA 60-820 roof cap black**

Is used for air inlet above the roof.

Roof cap with net prevents birds from entering the house and reduces water ingress problems, but be aware that the performance of the chimney is also reduced.

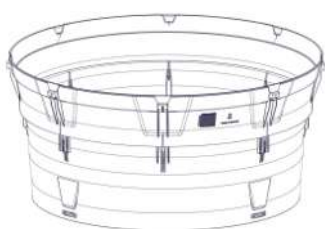
Supplied with a mounting set.



**512084 DA 60-820 rain screen gray**

As standard DA 60-820 is supplied with 2 rain screens on the roof cap.

Extra rain screens can be purchased if further reduction of ingress of rain-water and snow is required.



**434602 DA 820 roof duct gray**  
**434603 DA 820 roof duct black**

Used for roof ducts in roof, outlet cone assembly, and for wall exhaust units.

Supplied with screws and DA 820 mounting guide.



**434604 DA 820 duct 750 mm, gray**  
**434605 DA 820 duct 750 mm, black**

Duct without fan suspension.

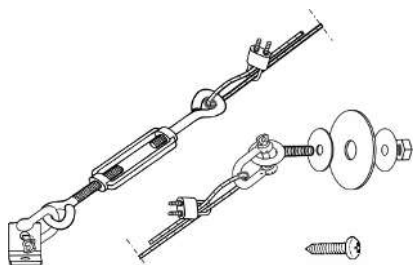
Supplied with screws.



**434652 DA 820 supporting ring**

Use it if there are more than 1.5 meters of duct above the roof, and you use one supporting ring for each commenced 1.5 m of duct above the roof.

You also use it to stabilize the duct by the fan in the wall exhaustion, so the duct remains circular.



**434449 DA 600/DA 820 storm protection kit**

To be used if the chimney is extended by more than 1.5 m above the roof.

The storm protection kit stabilizes the chimney with steel wires between the roof duct and the roof.

Supplied with 24 m  $\varnothing$ 4 wire.

## 2.2 Lead-through



**434602 DA 820 roof duct gray**  
**434603 DA 820 roof duct black**

Used for roof ducts in roof, outlet cone assembly, and for wall exhaust units.  
 Supplied with screws and DA 820 mounting guide.

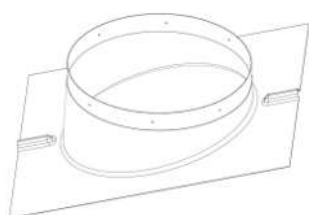


**433493 Roof cloth neoprene 1.9 x 1.7m**

An inexpensive alternative to the roofing sheet side or flex flashing. Neoprene cloths can be used at the transition between the building's roofing sheets and side mounted exhaust units/roof inlets.

Supplied with joint sealer and screws.

1 per exhaust unit/roof inlet.



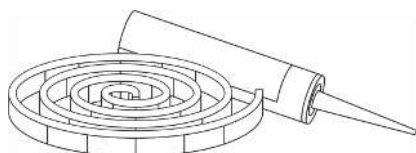
**434640 DA 820 roof sheet, side, gray**  
**434641 DA 820 roof sheet, side, black**

The roofing sheet is used for mounting on the side and is available in different versions in terms of roofing sheet types and pitches.



**434644 DA 820 roof sheet, ridge, gray**  
**434645 DA 820 roof sheet, ridge, black**

The roofing sheet is used for mounting on the ridge and is available in different pitches.

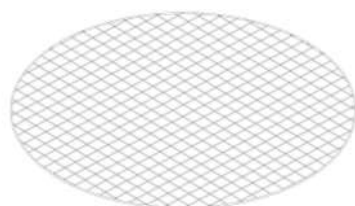


**434093 DA 600/DA 820 kit for closure of water outlet**

Used if water outlet is not required.

Includes Bostik rear stop 20 mm and Sikaflex AT Connection, gray, 600 ml.

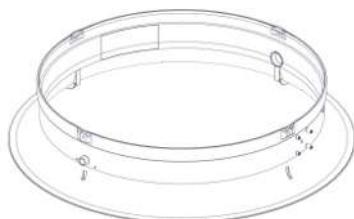
## 2.3 Attic/section



**433466 DA 60-820 net for attic**

Protective nets are used when DA 60-820 ends in attics.

Supplied with screws and washers.



**434618 DA 820 bell mouth, gray**  
**434619 DA 820 bell mouth, black**

A bell mouth is used where a swivel shutter is not required.

Supplied with screws.



**434604 DA 820 duct 750 mm, gray**  
**434605 DA 820 duct 750 mm, black**

Duct without fan suspension.  
 Supplied with screws.



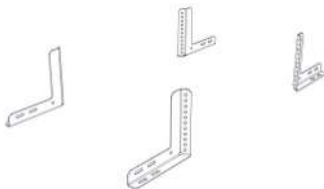
**434606 DA 820 duct with fan suspension, gray**  
**434607 DA 820 duct with fan suspension, black**

Duct (750 mm) with shoe for suspension of fan unit.  
 Supplied with fan suspension and screws.  
 Remember that ducts in the house must be insulated to counteract condensation.



**434608 DA 820 duct w/door 750 mm gray**

Duct with door is used for servicing of fan.  
 Supplied with fan suspension and screws.



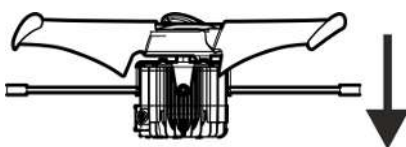
**433465 DA 60-820 anchorage for duct**

Used for lead-through in the ceiling i.e. where the ceiling does not go all the way up to the ridge.  
 Supplied with mounting set.



**445038 DA 820 LPC 12 fan UV 230V1 50/60Hz**

The motor drive is to receive a 10-0 V signal.  
 Motor 1.2 kW.  
 The fan comes with a 2-meter cable for the wiring between motor and motor drive.  
 445983 DA 820 PM motor cable 230V LPC fan 5 m can be ordered, if 2 m is insufficient.  
 The power supply to the motor drive does not require a shielded cable.  
 It comes with motor drive, fan blades and fan suspension.  
 3 blade, 230 V adjustable fan.



ErP 2015 approved.

## 2.4 Inlet



**434606 DA 820 duct with fan suspension, gray**  
**434607 DA 820 duct with fan suspension, black**

Duct (750 mm) with shoe for suspension of fan unit.

Supplied with fan suspension and screws.

Remember that ducts in the house must be insulated to counteract condensation.



**433469 DA 60-820 adapter black**

Is used at the transition between DA 820 duct and DA 60-920 exhaust.

Supplied with mounting set.

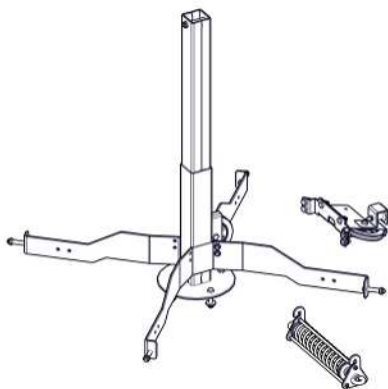
Remember that adapters in the house must be insulated to counteract condensation.



**433520 DA 60-920 outlet funnel Free Flow, black**

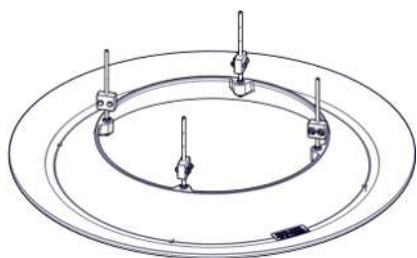
The outlet funnel and the bottom plate are made from polyurethane with a material thickness of 30mm to counteract condensation.

Always remember to order DA 60-920 exhaust, Free Flow, accessories (433519).



**433519 DA 60-920 exhaust Free Flow, accessories**

The pulling system and wire are delivered unassembled.



**433521 DA 60-920 intermediate plate, black**

Is supplied complete with control levers for 150mm opening.

Approx 50% of the air is led out onto the intermediate plate which reduces the air velocity out of the air supply unit and thus also the velocity at the floor.

The intermediate plate is supplied unassembled.



**433522 DA 60-920 recirculation fan, black**

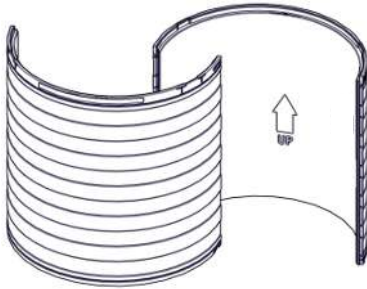
Current consumption 0.62 A.

If there are large temperature differences, poor Coanda-effect by the ceiling, or if free air direction is used, a recirculation fan may lessen the effect of inappropriate down draft.

Complete with recirculation fan, capacitor and connection box.

The recirculation fan is delivered unassembled.

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**433467 DA 920 insulation duct 1000 mm black**

**433468 DA 920 insulation duct 1500 mm black**

Used for insulation of ducts in a livestock house.

Supplied with cable ties.

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### 3 Technical data

#### 3.1 DA 820 LPC

		445038 DA 820-12 LPC 1x230 V
<b>Electrical</b>		
Rated voltage	V AC	230 +/- 10%
Operating voltage	V AC	175 – 280 For supply voltages below the rated voltage range, a reduction of the fan's performance 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 at: 0 - 100 Hz 0 - 1 kHz 0 - 20 kHz 0 - 100 kHz	mA RMS	It is recommended to perform equipotential bonding to the cabinet, on motor drive due to leakage current to ground. 2 2 5 7 Pay attention to other leakage current sources in the house.
Max. fuse	A	16
Max. current consumption At 230 V AC supply	A	6.65
Max. input power (P1)	W	1525
CosPhi [ $\Phi$ ]	Factor	0.99
Regulation ability		20 to 100% / 8 - 0 V
Motor protection		Built-in current limiter in LPC motor drive. Use fuse in front of LPC motor drive.
Thermal cutout (PTO)		-
<b>Interface</b>		
Inputs		
A1: Analog fan speed	V DC	10 – 0 (default)
D1: Start / Stop	V DC	0 / 24 with internal pull-up
D2: Polarity analog input 0-10 V / 10-0 V	V DC	0 / 24 with internal pull-up
LPC-2 relay module (optional)		
D3: Input reversing	V DC	0 - 24 with internal pull-up
Output alarm relay		1 A, 30 V DC, 24 V AC
<b>Mechanical</b>		
Cable glands in motor drive		M20 to 7 - 13 mm cable
Cable length	m	2 (shielded)
Min. duct diameter	mm	820
The diameter of the fan blade	mm	800

		<b>445038 DA 820-12 LPC 1x230 V</b>			
Number of fan blades	pcs.	3			
Fan blade pitch	°	50			
<b>Fan output</b>					
Revolutions per minute	RPM	1170			
		DA 60-820 roof inlet with intermediate plate	DA 60-820 roof inlet without intermediate plate	DA 60-820 ceiling with intermediate plate	DA 60-820 ceiling without intermediate plate
Air output at -50 Pa	m <sup>3</sup> /h	26850	24350	29450	26050
Air output at -40 Pa	m <sup>3</sup> /h	26200	23600	28500	25300
Air output at -30 Pa	m <sup>3</sup> /h	25450	22900	27900	24800
Air output at -20 Pa	m <sup>3</sup> /h	25050	22350	27200	24200
Air output at -10 Pa	m <sup>3</sup> /h	24350	21700	26500	23400
Air output at 0 Pa	m <sup>3</sup> /h	23750	21150	25800	23000
Air output at 10 Pa	m <sup>3</sup> /h	23050	20350	25100	22100
Air output at 20 Pa	m <sup>3</sup> /h	22250	19650	24300	21400
Power consumption at -10 Pa	W	1307	1346	1244	1336
Specific output at -10 Pa	m <sup>3</sup> /kWh	18600	16150	21300	17500
Specific energy at -10 Pa	Watt/1000 m <sup>3</sup> /h	53.7	62	46.9	57.1
Testing body		SKOV A/S			
<b>Environment</b>					
Temperature, operation	°C	÷ 40 to + 40			
Start temperature	°C	÷ 40 to + 50			
Temperature, storage	°C	÷ 40 to + 70			
Ambient humidity, operation	% RH	10 - 95			
Protection class	IP	Motor drive: IP 65. Fan motor: IP 55			
Storage (motor drive / fan motor)		Indoors and dry			
Fan noise, outside (2 m, 45 degrees)	dB (A)	73			
<b>Shipment</b>					
Motor drive - dimensions HxWxD	mm	266x185x90			
Fan - dimensions HxWxD	mm	278x800x800			
Weight	g	21432			
Shipping weight	g	26117			

## 3.2 Chimney

<b>Mechanical</b>		
Material	%	PP T20
Color		Black, gray
<b>Environment</b>		
Temperature, operation	°C	-30 to +70
Temperature, storage	°C	-40 to +65 – and protected against direct sunlight.
Ambient humidity, operation	% RH	0-95
<b>Shipment</b>		
Bell mouth, dimensions HxWxD	mm	202x1010x1010
Roof duct, dimensions HxBxD	mm	451x970x970
Duct 750 mm, dimensions HxWxD	mm	750x844x844
Bell mouth, weight	g	9370
Roof duct, weight	g	6012
Duct 750 mm, weight	g	10006

### 3.3 Outlet

<b>Electric recirculation fan</b>					
Rated voltage	V AC	230 +/- 10%			
Operating voltage	V AC	175 – 280			
Frequency	Hz	50 / 60			
Max. current consumption At 230 V AC supply	A	0.62			
Max. input power (P1)	W	120			
Revolutions per minute	RPM	1440			
Air output	m <sup>3</sup> /h	2200			
<b>Mechanical</b>					
Material		PUR/fibreglass			
Band		Stainless steel A2			
Color		RAL 7035/RAL 9005/black			
Hole diameter	mm	920			
Tensile length	mm	420			
<b>Tensile force</b>					
Outlet	kg	10.5			
Outlet and intermediate plate	kg	14.5			
Outlet and recirculation fan	kg	20.5			
Outlet, intermediate plate and recirculation fan	kg	24.5			
<b>DA 60-820 output</b>					
		<b>DA 60-820 with interme- diate plate</b>	<b>DA 60-820 without inter- mediate plate</b>	<b>DA 60-820 ceiling with in- termediate plate</b>	<b>DA 60-820 ceiling without intermediate plate</b>
Air output at -5 Pa	m <sup>3</sup> /h	4850	4750	5750	5550
Air output at -10 Pa	m <sup>3</sup> /h	6850	6700	8100	7850
Air output at -20 Pa	m <sup>3</sup> /h	9700	9500	11450	11100
Air output at -30 Pa	m <sup>3</sup> /h	11850	11650	14050	13600
Air output at -40 Pa	m <sup>3</sup> /h	13700	13450	16200	15700
Air output at -50 Pa	m <sup>3</sup> /h	15300	15000	18100	17550
Air output at -60 Pa	m <sup>3</sup> /h	16800	16450	19850	19250
Air output at -70 Pa	m <sup>3</sup> /h	18150	17750	21450	20800
Testing body		SKOV A/S			
<b>Environment</b>					
Temperature, operation	°C	÷ 40 to + 40			
Start temperature	°C	÷ 40 to + 50			
Storage temperature	°C	÷ 40 to + 65			
Ambient humidity, operation	% RH	10 - 95			
Protection class	IP	Fan: IP 54			

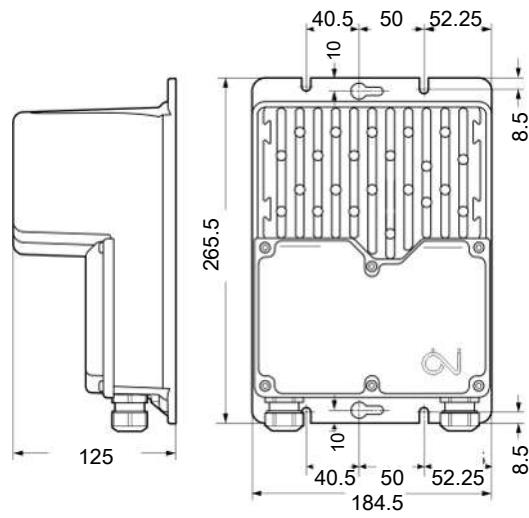
### 3.4 ErP/Ecodesign

Fan type		DA 820-12 LPC 1x230 V
Ecodesign		ErP 2015 (N58)
Efficiency classification	N	75.6
Efficiency ( $\eta$ )	%	70.3
Measurement setup		D
Fan efficiency		Total
Optimum efficiency	%	52.7
VSD required		YES
Year of production		2019
Name of manufacturer		SKOV A/S
Item number		445038
Motor power input	kW	1.437
Flow rate	m <sup>3</sup> /s	7.0
Optimum pressure	Pa	60
Total pressure	Pa	135
Revolutions per minute	RPM	1170
Pressure conditions		1.0
Recycling/Disposal		The product is designed to be recycled and customers will be able to deliver their used products to their local collection points/recycling centers in accordance with local instructions
Environmental impact		-
Components used to determine the energy efficiency of the fan		Bell mouth, flap, air direction baffle, 0.75 m DA 820 duct and outlet cone.

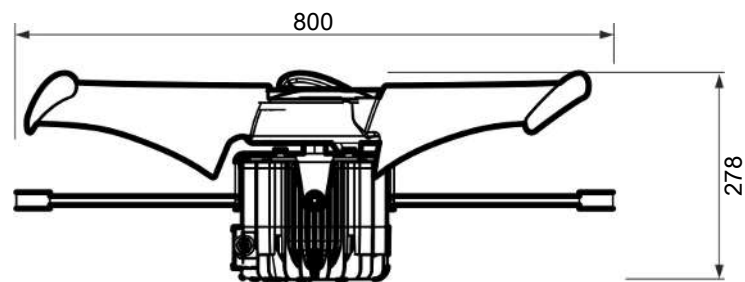
### 3.5 Dimensions

Dimensions in mm.

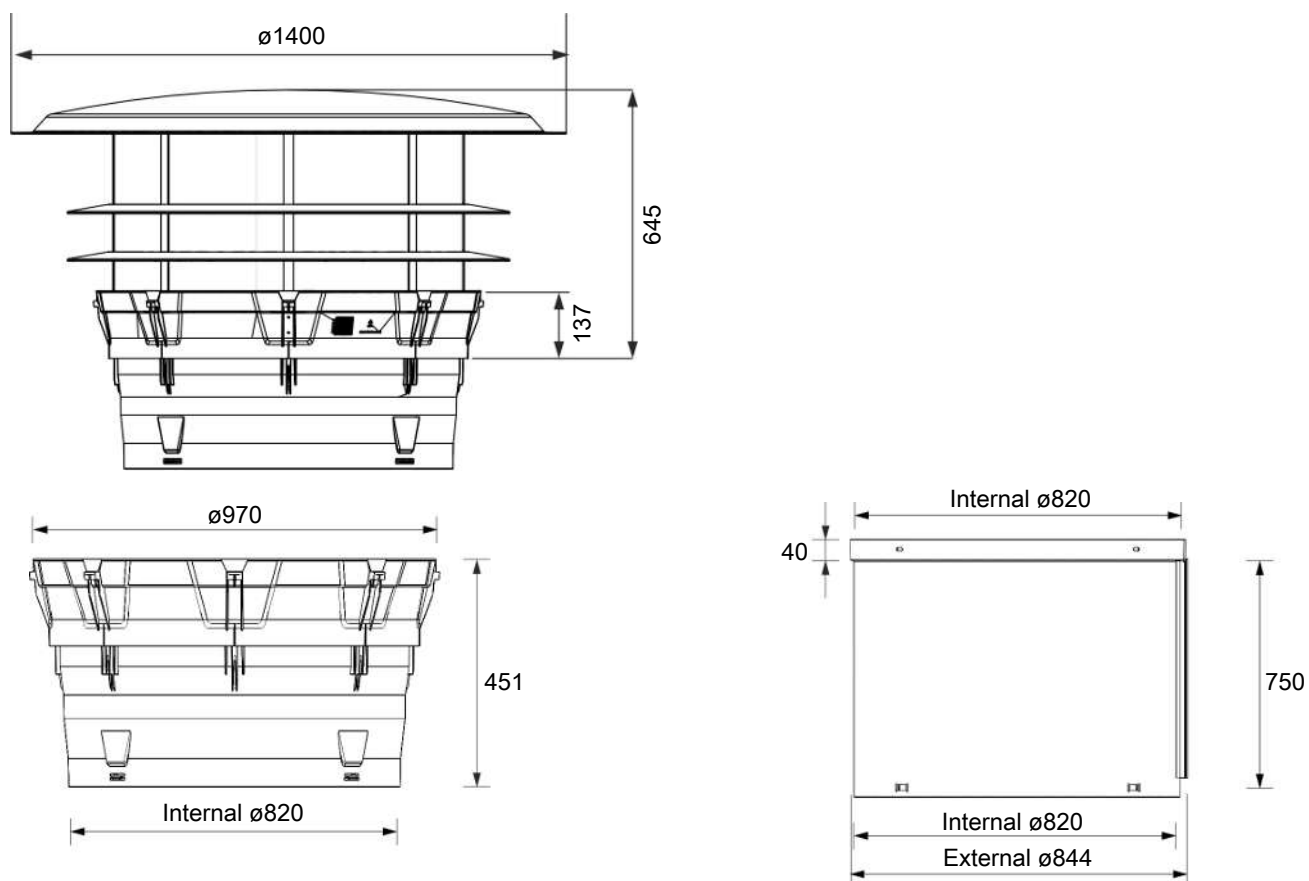
#### 3.5.1 Motor drive



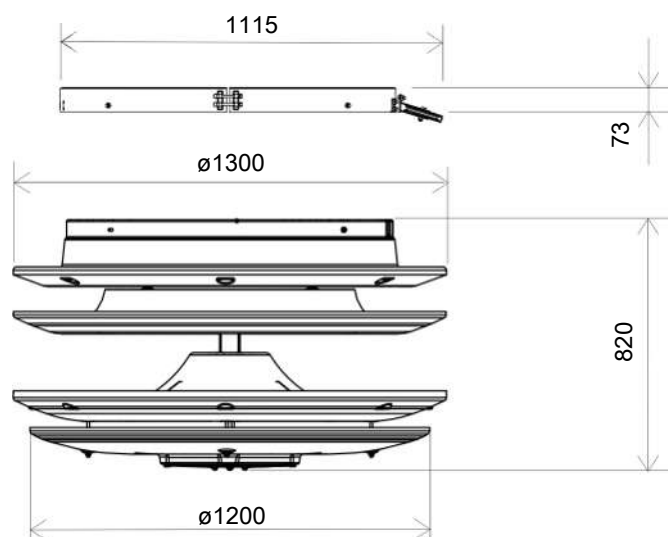
#### 3.5.2 DA 820 LPC



### 3.5.3 Air inlet



### 3.5.4 Outlet







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