Big Dutchman®

AirMaster & Co.

High-performance wall fans with low power consumption

The successful AirMaster series

40 years of consistent enhancement and continuous growth according to customer needs

Fans of the AirMaster series have been an important part of the Big Dutchman product range for more than 40 years. They are the core of many ventilation systems and used by livestock farmers all over the world. And development still continues, of course. House dimensions increase continuously and requirements regarding quality, pressure resistance, controllability and power consumption are growing. Acknowledging these facts, Big Dutchman offers the AirMaster fans not only in different sizes, but also with the best accessories, new control principles and state-of-the-art control technology. This means that Big Dutchman can create a customised ventilation system based on your wishes.

The AirMaster fans are characterised by:

- high air flow rates;
- low power consumption;
- reduced maintenance costs;
- high resistance to corrosion;
- robustness.

Big Dutchman can easily implement an advanced and energy-saving ventilation system by combining different AirMaster types – for the benefit of your livestock. Let our experts advise you so you will find the best fan and ventilation system for your buildings.

Features of the different AirMaster types

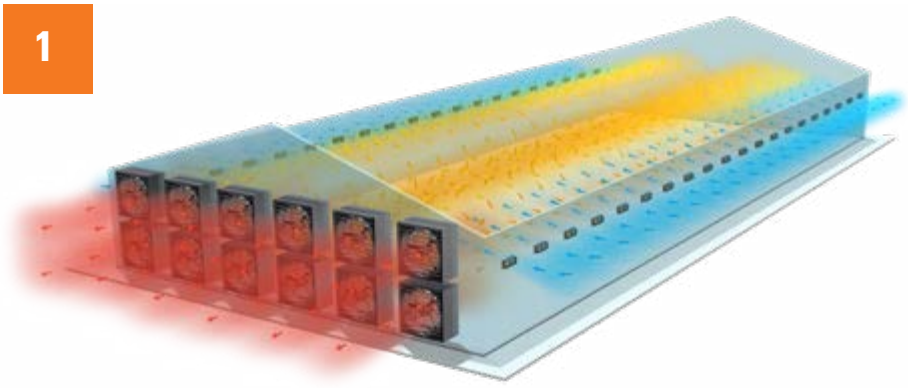
	Type of drive	Motor control	Shutter control	Housing material	Robustness	Highest motor efficiency	Excellent value for money	Highest corrosion resistance	Aerodynamic air inlet nozzle	Automatic emergency opening	Dynamic MultiStep
AirMaster 130	V-belt	on/off**	airflow	galvanised steel	✓	✓	✓	○	○	○	○
AirMaster 130C*	V-belt	on/off**	airflow	galvanised steel	✓	✓	✓	○	○	○	○
AirMaster 140	V-belt	on/off**	airflow	galvanised steel	✓	✓	✓	○	○	○	○
AirMaster 140C*	V-belt	on/off**	airflow	galvanised steel	✓	✓	✓	○	○	○	○
AirMaster Flex 140C*	V-belt	on/off**	motorised	polypropylene	✓	✓	✓	✓	✓	✓	○
AirMaster Blue 140C*	direct	controlled	motorised	polypropylene	✓	✓	○	✓	✓	✓	✓
AirMaster Blue 130	direct	controlled	motorised	polypropylene	✓	✓	○	✓	✓	✓	✓
AirMaster Blue 130C*	direct	controlled	motorised	polypropylene	✓	✓	○	✓	✓	✓	✓

* with cone ** controlled if required

Examples for ventilation systems with AirMaster fans

AirMaster fans must remove the warm and humid air that contains harmful gases from the house, safely and reliably. Criteria for selecting the ideal ventilation system include the length and width of the house, the ventilation needs of the livestock and their age and weight, the climatic conditions and energy consumption.

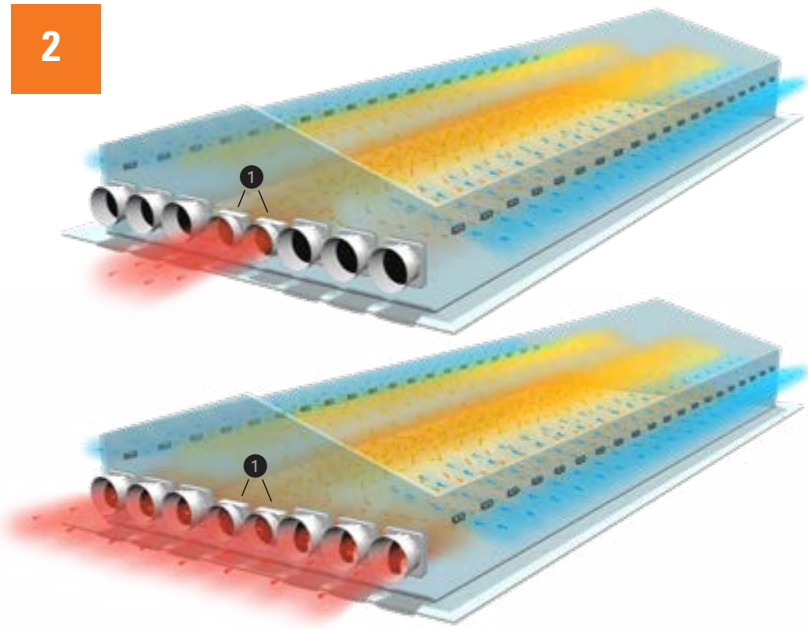
1



Gable ventilation, on/off

The exhaust air is removed exclusively through the gable, which is an effective and cost-efficient solution with the AirMaster 130 or AirMaster 140 fans. This system is an especially good choice in regions with a temperate climate and for livestock which are not affected when ventilation changes. Depending on the ventilation level, the fans are switched on or off in steps.

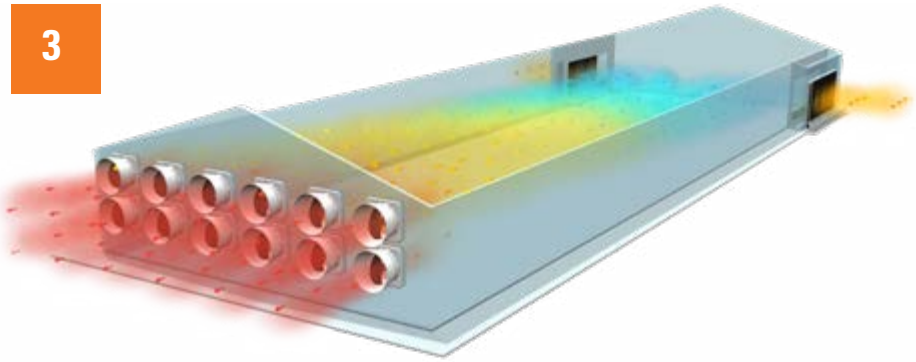
2



Gable ventilation, controlled

With this system, gable ventilation is realised with 130C/140C/Flex 140C on/off cone fans and two steplessly variable AirMaster Blue 130C fans ❶.
Using the stepless, so-called MultiStep principle, this fan combination makes it possible to control the ventilation level without jumps between the individual steps: the ideal solution for pullet rearing or broiler production in temperate climates, where a low ventilation level is required when the birds are first moved in. Based on the birds' growth, the ventilation rates can increase later.
When planning to use the Dynamic MultiStep control principle, all fans need to be controlled.

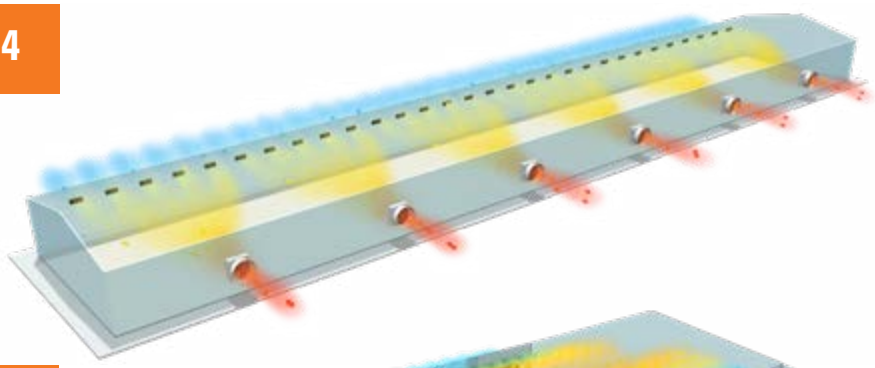
3



Tunnel ventilation, controlled or on/off

Tunnel ventilation with the AirMaster Blue 140C fans with controlled EC motors is an especially energy-saving solution in very warm climates. The Dynamic MultiStep control principle is well-suited for such regions.
Depending on the livestock type and the house size, the AirMaster Flex 140C on/off or the AirMaster 140C/130C on/off fans may be another option.

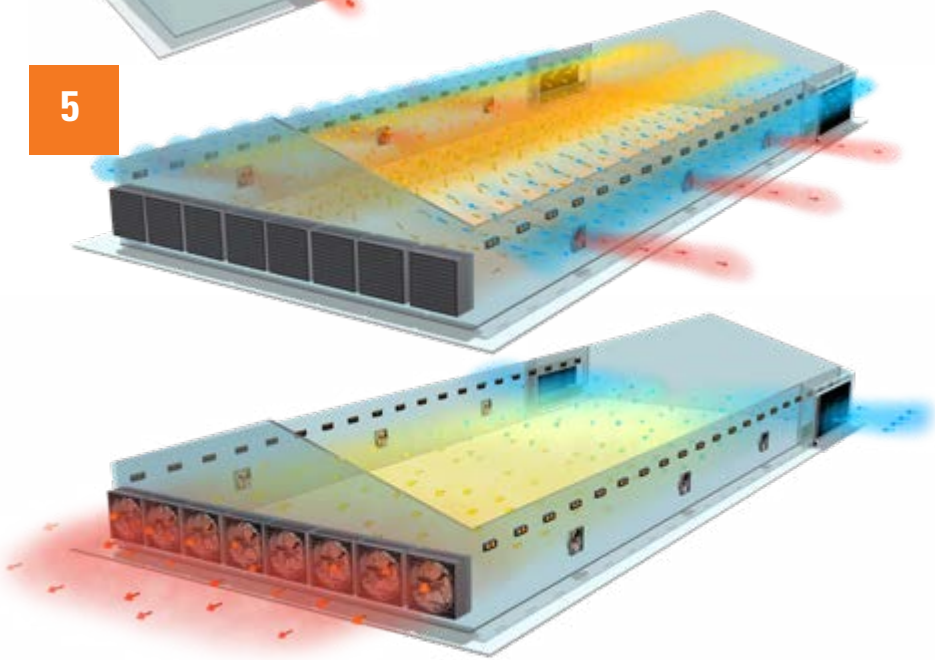
4



Cross ventilation, controlled

Cross ventilation is a good solution in houses that are quite narrow. The AirMaster Blue 130 fans with or without cones can be controlled from 0 to 100 per cent. Based on the ventilation level, the fans draw the air crosswise through the house, thus ensuring a uniform internal environment everywhere.

5



CombiTunnel ventilation, controlled

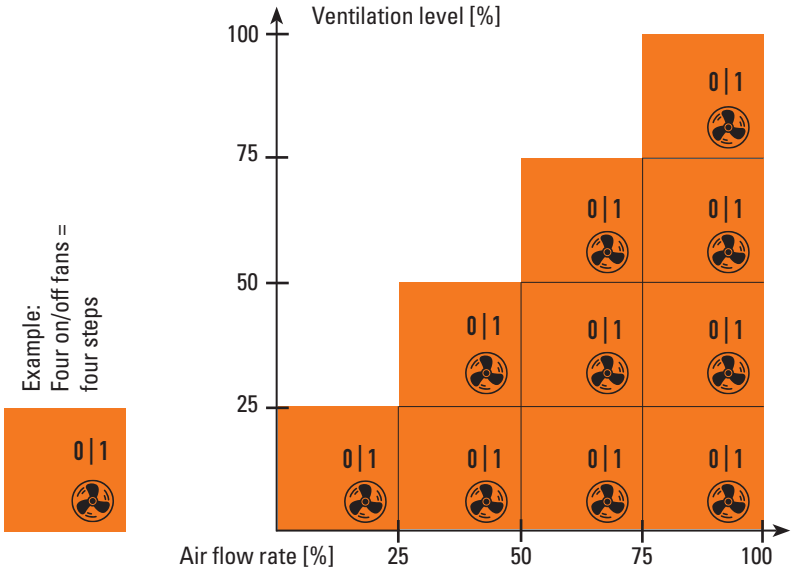
In the ***side mode*** of CombiTunnel ventilation, the energy-saving AirMaster Blue 130 fans should be installed in both long sides of the house.

In ***tunnel mode***, the fans need to withstand a higher pressure than in side mode. The applied pressure depends on the length of the house and the air speed. This means that highly efficient and very pressure-stable fans are required to guarantee the necessary air change rate. For this application, Big Dutchman can offer the AirMaster 130/140 fans with or without cones and the AirMaster Flex 140C fan in the gable.

Step control

Simple and cost-efficient control principle

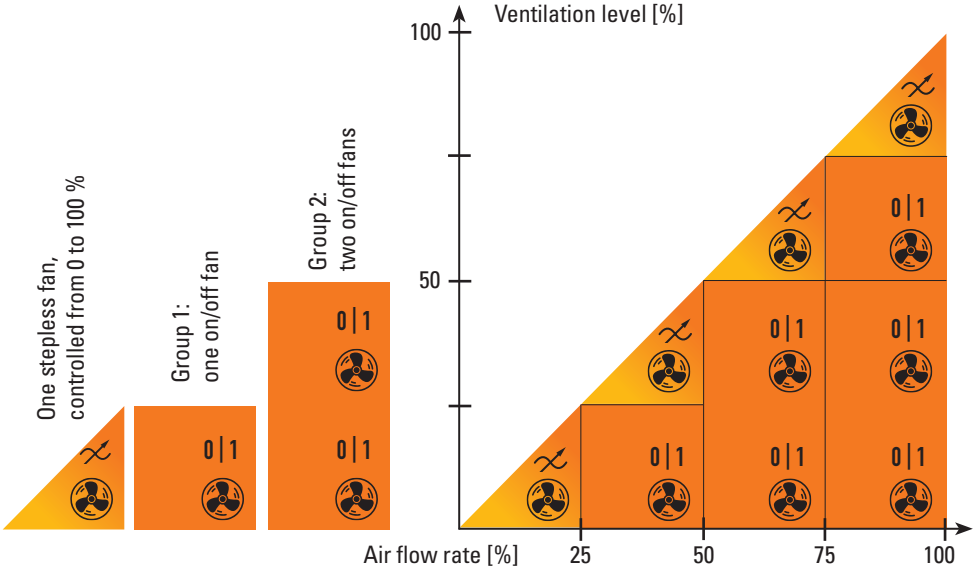
Controlling fans in steps (on/off) is a simple exhaust air control principle to make sure that the ventilation requirements in the house meet your livestock's needs. The AirMaster 130/140/Flex 140C on/off fans are the ideal solution here. This principle does not provide a fully stepless ventilation control to meet the livestock's needs, however.



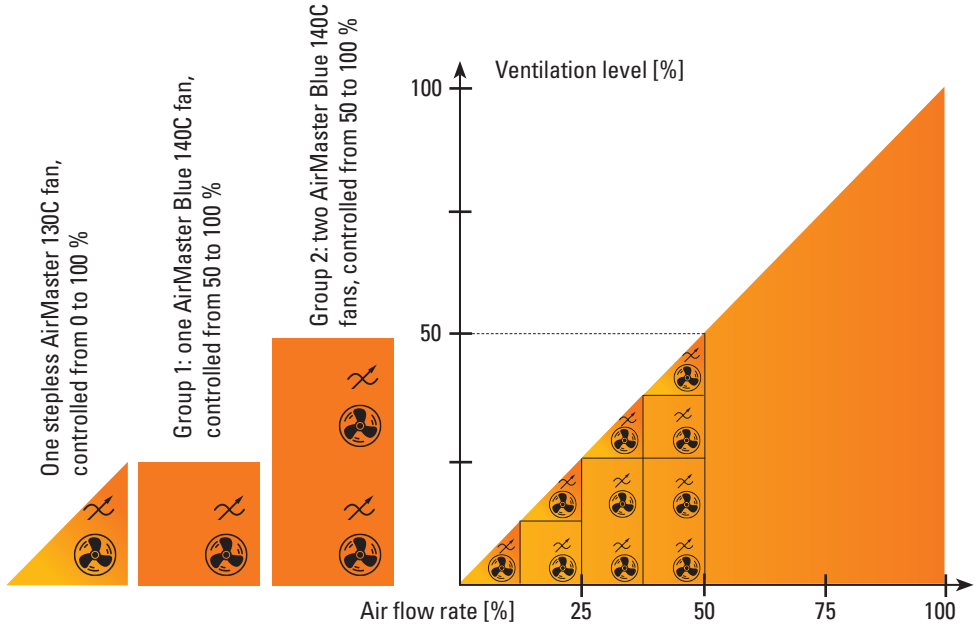
MultiStep and Dynamic MultiStep

Energy-saving exhaust air control principles with the AirMaster Blue series

MultiStep combines on/off group control with the ***stepless control of a single fan***: AirMaster Blue 130C. Its EC motor is much more efficient than AC motors, especially at lower speeds. The climate computer controls the AirMaster Blue 130C fan steplessly from 0 to 100 per cent and only starts up the other fans at full capacity (on/off operation) when required. This ensures stepless ventilation that optimally meets the livestock's needs. The on/off fans are divided into groups, reducing the number of relays required in the climate computer.



The enhanced version of MultiStep is called **Dynamic MultiStep**, a new exhaust air control principle that works with controlled fans only. In combination with EC motors, this principle can save considerable amounts of energy. Compared with MultiStep, Dynamic MultiStep can reduce power consumption by up to 50 per cent! This reduction is achieved by starting the fans not at 100 per cent speed, but as early as approx. 50 per cent (a value that may vary depending on the required pressure resistance). **Very clever:** lowering the speed by half requires just one eighth of the necessary energy! Only after all fans are running at a low speed of, for example, 50 per cent is their speed increased simultaneously to 100 per cent when the ventilation demand requires this.



AirMaster 130 / 130C

High air flow rates and low costs

AirMaster 130 is the smallest AirMaster fan, based on air flow rate. Like all AirMaster fans, AirMaster 130 is mainly installed in the gable and also available with a cone.
The metal housing has a long-lasting zinc-aluminium coating. The specially shaped blades are made of glass fibre reinforced plastic. Air guide rails on every blade ensure a high air flow rate combined with a low resistance and, thus, low energy consumption. The airflow opens the shutters, which are then kept open without any losses by means of a balancing weight. When the fan stops, the shutters close automatically and are locked magnetically. The V-belt pulley is made of aluminium and is manufactured as one piece, together with the blade hub, by diecasting. The V-belt is pre-tensioned, i.e. a belt tensioner is not necessary.
Big Dutchman uses high-quality and highly efficient IE3 motors with a large voltage range (motor protection rating IP 55). The housing is completely closed; a separate cooling fan is not necessary. This means that there is no danger of dust entering the motor, protecting it from overheating.

AirMaster EVO 130/130C:
With one frequency transformer for each fan, the fan speed can be reduced continuously by up to 30 per cent. Reducing the speed by just ¼ reduces energy consumption by half!

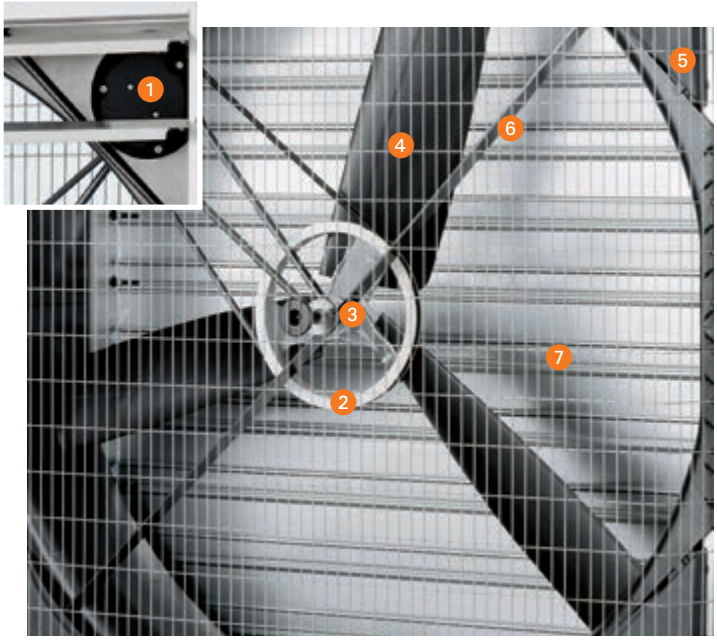
ADVANTAGES

- ✔ high air flow rates;
- ✔ specially shaped blades ensure optimum operation, thus reducing energy consumption;
- ✔ low noise level;
- ✔ compact design;
- ✔ air flow pressure opens the shutters, which stay open thanks to balancing weights: little air resistance;
- ✔ stable design;
- ✔ excellent value for money;
- ✔ simple installation without external assistance;
- ✔ long service life.

AirMaster 130C

AirMaster 130

1. Electric motor without cooling fan: well-protected against dust, no overheating
2. Central V-belt pulley made of aluminium with pre-tensioned V-belt: no V-belt tensioner necessary
3. Stable connection between hub and blade: copes well with high loads
4. Specially shaped blades made of glass fibre reinforced plastic with air guide rails: optimum air flow rates and minimum load on the bearing thanks to the blades' low weight
5. All four corners of the housing equipped with plastic covers: no dirty corners, good hygiene
6. Diagonal braces for improved stability
7. Airflow opens the shutters: no centrifugal system required



AirMaster 140 / 140C

High air flow rates and pressure resistance of up to 100 Pa

AirMaster 140 fans feature higher air flow rates, especially when dealing with high counterpressure. They are therefore often used in houses with tunnel ventilation if the housing equipment causes high resistance and thus makes an unobstructed airflow impossible, creating a high counterpressure. Material quality, aerodynamics and workmanship meet the same high requirements as AirMaster 130, while the following quality features additionally apply for AirMaster 140 fans:

- blades with higher stability
- V-belt pulley with higher stability
- connection between hub and the six blades with higher stability
- use of 2.0 HP IE3 motors (high energy efficiency) according to the European Ecodesign Directive

AirMaster EVO 140/140C:

With one frequency transformer for each fan, the fan speed can be reduced continuously by up to 30 per cent. Reducing the speed by just ¼ reduces energy consumption by half!

AirMaster 140

AirMaster 140 is also available with a cone. This cone reduces power consumption even further, while also increasing air flow rates. This is due to the so-called Venturi effect, where the air from the house has to flow through the narrow part of the fan and then spreads like a diffuser: the exhaust air flows better. A pressure loss of 10 Pa to 15 Pa can be prevented in this manner. Thanks to the cone, the shutter is well-protected against the weather. This fan needs slightly more space in the gable.

AirMaster 140C with wire mesh guard

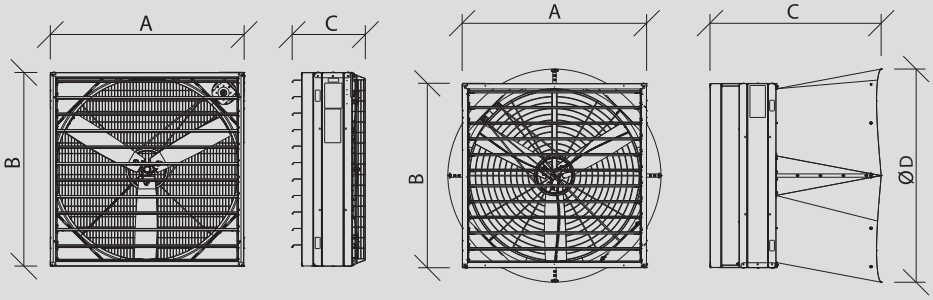
ADVANTAGES

- ✔ high air flow rates;
- ✔ pressure resistance of up to 100 Pa;
- ✔ specially shaped blades ensure optimum operation, thus reducing energy consumption;
- ✔ low noise level;
- ✔ air flow pressure opens the shutters, which stay open thanks to balancing weights: little air resistance;
- ✔ stable and robust construction;
- ✔ compact design;
- ✔ excellent value for money;
- ✔ simple installation without external assistance;
- ✔ long service life.

Dimensions of the AirMaster 130 / 140 fans

Type	A	B	C	D
	in mm			
130	1380	1380	522	
130C	1380	1380	1275	1600
140	1480	1480	548	
140C	1480	1480	1340	1660

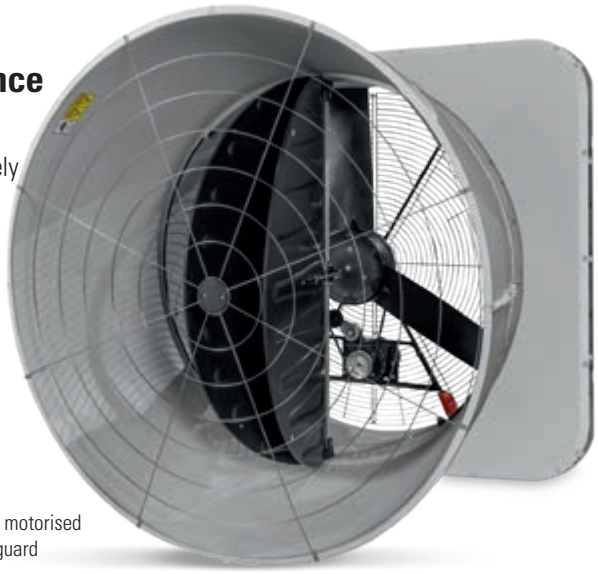
The fans must be equipped with a wire mesh guard on the shutter side where they are installed at a height of less than 2.70 m and accessible by people.



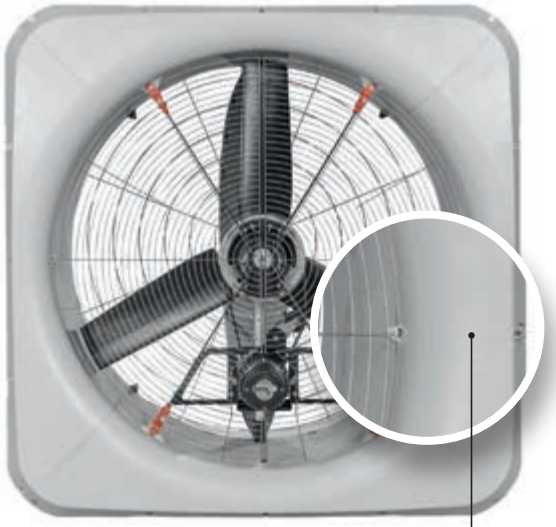
AirMaster Flex 140C

High air flow rates, low energy consumption, good resistance to corrosion

AirMaster Flex 140C is a cone fan that combines the best of both worlds. On the one hand, this fan model is equipped with a high-quality and very efficient IE3 motor driven by a V-belt. The motor can be provided for any type of power supply. On the other hand, housing and cone are made of a high-quality, corrosion-resistant plastic material. The optimised aerodynamic design of the intake nozzle ensures that the exhaust air is removed from the house without any turbulences. This leads to high air flow rates and low power consumption. The motorised and well-insulated shutter is absolutely airtight and, therefore, ideal for cold weather. An emergency opening can also be connected. With a cone diameter of 1750 mm, AirMaster Flex 140C is the largest fan of the Big Dutchman product range.



AirMaster Flex 140C fan with motorised shutter and wire mesh guard



AirMaster 140C with V-belt driven motor and an aerodynamic intake nozzle

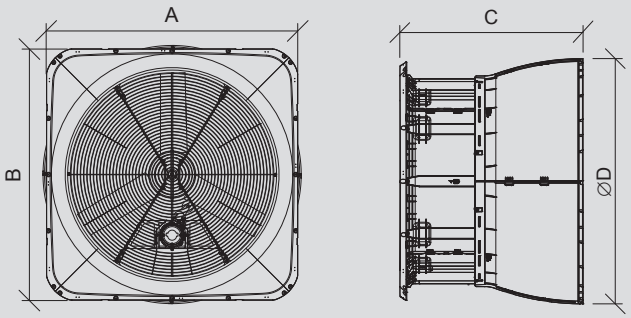
Insulating plate (code no. 60-25-3773) for AirMaster Flex, for an additional thermal insulation in extremely cold regions

ADVANTAGES

- ✔ high air flow rates and low power consumption;
- ✔ excellent aerodynamic design of the intake nozzle;
- ✔ high-quality but cost-efficient IE3 motor that can be provided for any type of power supply;
- ✔ resistance to pressure;
- ✔ low noise level;
- ✔ high-quality materials: fan made of polypropylene and stainless steel for corrosion prevention;
- ✔ well-insulated and airtight shutter;
- ✔ connection of an emergency opening possible;
- ✔ excellent value for money;
- ✔ long service life;
- ✔ unassembled upon delivery for a reduced shipping volume and thus lower transport costs.

Dimensions of the AirMaster Flex 140C fan

A = 1700 mm = 67"
B = 1700 mm = 67"
C = 1256 mm = 50"
D = 1750 mm = 69"



The fan must be equipped with a wire mesh guard in front of the shutter where it is installed at a height of less than 2.70 m and accessible by people.

AirMaster Blue 140C

Very high air flow rates, stepless control, high energy savings and corrosion resistance

The AirMaster fans of the **Blue** series are a new addition to the Big Dutchman product range. They are next-generation fans and feature a directly driven, steplessly variable motor. The AirMaster Blue 140C fan has five outstanding characteristics:

- very high air flow rates
- minimum energy consumption
- high resistance to pressure
- optimised aerodynamic design
- very high resistance to corrosion

The AirMaster Blue 140C fan has the same dimensions as AirMaster Flex 140C.

The excellent aerodynamic design of the intake nozzle leads to high air flow rates

AirMaster Blue 140C

Components of AirMaster Blue 140C

1. Light trap (optional): available in two versions
2. Insulation cover (optional): easy to install
3. Housing: optimised aerodynamic design
4. Wall cover (optional)
5. Energy-saving PM motor with impeller: direct drive
6. Motorised shutter: an emergency opening connection is possible, very airtight
7. Cone: aerodynamic shape
8. Wire mesh guard

ADVANTAGES

- ✔ as a steplessly variable fan and in combination with the Dynamic MultiStep exhaust air principle, currently the most energy-efficient solution for ventilating livestock buildings;
- ✔ high resistance to pressure of up to 100 Pa;
- ✔ very low noise level;
- ✔ directly driven, with a stable connection between hub and blade for low maintenance requirements;
- ✔ motorised shutter closes the fan, making it airtight;
- ✔ connection of an emergency opening possible;
- ✔ high-quality materials: fan made of polypropylene and stainless steel;
- ✔ protection rating IP 65;
- ✔ unassembled upon delivery for a reduced shipping volume and thus lower transport costs.

AirMaster Blue 130 / 130C

High air flow rates, stepless control from 0 to 100 %, high energy savings and corrosion resistance

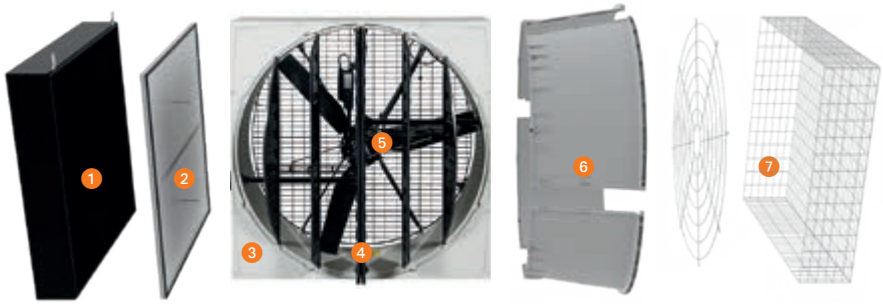
The AirMaster Blue 130 fan has the same dimensions as AirMaster 130 and is therefore the ideal solution for retrofitting. This is especially relevant where a fan that can be controlled steplessly from 0 to 100 per cent, therefore saving considerable amounts of energy, should be used. Big Dutchman especially recommends using this fan in pig houses because it is resistant to ammonia and thus also to corrosion. The AirMaster Blue 130 fan can be supplied with or without cone.

AirMaster Blue 130

AirMaster Blue 130C

The most important feature of this fan is the newly developed ***motorised shutter.*** This shutter consists of six vertical elements that are opened and closed steplessly from 0 to 100 per cent by a motor. The V-shaped arrangement of the elements means that the air is removed in a laminar flow, i.e. without turbulences. The fan therefore runs very smoothly, without vibrations.
Using the controlled shutter and the EC motor, both the MultiStep and the Dynamic MultiStep principles can be implemented. This allows for great energy savings and ensures that your livestock enjoy a comfortable climate at all times.

V-shaped, motorised shutter



Components of AirMaster Blue 130 and 130C

1. Light trap (optional): available in two versions
2. Insulating plate (optional): easy to install
3. Housing: optimised aerodynamic design
4. Motorised shutter: an emergency opening connection is possible, very airtight
5. Energy-saving, controlled EC motor with impeller: direct drive
6. Cone: aerodynamic shape
7. Wire mesh guard/protective cage

ADVANTAGES

- ✔ steplessly variable from 0 to 100 per cent and in combination with the MultiStep und Dynamic MultiStep exhaust air principles currently the most energy-efficient solution for ventilating livestock buildings;
- ✔ high resistance to pressure of up to 100 Pa;
- ✔ very low noise level;
- ✔ motorised shutter closes the fan, making it airtight;
- ✔ connection of an emergency opening possible;
- ✔ directly driven, with a stable connection between hub and blade for low maintenance requirements;
- ✔ high-quality materials: fan made of polypropylene and stainless steel for corrosion prevention;
- ✔ protection rating IP 65;
- ✔ assembled upon delivery for a fast installation on site.

Technical data for AirMaster 130/140/Flex 140: 3 ~ 400 V, 50 Hz

Description details

V130-3-1.5 HP	V	= fan without cone	130/140	= impeller diameter	3/6 = number of blades
VC 140-6-2.0 HP	VC	= fan with cone	1.5/2.0	= motor power	

	V130-3-1.5 HP E15	VC130-3-1.5 HP E15	V140-6-2.0 HP E15	VC140-6-2.0 HP E15	BD-Flex-140C-3-2.0 HP E15
Code no.	60-25-4541	60-25-4556	60-25-5100	60-25-5650	83-56-1839
Power consumption (in watts)	1600	1550	1550	1500	1200
Nominal current (in ampere)	3.0	2.9	3.2	3.1	2.7
Sound level (in dB(A))*	64	64	63	66	

* at a distance of 7 m

AirMaster 130/140/Flex 140C: air flow rate (m³/h) / specific fan power (W/1000 m³/h)

Type / negative pressure	0 Pa	20 Pa	30 Pa	40 Pa	60 Pa	80 Pa	100 Pa
V130-3-1.5 HP	46700 / 34.5	42600 / 39.1	40700 / 41.0	38300 / 44.1	31900 / 53.4		
VC130-3-1.5 HP	50700 / 30.7	47000 / 34.8	45000 / 37.0	42600 / 40.1	37800 / 46.1		
V140-6-2.0 HP	46200 / 33.4	43700 / 37.9	42400 / 40.8	41000 / 43.8	37600 / 50.4	34100 / 58.9	29500 / 69.5
VC140-6-2.0 HP	47900 / 31.1	45400 / 35.9	44100 / 38.4	42800 / 40.8	39800 / 46.8	35600 / 55.5	30800 / 65.7
BD-Flex-140C-3-2.0 HP	53000 / 22.9	48300 / 28.4	45700 / 31.4	43100 / 34.6	37200 / 42.0		

Fans with other voltages and frequencies are available upon request.

AirMaster Blue 130C, 3 ~ 400 V: air flow rate (m³/h) and specific fan power (W/1000 m³/h)

Type / negative pressure	Code no.	0 Pa	20 Pa	40 Pa	60 Pa	80 Pa	100 Pa
BD-Blue 130C-7 (50/60 Hz)	60-25-4588	53800	49100	44900	40600	34700	28200
– spec. fan power W/1000 m³/h		32	37	41	46	53	74
BD-Blue 130C-6 (50/60 Hz)	60-25-4591	48600	43900	39500	33700	27400	
– spec. fan power W/1000 m³/h		27	32	36	42	51	
BD-Blue 130-7 (50/60 Hz)	60-25-4562	48900	44900	41100	36600	31600	25000
– spec. fan power W/1000 m³/h		39	43	47	51	58	69
BD-Blue 130C on/off (50 Hz)	60-25-4599	48400	44600	39000	32700	25700	
– spec. fan power W/1000 m³/h		31	35	40	48	59	
BD-Blue 130 on/off (50/60 Hz)	60-25-4586	45100	41300	36300	30300	20100	
– spec. fan power W/1000 m³/h		35	39	45	51	59	

Fans with other voltages and frequencies are available upon request.

AirMaster Blue 140C, 3 ~ 400 V: air flow rate (m³/h) and specific fan power (W/1000 m³/h)

Type / negative pressure	Code no.	0 Pa	20 Pa	40 Pa	60 Pa	80 Pa	100 Pa
BD-Blue 140C-6 (50/60 Hz)	60-25-3772	65800	61000	56800	51700	46100	39400
– spec. fan power W/1000 m³/h		27.3	32.1	37	42.3	48.8	58
BD-Blue 140C-7 (50/60 Hz)	60-25-3776	72500	68300	63800	59300	54500	48400
– spec. fan power W/1000 m³/h		32.5	36.9	41.8	47	52.9	60.5
BD-Blue 140C on/off (50 Hz)	60-25-3782	68500	65700	57600	52100	46200	39100
– spec. fan power W/1000 m³/h		32.5	35.2	44.4	50.6	57.5	67
BD-Blue 140C on/off (60 Hz)	60-25-3784	64700	60300	55800	50200	44000	36800
– spec. fan power W/1000 m³/h		29.9	34.5	40.2	46.1	54.3	65

Fans with other voltages and frequencies are available upon request.

Extensive testing of the BESS (Bioenvironmental and Structural Systems) Laboratory of the University of Illinois, USA, confirms efficiency and quality of the AirMaster Blue 140C fan.

LameliaBrown and LameliaBlack

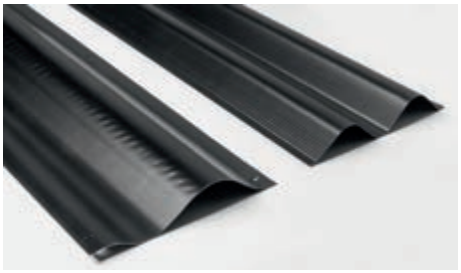
Ideal light traps for the entire AirMaster series

Big Dutchman's newly developed light trap, Lamelia, is available in two versions. LameliaBrown has a light reduction factor of **6,000:1** and is thus ideal for layer and broiler houses. LameliaBlack's much higher light reduction factor of **7,100,000:1** makes this light trap a great solution specifically for breeder houses. The two light traps provide the following advantages:

- ✔ LameliaBrown significantly reduces the incidence of light, and LameliaBlack almost completely prevents light from entering the building;
- ✔ LameliaBrown, especially, reduces the air flow rate only slightly;
- ✔ the light trap segments are made of high-quality plastic for a long service life and easy cleaning;
- ✔ integrated spacers mean that installation requires very little time.

If all AirMaster fans are installed together in the gable, constructing a well-fitting light trap wall may make sense. With AirMaster fans to the left and to the right of the house's long sides, the light trap wall is installed in a so-called "dog house", similar to a pad cooling system. The advantage of both options is that pressure and output losses are much lower than when using one light trap per fan.

LameliaBrown (on the left) and LameliaBlack are available in basically all sizes and for the entire AirMaster series



The special design of LameliaBlack (on the right) ensures maximum light refraction and ideal aerodynamics

Axial fans

Excellent controllability, low power consumption

Axial fans are well-suited for installation into the walls of smaller houses and for cross ventilation. Their housing has an aerodynamic shape and is manufactured from stable plastic or corrosion-resistant metal. The blades are made of aluminium in a moulded diecasting process and are exceptionally efficient.

FC, FF and FN fans are distinguished according to the blade shape. The serrated blades of the FF and FN fans imitate the wings of an owl during its silent flight (bionics). FF and FN fans therefore consume less power, are extremely resistant to pressure and operate at a low noise level.

ADVANTAGES

- ✔ excellent controllability;
- ✔ low energy consumption, especially of the FF and FN fans;
- ✔ low noise level;
- ✔ fast and easy installation;
- ✔ high corrosion resistance;
- ✔ long service life.

Fan of the FC series

Fan of the FF series

Fan of the FN series

Technical data of the axial fans

Description details

FC071-6EQ	FC = standard fan	071 = impeller diameter (cm)	E = single-phase	
FF063-6DQ	FF = sickle-shaped fan	6 = 6-pole	D = three-phase	Q = wall installation
FN091-6DQ	FN = sickle-shaped fan			

	FF063-6EQ	FC071-6EQ	FF091-6EQ	FF063-6DQ	FC071-6DQ	FF091-6DQ	FN091-6DQ
Code no.	60-47-7904	60-47-9171	60-47-7908	60-47-7905	60-47-9671	60-47-7909	60-50-0216
Power consumption (in watts)	520	890	940	540	890	920	1950
Nominal current (in ampere)	2.5	4.1	4.2	1.3	1.8	1.9	4.0
Sound level (in dB(A))*	46	54	49	46	55	50	53

* at a distance of 7 m

Ventilation performance data

1 ~ 230 V, 50 Hz: air flow rate (m³/h) / specific fan power (W/1000 m³/h)

Type / negative pressure	0 Pa	10 Pa	20 Pa	30 Pa	40 Pa	50 Pa	60 Pa
FF063-6EQ	12110 / 40.4	11700 / 42.7	11280 / 45.2	10830 / 47.5	10350 / 50.2	9810 / 53.0	9100 / 57.1
FC071-6EQ	16080 / 44.1	15650 / 46.6	15180 / 49.4	14670 / 53.1	14130 / 56.2	13560 / 60.1	13020 / 62.9
FF091-6EQ	22760 / 38.4	21660 / 41.1	20600 / 43.6	19590 / 46.4	18460 / 49.5	17460 / 52.9	16470 / 56.1

3 ~ 400 V, 50 Hz: air flow rate (m³/h) / specific fan power (W/1000 m³/h)

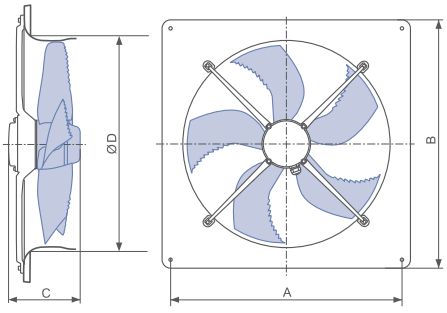
Type / negative pressure	0 Pa	10 Pa	20 Pa	30 Pa	40 Pa	50 Pa	60 Pa
FF063-6DQ	12300 / 38.6	11920 / 41.1	11550 / 43.3	11160 / 45.7	10740 / 49.3	10250 / 51.7	9690 / 54.7
FC071-6DQ	16520 / 45.4	16110 / 47.1	15690 / 49.7	15250 / 52.4	14790 / 55.1	14300 / 57.3	13780 / 60.2
FF091-6DQ	23450 / 35.4	22640 / 37.5	21810 / 40.1	20990 / 42.4	19950 / 45.1	18960 / 47.9	18010 / 50.5
FN091-6DQ	27430 / 49.9	26850 / 51.9	26280 / 55.1	25680 / 57.8	25030 / 60.7	24380 / 63.9	23740 / 68.6

The motors are fabricated according to minimum protection rating IP 54.
Additional fan types with other voltages and frequencies are available upon request.

Dimensions

Type	A	B	C	D
		in mm		
FF063	750	805	218	686
FC071	810	850	272	765
FN080	910	970	319	870
FF/FN091	1010	1070	261	1020

A wire mesh guard is required if the fan is installed in an accessible location.



The PVC shutters adjust automatically and close when the fan stops.

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