

# AIR MASTER



**V-belt driven fan  
with high air performance**

# AIR MASTER – for optimum ventilation in your poultry house

Optimum environmental conditions are a pre-requisite for successful poultry farming. Fans are crucial elements of every good air conditioning system.

With the AIR MASTER you can achieve high efficiency with low energy consumption. The AIR MASTER is an effective and solid fan with a large diameter.

## Component parts

### 1. Housing

The housing is made of galvanized sheet steel (zinc layer 350 g/m<sup>2</sup>) making the fan resistant to corrosion. The bottom of the housing has an integrated water outlet.

### 2. Propeller

The propeller consists of six self-cleaning blades made of stainless steel. Their shape ensures highest air displacement at low pressure, with only small power consumption.

### 3. Shutters

The shutters are kept open mechanically by centrifugal force. This means there is only very small resistance for the air and an increased air displacement rate. When the fan is not in operation, the shutters are kept closed by a strong steel spring. Neither draught nor wind can move the shutters = no heat loss, no air seeping into the house.

### 4. Central V-belt pulley

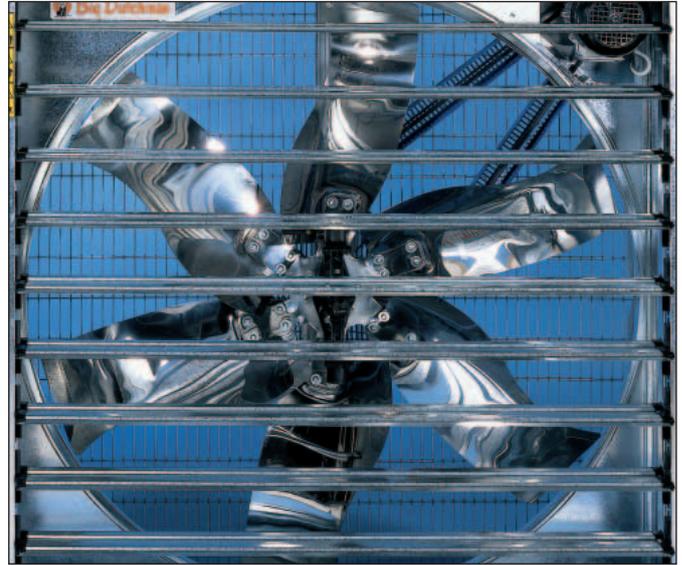
The V-belt pulley is made of aluminium and has been manufactured by diecasting. The maintenance-free long-lasting lubrication of the bearings guarantees trouble-free operation over many years.

### 5. Electric motors

uses three-phase motors (230/400 V, 50 Hz, IP 54) as standard features. Motors for other current supplies or for other speed controls (transformer) are available on request. The motor is situated at the top of the fan to prevent soiling and to facilitate cleaning.

### 6. Cone

Fans with cones are mainly used in houses with increased back pressure. They are pressure-stable up to -80 Pa and therefore ideally suited for tunnel ventilation particularly in cage houses.



Shutters open/close by means of centrifugal force without any loss of capacity



Cone fan – ideal for long tunnel-ventilated houses

## Advantages

- high air performance;
- low power consumption – up to 60 % less compared to fans of smaller diameters;
- safe automatic shutter closing device when the fan is not in operation (centrifugal system);
- low-noise, maintenance-free.

## Light trap

The light trap offered by reduces the filtration of light through the fan to an absolute minimum. The air performance, however, is only slightly reduced. The shutters of the light trap are made of plastic, are corrosion-resistant and easy to clean.

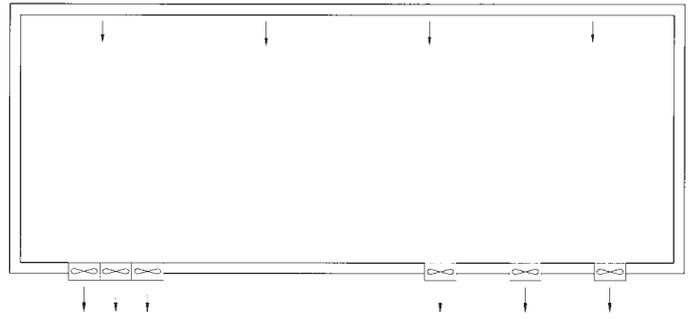
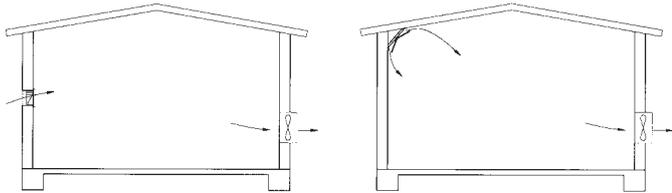


Light trap – for houses where daylight is not meant to intrude

# Possible uses

## Transverse ventilation

Air inlet from one side of the house.  
The fans are either distributed evenly or arranged in groups.



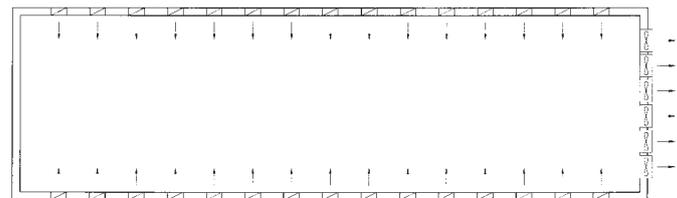
central channelling of exhaust air

decentralized channelling of exhaust air

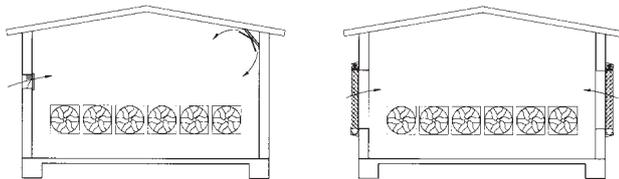
## Longitudinal ventilation

For gable ventilation, air is drawn in evenly on both sides of the house. The fans are located at one end of the house (gable).

For tunnel ventilation, air is drawn in at one end of the house and the fans are located at the opposite end.

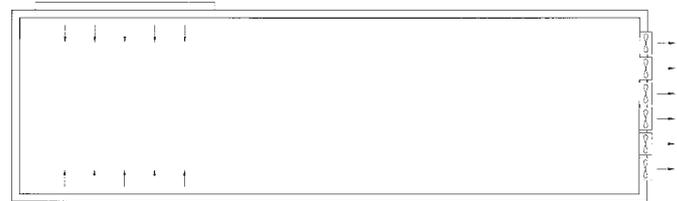


gable ventilation



gable ventilation

tunnel ventilation

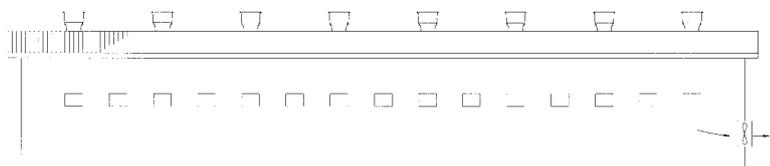
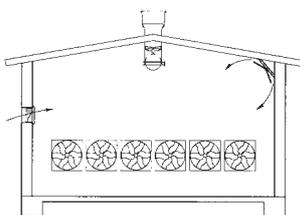
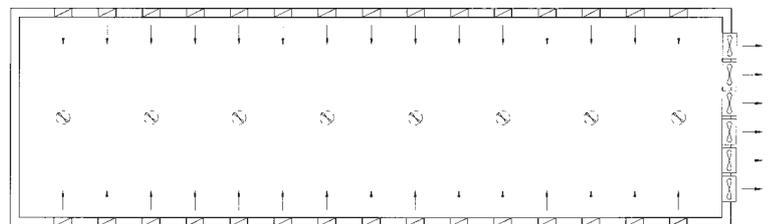


tunnel ventilation

## Combination

The AIR MASTER fans are controlled on/off, which is the most economic method.

At lower temperatures or for a better fine-tuning of air rates, we recommend the smaller axial fans or exhaust air chimneys.



# Technical data

AIR MASTER	Code-No.	Pa	Air rate (m <sup>3</sup> /h)	Power consumption (Watt)	Current consumption (Ampere)	Specific power (Watt/1000m <sup>3</sup> /h)
<b>EM-36 0.5</b> without light trap	60-21-1330	0	16,900	596	1.16	35.3
		- 20	14,950	633	1.21	42.3
		- 40	12,360	658	1.24	53.2
<b>EM-36 0.5</b> with light trap	60-21-1330	0	14,870	668	1.22	44.9
		- 20	13,150	685	1.26	52.1
		- 40	10,870	690	1.29	63.5
<b>EM-50 1.0*</b> without light trap	60-25-1030	0	37,020	1,249	2.07	33.7
		- 20	33,000	1,312	2.18	39.8
		- 40	27,310	1,347	2.21	49.3
<b>EM-50 1.0*</b> with light trap	60-25-1030	0	31,920	1,344	2.23	42.2
		- 20	28,260	1,368	2.23	48.4
		- 40	23,050	1,385	2.25	60.1
<b>EM-50 1.5**</b> without light trap	60-25-3030	0	41,930	1,703	2.94	40.6
		- 20	39,620	1,769	3.03	44.6
		- 40	35,430	1,830	3.10	51.7
<b>EM-50 1.5**</b> with light trap	60-25-3030	0	37,430	1,798	3.07	48.0
		- 20	33,980	1,847	3.07	54.4
		- 40	30,430	1,867	3.11	61.4
<b>EMC-50 1.5</b> with cone without light trap	60-25-3040	0	45,900	1,361	2.54	27.3
		- 20	42,900	1,470	2.70	34.3
		- 40	38,900	1,570	2.83	40.4
		- 60	33,500	1,642	2.95	49.1
		- 80	28,000	1,700	3.05	60.8

\* according DAE test report No. 931 \*\* according DAE test report No. 932

For use within the EU, above-mentioned AIR MASTER fans have to have the CE sign of conformity. They differ from the models without CE sign in having a protective grill in front of the shutters in case of an installation height of less than 2.70 m. If the speed needs to be controlled, Big Dutchman are able to supply the fans without shutters (EMS types).

## Accessories

	Code-No.
Mounting flange-set EM 36	60-21-1350
Mounting flange-set EM 50	60-20-1050
Light trap EM 36	60-21-1398
Light trap EM 50	60-20-1098
Plate EM 50	60-25-3010

## Dimensions

Type	EM 36	EM 50	EMC 50
A (mm)	1090	1380	1380
B (mm)	1090	1380	1380
C (mm)	450	450	470
D (mm)	600	830	830
E	M8	M8	M8
F (mm)	245	275	275
G (mm)	305	305	250
L (mm)	-	-	730
Weight (kg)	62	91	97
Ø Impeller (mm)	915	1245	1585

