



Big Dutchman®



Fresh air supply systems

Optimum fresh air supply;
the right system for every type of poultry house

Fresh air supply systems – optimum fresh air supply for every type of poultry house

To ensure an optimum fresh air supply into the barn, Big Dutchman has a wide product range of different air supply systems available. Depending on the actual requirements – negative pressure, positive pressure, or equal pressure ventilation – the following systems can be implemented:

- wall or ceiling inlets
- fresh air chimneys FAC or Fumus
- Baffle and Splitbaffle

Let our experts advise you on which type of fresh air supply system best fits your requirements.

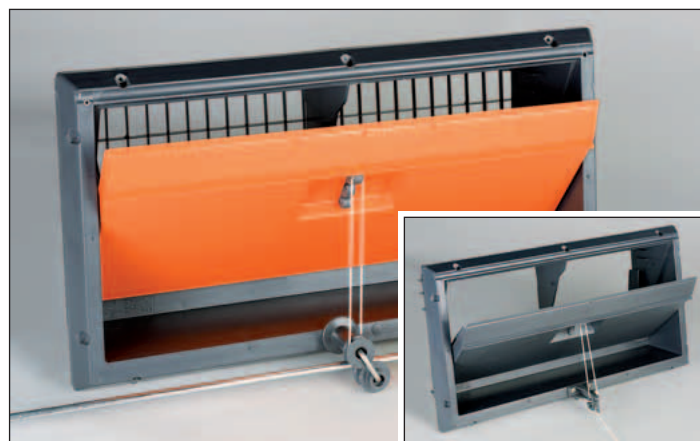
Wall and ceiling inlets – for uniform fresh air supply

Big Dutchman offers different fresh air inlets. These include:

- wall inlets CL 1200, CL 1211 F and CL 1200B/F



CL 1200 the multi-purpose wall inlet



CL 1211 F and CL 1200 B/F – flange inlets for sandwich panels

Wall inlets are well-suited for use in poultry houses. The CL 1200 is sealed in the wall. CL 1211 F and CL 1200 B/F are flange inlets and are especially well-suited for thin walls.

They consist of shock-proof, non-deformable and UV-stabilized plastic and can easily be cleaned with a pressure washer. The isolated inlet flap is kept in a closed position by means of a rust-free steel spring thus sealing the building airtight. The inlet door opens when it is pulled downwards. This allows for a very precise regulation of the inlet opening during each season. The cold fresh air enters the house from above

and mixes with warm in-house air before it reaches the birds.

The corresponding control set allows to open all fresh air inlets at once or individually. The patented differentiation allows to select which inlets are to be opened first and which inlets are to be opened later. If the number of opened inlets is reduced, especially during the cold season or during the heating period, the remaining inlets can be opened farther which makes for more stable airflows.

Ceiling inlet CL 30 S



The CL 30 S is constructed of polyurethane and is equipped with a flange for fastening to the ceiling. The fresh air can be introduced from the attic space into the house. The inlet door opens downwards and controls the fresh air supply precisely. In cold weather, the inlet opening is small, which means the air is led into the house in horizontal direction close to the ceiling and can mix with the house air uniformly. In warm weather, the inlet door opens diagonally downwards and the air is led directly into the bird area. Since there is only a limited opening, there is no direct vertical air jet. By means of the corresponding control set, the ceiling valves may be opened all at once or individually.

Selected accessories for wall inlets CL 1200, CL 1211 F and CL 1200 B/F

1. Self-supporting net

The plastic net is fastened to the wall inlet from the outside. It keeps birds and other small animals from entering the barn through the inlets.

2. Air deflection plate

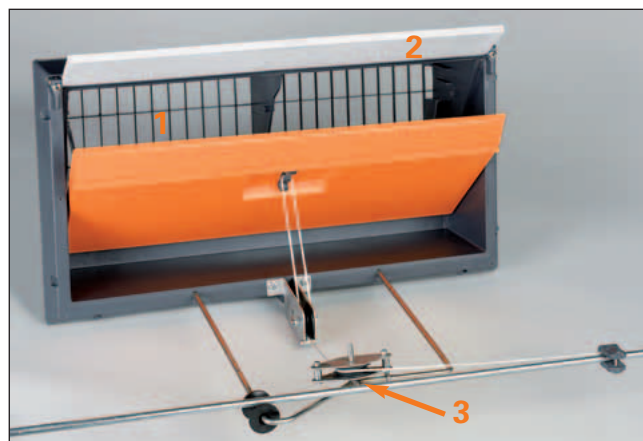
The air deflection plate is mounted to the upper edge of the inlet and allows a precise direction of the air flow, especially in cold weather. The direction of the air flow can be adjusted individually for each house simply by changing the angle between the deflection plate and the barn wall.

3. Spacer

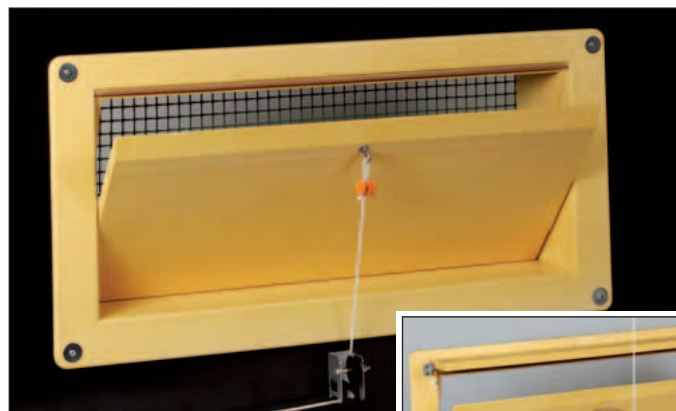
Spacers are used when tension rods have to be guided around posts. The maximum distance to the wall is 24 cm (one spacer per inlet).

4. Light protection

If light programmes are used it becomes necessary to completely darken the barn during the dark phase. The light protection offered by Big Dutchman is ideally suited for the CL 1200, CL 1211 as well as CL 1200 B/F wall inlets. The light reduction is 99.9 %, and thanks to the ideal aerodynamic design, losses in air performance are kept to a minimum. The light protection is constructed of high-quality plastic and can simply be taken off the wall inlet for cleaning with a high-pressure washer.



Wall inlets CL 2400-Z and CL 2400-N



CL 2400-Z with protection screen



CL 2400-N with air deflection plate

The wall inlets of the CL 2400 series have a high air performance. They are especially suited for the remodelling of old barns as less wall inlets have to be installed thanks to their higher air performance. Frame and inlet flap are made of well-insulating HR-foam (polyurethane).

At the CL 2400-Z the inlet flap is kept in closed position by means of tension springs. It opens if pulled from below. The corresponding control set allows the operator to open all fresh air inlets together or individually.

At the CL 2400-N the inlet flap is closed by means of a servomotor. It opens by its own weight when the tension rope is relaxed.

Air deflection plates and protection screens are available for both fresh air inlets.

Air performance (m³/h) of wall inlets and ceiling inlet fully opened

Type code no.	CL 1211 F 60-44-3111	CL 1200 B/F 60-44-3112	CL 1220 60-44-3140	CL1224 60-44-3144	CL 1229 60-44-3149	CL 1233 60-44-3153	with light protection* 60-43-3064	CL 2400 Z/N 60-47-3375/73	CL 30 S 60-40-1305
-10 Pa	1 000	1 000	1 200	1 250	1 280	1 350	990	2 460	1 080
-20 Pa	1 450	1 450	1 700	1 750	1 800	1 940	1 420	3 780	1 450
-30 Pa	1 700	1 700	2 050	2 120	2 170	2 300	1 680	4 350	1 750
-40 Pa	2 000	2 000	2 400	2 490	2 550	2 700	2 000	4 970	2 100

* with light protection, all wall inlets of the CL 1200 series have the same air performance

FAC and Fumus – fresh air chimneys for negative, equal or positive pressure ventilation

The fresh air chimneys FAC and Fumus available from Big Dutchman are fresh air chimneys that guide the fresh air into the house over the ceiling. The stable pipe system has GRP coating on the inside and on the outside and is insulated with 30 mm of polyurethane for a long service life and better cleanability.

The fresh air distributor of the FAC has an 8-pocket structure which creates a stable air jet, even during minimum ventilation. In the winter time, the individual pockets can be closed off by means of flaps. FAC and Fumus are available with centralized or

decentralized control. For decentralized control the servomotor is installed directly in the fresh air chimney. Centralized control is carried out with only one servomotor via cables and tension rods.

We offer an optional protection screen for both fresh air chimneys to keep wild birds or leaves from getting into the barn.

The FAC is available with the following diameters: 650, 730, 820 and 920 mm; Fumus is available with the following diameters: 650, 730 or 820 mm.



FAC fresh air chimney with individual control



Fumus fresh air chimney for equal or positive pressure ventilation

FAC with recirculation unit

The FAC can optionally be equipped with a recirculation unit. The recirculation unit distributes the cold fresh air in the winter time for a uniform airflow. The recirculation fan creates a supporting layer of air which then carries the fresh air and mixes uniformly. A temperature sensor, which is installed in one of the fresh air chimneys, allows switching on the recirculation fans at a desired temperature.



Recirculation unit for uniform distribution of fresh air

Application possibilities for FAC and Fumus

FAC and Fumus are especially well-suited for poultry houses:

- if fresh air supply over the side walls or intermediate ceiling is not desired or not possible due to the building design ("monobloc");
- if the building is very wide and low so that the

supply of fresh air over the side walls and an air flow through the entire space is not possible;

- if an equal or positive pressure ventilation system has to be used – due to leakages at the building, for example.

Equal or positive pressure ventilation

If the FAC is equipped with a fan (optional) installed inside the chimney, the FAC can also be used for equal or positive pressure ventilation.

Contrary to the FAC, the Fumus is generally equipped with a fan installed in the bottom part of the chimney. It pushes the negative pressure incoming fresh air into the house through the fresh air distributor. The butterfly valve above the fan regulates the amount of incoming air. Depending on the position of the butterfly valve, between 100 % fresh air (vertical position) and 100 % circulating air (horizontal

position) are led into the house. In all other positions of the butterfly valve, fresh air is mixed with house air which is sucked in through the 10 cm wide opening in the chimney. This means according to ventilation requirements, the building can be supplied with fresh air, mixed air or circulating air. In case of minimum ventilation (during cold weather) Fumus can also be operated with equal pressure or slight positive pressure.



Fresh air supply over the Fumus fresh air chimney

Air performance (m³/h) of the FAC when maximally open and ... Pa negative pressure

Pa / Ø	650 mm	730 mm	820 mm	920 mm
-10 Pa	4 460	6 020	7 120	8 180
-20 Pa	6 450	8 690	10 020	11 820
-30 Pa	8 100	10 450	11 740	14 790
-40 Pa	9 430	12 330	13 890	17 140
-50 Pa	10 410	14 010	15 460	18 950
-60 Pa	11 860	14 870	16 910	19 960

Air performance (m³/h) of the Fumus when maximally open and ... Pa

Pa / Ø	650 mm	730 mm	820 mm
Fan Performance	FC 063-8DT rev. 230 Watt	FC 071-8DT rev. 320 Watt	FC 080-8DT rev. 530 Watt
+ 5 Pa	2 980	3 300	5 700
± 0 Pa	4 010	4 580	6 920
-10 Pa	5 700	7 120	9 650
-20 Pa	7 270	9 050	11 700
-30 Pa	8 480	10 460	13 330
-40 Pa	9 540	11 460	14 580

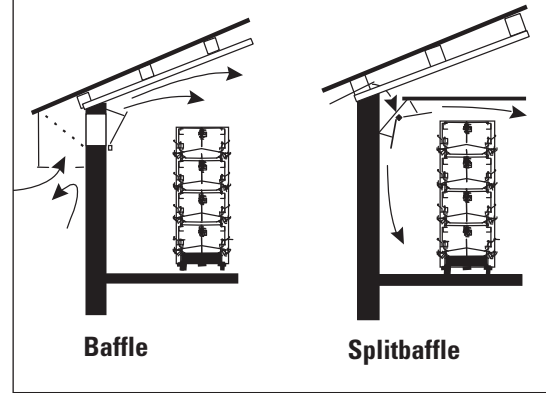
Baffle and Splitbaffle – economical fresh air supply systems especially for cage houses



For many years now Baffle and Splitbaffle have been part of well-proven and reliable fresh air supply systems. They are especially well-suited for cage houses. The entire system consists of polyurethane HR-foam plates, aluminium-coated on both sides, which can be opened and closed by means of a servomotor.

We recommend using a Splitbaffle if the installation has more than four tiers, or if especially high requirements are made on the in-house climate.

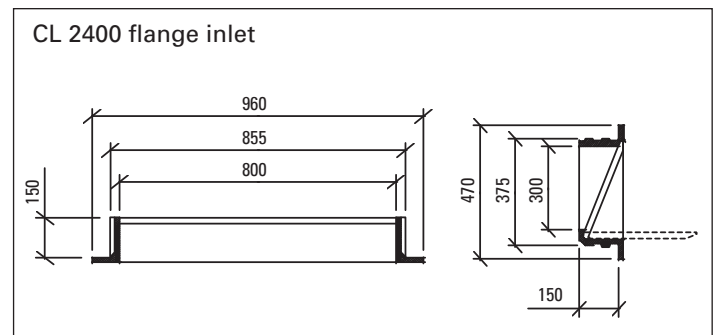
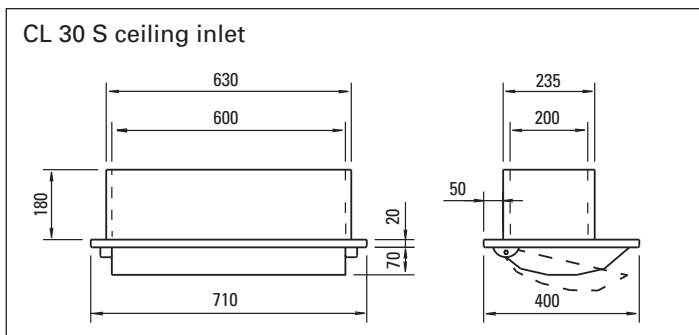
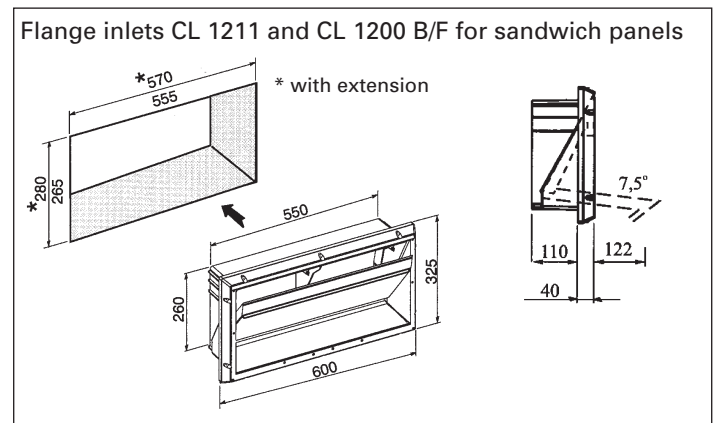
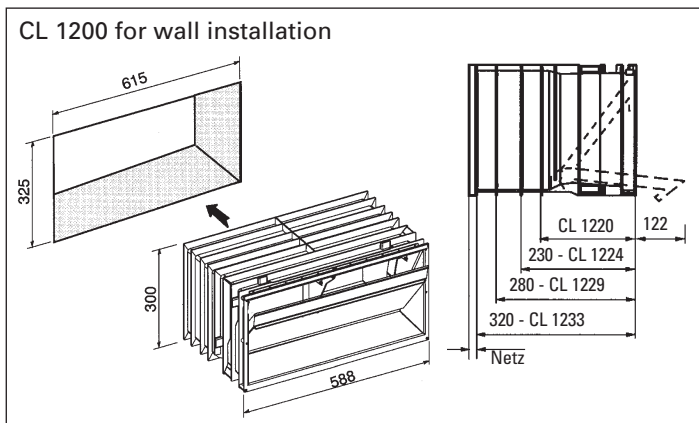
Fresh air is supplied alongside the building in the bird area.



Dimensions and installation of wall and ceiling inlets

The installation height of the wall inlets depends on the type and utilisation of the building and will be customised for each project.

The wall inlets as well as the ceiling inlet are designed to provide air rates and air performance for each individual building.



Dimensions in mm



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