



Big Dutchman®



Axial fans

The right fan for every house

Axial fans with frame for incorporation into walls

Big Dutchman offers a wide range of axial fan types. This variety allows us to meet all the climate requirements of **your** house in the best possible way.

The fans are ideally suited for incorporation into walls or ceilings. The frame has an aerodynamic shape and consists of high-quality sheet steel, which ensures a long service life. The blades are made of moulded aluminium die-casting and therefore have an exceptionally high degree of efficiency.

Our product range does not only comprise standard fans (FC), but also sickle-shaped fans (FE), which are even more pressure-resistant and quiet.



Standard fan (FC) with frame for incorporation into walls

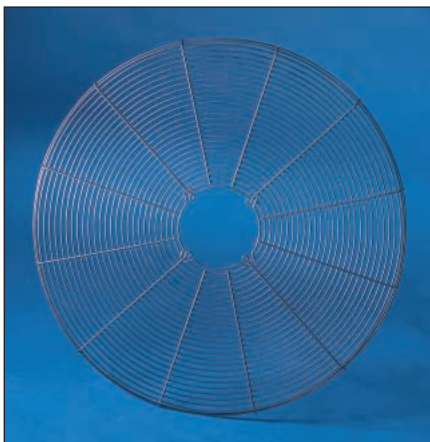


Sickle-shaped fan (FE)

Advantages

- high air capacity with low energy consumption;
- excellent adjustability;
- low noise level;
- quick and easy assembly;
- high corrosion resistance;
- long service life.

As an optional extra, Big Dutchman offers the following accessories:



Wire mesh guard



Shutter

Wire mesh guard

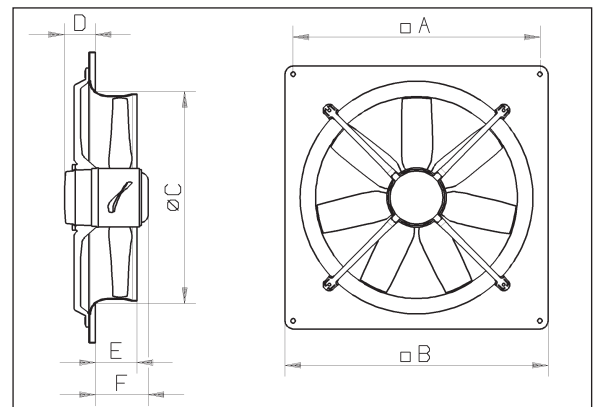
A wire mesh guard is necessary if the fan is within reach.

Shutter

This shutter is a self-actuated closing flap made of PVC. If the fan is at a standstill, the shutter and therefore the house is closed up.

Dimensions and installation details

Impeller Ø (in cm)	A	B	C (in mm)	D	E	F
35	435	485	375	86	75	89
40	490	540	420	91	88	102
45	535	575	480	75	96	123
50	615	655	528	77	104	141
56	675	725	589	60	119	138
63	750	805	664	64	130	154
71	810	850	763	44	150	202
80	910	970	869	34	193	252
92	1010	1070	977	48	190	197



Technical data of fans for incorporation into walls or ducts

Explanation of design type

FC035-4EQ FC = standard fan 4 = four-pole; 6 = six-pole E = single-phase (1~ 230 V) Q = incorporation into walls
FE091-6DT FE = sickle-shaped fan 35 = impeller diameter (cm) D = three-phase (3~ 400 V) T = incorporation into ducts

Technical data: 1 ~ 230 V, 50 Hz

	FC035-4E	FC040-4E	FC045-4E	FC050-4E	FC056-6E	FC063-6E	FC071-6E	FC080-6E	FE091-6E
Code No. f. incorp. into walls (Q)	60-47-9135	60-47-9140	60-47-9145	60-47-9150	60-47-9156	60-47-9163	60-47-9171	60-47-9180	60-47-9191
Code No. f. incorp. into ducts (T)	60-47-9035	60-47-9040	60-47-9045	60-47-9050	60-47-9056	60-47-9063	60-47-9071	60-47-9080	60-47-9091
Air capacity (m ³ /h) f. incorp. into walls	3.460	4.790	6.350	8.000	8.870	12.300	16.450	23.000	23.130
Power consumption (in Watts)	157	243	341	450	388	545	785	1.160	895
Specific capacity (in Watts/1000 m ³ /h)	45,3	50,7	53,7	56,2	43,7	44,3	47,6	50,5	38,7
Nominal current (in Ampere)	0,75	1,30	1,90	2,30	1,95	2,70	4,10	6,30	4,60
Protective motor switch (in Ampere)	1,0	1,4	2,3	2,7	2,2	3,0	4,6	6,7	5,2
Sound level (in dB(A))	46	51	53	54	48	53	55	55	57

Technical data: 3 ~ 400 V, 50 Hz

	FC045-4D	FC050-4D	FC056-6D	FC063-6D	FC071-6D	FC080-6D	FE091-6D
Code No. for incorp. into walls (Q)	60-47-9645	60-47-9650	60-47-9656	60-47-9663	60-47-9671	60-47-9680	60-47-9691
Code No. for incorp. into ducts (T)	60-47-9545	60-47-9550	60-47-9556	60-47-9563	60-47-9571	60-47-9580	60-47-9591
Air capacity (m ³ /h) f. incorp. into walls	6.470	8.330	8.850	12.750	17.000	22.900	23.370
Power consumption (in Watts)	295	432	323	484	780	1120	939
Specific capacity (in Watts/1000 m ³ /h)	45,6	51,9	36,5	38,0	46,0	48,9	40,2
Nominal current (in Ampere)	0,8	1,1	0,74	1,4	1,8	2,7	1,95
Protective motor switch (in Ampere)	0,9	1,3	0,8	1,5	1,9	3,1	2,4
Sound level (in dB(A))	53	54	48	53	55	55	57

The given capacities have been measured at 0 Pa without wire mesh guard and at an air density of 1.2 kg/m³.

The sound level was measured free-blowing at 45° sideways from the centre of the fan at a distance of 7 m (at 0 Pa pressure increase).

Ventilation data

Capacity data for single-phase network: 230 V, 50 Hz in m³/h

Type	0 Pa	10 Pa	20 Pa	30 Pa	40 Pa	50 Pa	bei	Pa (max.)
FC035-4E	3,460	3,320	3,180	3,050	2,910	2,810	2,220	72
FC040-4E	4,790	4,510	4,240	3,950	3,640	3,260	2,260	65
FC045-4E	6,350	6,260	6,120	5,950	5,780	5,560	4,160	99
FC050-4E	8,000	7,800	7,660	7,400	7,250	6,900	4,340	115
FC056-6E	8,870	8,560	8,210	7,860	7,430	6,910	4,650	79
FC063-6E	12,300	11,750	11,400	11,000	10,550	10,000	7,900	82
FC071-6E	16,450	15,950	15,550	15,000	14,600	14,000	9,800	105
FC080-6E	23,000	22,300	21,700	21,050	20,450	19,850	12,100	117
FE091-6E	23,130	22,200	21,200	20,100	18,600	17,600	11,000	95

Capacity data for three-phase network: 400 V, 50 Hz in m³/h

Type	0 Pa	10 Pa	20 Pa	30 Pa	40 Pa	50 Pa	bei	Pa (max.)
FC045-4D	6,470	6,290	6,130	5,950	5,820	5,650	3,540	120
FC050-4D	8,330	8,120	7,970	7,800	7,630	7,470	4,890	130
FC056-6D	8,850	8,530	8,200	7,850	7,480	7,060	5,700	70
FC063-6D	12,750	12,380	12,000	11,650	11,190	10,760	7,270	92
FC071-6D	17,000	16,600	16,150	15,600	15,300	14,800	11,000	110
FC080-6D	22,900	22,440	21,920	21,400	20,900	20,340	14,230	130
FE091-6D	23,370	22,400	21,410	20,450	19,450	18,410	10,930	110

The motors are fabricated according to the IP54 (dust-proof and water-proof) protection system. All mentioned axial fans 1 ~ 230 V and 3 ~ 400 V can be controlled electronically or by a transformer.

On request, all types can also be controlled via frequency converter. Moreover, all mentioned types can also be supplied with a different distribution voltage and/or 60 Hz.

Axial fans for incorporation into ducts

Big Dutchman axial fans are ideally suited for incorporation into round exhaust air ducts. The fans and exhaust air chimneys offered by Big Dutchman match each other exactly. This allows easy assembly. A complete exhaust air chimney with intake nozzle

and diffuser leads to 10 to 15 % higher airflow rates. At the same time, specific capacity (in W/1000 m³/h) is reduced by 5 to 10 %. Exhaust air chimneys are available with 9 different inside diameters and in black, dark brown and light grey colours.



Big Dutchman exhaust air ducts consist of PU-pipes (1) with a wall thickness of 50 mm, are 100 % free of CFCs and are coated with smooth glass fibre reinforced polyester. The intake nozzle (2) is made of PE and installed at both ends of the chimney (top and bottom) = improved aerodynamics. As standard equipment, the chimney is closed by a damper (3) with a CL 74 servo motor (4).



Because the PU-pipes (1) and their suspension are extremely rigid, the exhaust air ducts can extend beyond the roof for some metres, while still keeping their round shape. Each chimney is delivered completely with the required fixing material. For use in poultry houses only, it is possible to use a butterfly flap (8) as rain cover for closing the chimney. It opens and closes automatically. In this case, a diffuser (5) is essential as protection against the wind.



For smaller chimney diameters (Ø 35-71 cm) the Belimo servo motor is used. The use of an exhaust outlet (5) increases the quantity of exhaust air through the chimney (Venturi effect). It also minimises the intrusion of rain into the chimney. As standard feature, the chimney is sealed with a flexible roof cover (6) and tarred tape (7). A rigid roof plate made of GRP is available upon request depending on the roof slope.



This special, very large intake nozzle (9) made of PU can be used for the 920 chimney. It has an aerodynamic shape and achieves a 4 % higher air rate. The chimney is fixed to the intermediate ceiling by means of a fastening ring (10). If the roof is also the ceiling, the chimney is suspended by cables.

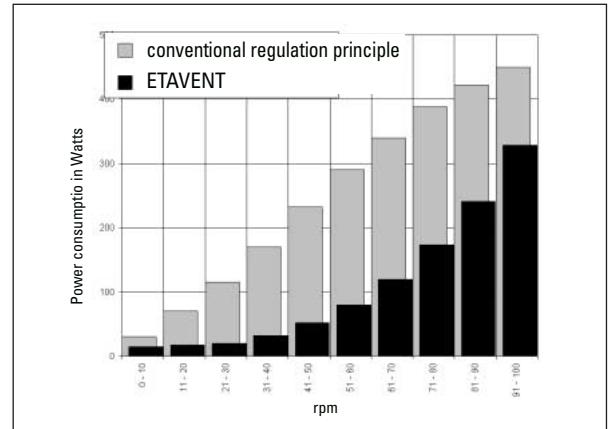


ETAVENT – the axial fan for optimum energy efficiency

The **ETAVENT** axial fan, available from Big Dutchman, can be used with infinitely variable exhaust air units. It is run directly by an EC external rotor motor and has very low energy requirements. It can be used either with infinitely variable exhaust air units in connection with the Multistep® principle or for individual air extraction in compartment houses. Moreover, it is available for incorporation into walls or ducts.

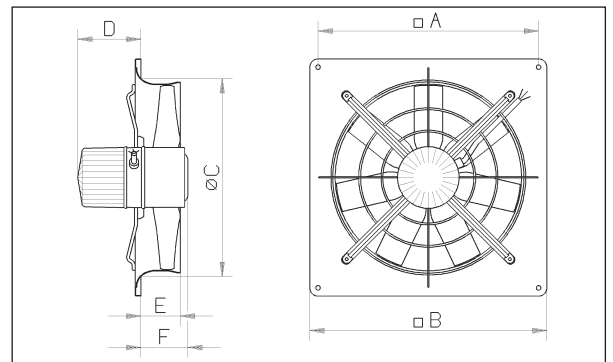
ETAVENT has the following obvious **advantages**:

- up to 70 % energy savings possible;
- high efficiency over the entire speed range;
- universal control by an analog signal 0-10 V;
- the EC-motor ensures very precise maintenance of the pre-determined ventilation level;
- low noise level;
- easy installation.



Dimensions and installation details

Impeller Ø (in cm)	A	B	C (in mm)	D	E	F
40	490	540	420	151	88	109
45	535	575	480	153	96	107
50	615	655	528	146	104	114
56	675	725	589	138	119	140
63	750	805	664	145	130	134
71	810	850	763	124	150	183
80	910	970	869	125	193	182
92	1010	1070	977	128	190	179



Technical data: 1 ~ 230 V, 50 Hz

Typ	ETA-FC040	ETA-FC045	ETA-FC050	ETA-FC056	ETA-FC063	ETA-FE071	ETA-FE080	ETA-FE091
Code No. for incorp. into walls	60-47-9340	60-47-9345	60-47-9350	60-47-9356	60-47-9362	60-47-9371	60-47-9380	60-47-9391
Code No. for incorp. into ducts	60-47-9440	60-47-9445	60-47-9450	60-47-9456	60-47-9463	60-47-9471	60-47-9480	60-47-9491
Air capacity (in m³/h) f. incorp. into walls	4.730	6.350	8.180	9.400	12.200	16.060	20.880	25.350
Power consumption (in Watts)	207	332	453	387	458	690	904	1067
Specific capacity (in Watts/1000 m³/h)	43,8	52,3	55,4	41,2	37,5	43,0	43,3	42,1
Nominal current (in Ampere)	1,15	1,9	2,7	2,3	2,5	3,8	4,4	4,9
Sound level (in dB(A))	51	53	54	49	53	57	57	58

The given capacities have been measured at 0 Pa without wire mesh guard and at an air density of 1.2 kg/m³.

The sound level was measured free-blowing at 45° sideways from the centre of the fan at a distance of 7 m (at 0 Pa pressure increase).

Ventilation data

Type	0 Pa	10 Pa	20 Pa	30 Pa	40 Pa	50 Pa	bei	Pa (max.)
ETA-FC040	4,730	4,610	4,460	4,400	4,220	4,080	3,500	80
ETA-FC045	6,350	6,160	5,980	5,990	5,640	5,550	4,500	90
ETA-FC050	8,180	8,150	8,100	7,640	7,930	7,760	5,430	145
ETA-FC056	9,400	9,150	8,850	8,550	8,350	8,000	5,875	95
ETA-FC063	12,200	11,900	11,600	11,400	11,030	10,600	8,880	80
ETA-FE071	16,060	15,650	15,220	14,780	14,350	13,900	7,670	140
ETA-FE080	20,880	20,340	19,780	19,150	18,475	17,920	9,560	140
ETA-FE091	25,350	24,440	23,530	22,600	21,620	20,650	11,750	125

Examples for the use of fans for incorporation into walls or ducts



Axial fans in a house with Diff-Air ceiling



View on the same house from the outside



Decentralized exhaust air guiding

The photograph shows a house which was built on the condition that the exhaust air be evacuated > 2.20 m above the ridge. Bracings against storm were also necessary.



Central exhaust air guiding



Use of wall fans



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