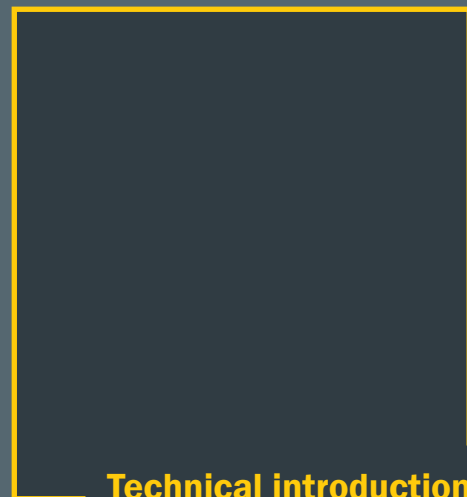
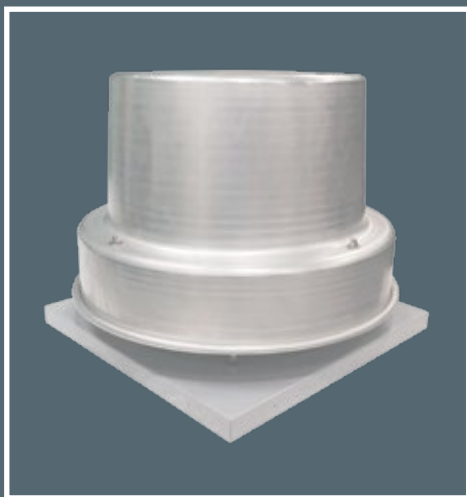
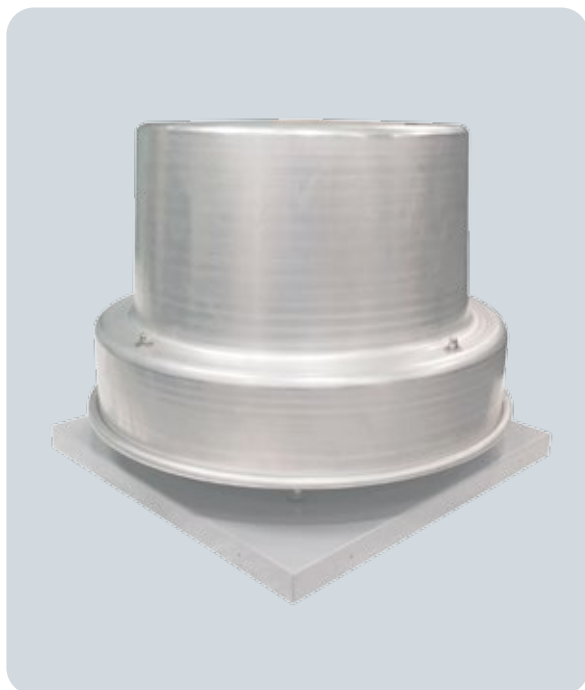


# Roof Exhaust Downblast Centrifugal Fans



**DYNNAIR®**

## Models FCS-Direct and FCS-Belt



### Direct Drive, FCS-D

- Model FCS-D is a direct drive downblast centrifugal exhaust fan. The direct drive motor delivers higher efficiency by eliminating belt losses.
- Maintenance costs are reduced as there are no belts or bearings to replace and no pulleys to adjust.
- Use for short or low resistance ductwork.

### Belt Drive, FCS-B

Model FCS-B is a Belt drive downblast centrifugal exhaust fan. These fans are specifically designed for roof mounted applications exhausting relatively clean air.

For average length or average resistance ductwork  
Low volume/Low pressure

- Backward inclined, non-overloading wheels are used
  - \* Warehouse ventilation
  - \* Equipment room ventilation
  - \* General ventilation

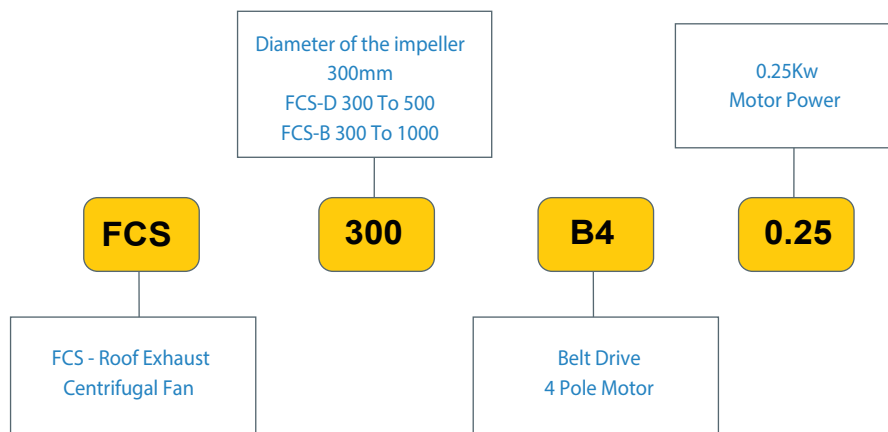
Centrifugal roof exhaust fans provide the industry's best performance and durability for general clean air applications where air is discharged downward, toward the roof surface.

Maximum performance, up to 7.63 in.wg (1900 Pa) and 37668 cfm (64000 m<sup>3</sup>/hr). Most advanced motor cooling of any fan in its class.

All electrical components are UL listed. These Fans are listed under UL 705. Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

### Reference Code

The model number code system is designed to completely identify the fan. The correct code letters must be specified to designate belt or direct drive. The remainder of the model code is determined by the size and performance.



### Dome

Two-piece, heavy-gauge aluminum with a rolled bead for extra strength directs exhaust air downward. The spun aluminum structural components shall be constructed of minimum 16 gauge marine alloy aluminum, bolted to a rigid aluminum support structure. The housing shall be weatherproof and housings provide complete protection of the motor and drive assembly, while allowing quick access to these components.

### Wheel

An aluminum, backward-inclined, non-overloading centrifugal wheel is utilized to generate high-efficiency and minimal sound. Wheel cones are carefully matched to the venturi for maximum efficiency. Each wheel is robotically welded and statically and dynamically balanced for long life and quiet operation.

### Motor

Carefully matched to the fan load and is mounted out of the airstream. Direct Drive Motor shall be NEMA design B with a minimum of class F insulation. Presenting a complete new electrical and mechanical design, the new platform of Rolled Steel motors made to run cooler, last longer and to be easier to install and maintain. These Open Drip Proof (ODP) motors are designed for environments where dirt and moisture are minimal.

These TEFC motors are designed for operating in environments of dirt, dust and moisture, on indoor and outdoor applications. IEC motors are optional. Motor and All other electrical components are UL listed.

### Motor cover

Constructed of aluminum and attached with fasteners that provide for easy removal and access to motor compartment and drive assembly.

### Fan shaft

Precisely sized, ground and polished so the first critical speed is at least 25% over the maximum operating speed. Where the shaft makes contact with bearings, tight tolerances result in longer bearing life.

### Inlet Cone

Inlet cone reduces turbulence and improves distribution of the air as it enters the wheel inlet and is "captured" by the blades.

### Fan Guard

We offer complete fan guard, Each guard is made to custom fit. Fan guards are used to provide a physical barrier around spinning fan blades to prevent accidental contact with fingers or other objects.

### Bearings

100% factory tested and designed specifically for air handling applications with a minimum L10 life in excess of 100,000 hours (L50 life of 500,000 hours).

### Belt Drive Assembly

Belts, pulleys, and keys are oversized 150% of driven horsepower. Machined cast Pulleys are adjustable for final system balancing. Belts are static-free and oil-resistant.



**Gravity back-draft damper**



**ON -OFF Switch**

### Gravity back-draft damper

Automatic operation with the help of seal on the edge of the damper blades for quiet operation. Designed to prevent outside air from entering back into the building when fan is off. Dampers feature square galvanized steel frame, multi-leaf, roll formed aluminum blades with nylon bearings.

### Rubber mount (Belt Drive)

Motor and drive assembly is completely isolated from the fan supports by rubber isolators to reduce transmission of noise and vibration. Vibration isolators, with no metal-to-metal contact, support the drive assembly and wheel for long life and quiet operation. True vibration isolators consist of two independent studs separated by a neoprene (rubber) center. Reduces vibration and noise transfer between drive system and fan housing. No metal to metal contact.

### Electrical Accessories.

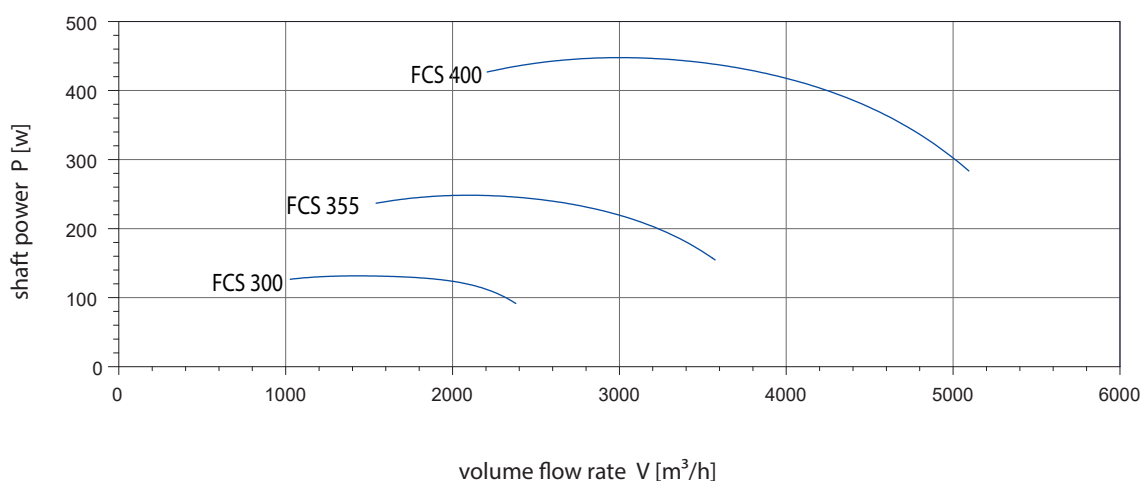
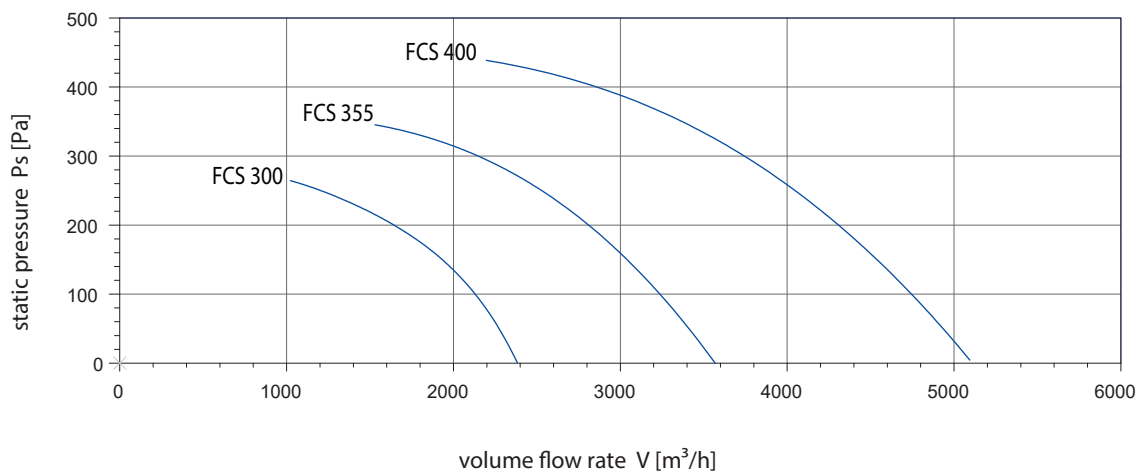
#### On/Off Switch

Fans are provided with a type disconnect switch mounted in the motor compartment when ODP or TEFC motors are used. Switch is factory mounted and wiring is provided from the motor as standard. All wiring and electrical components comply with the National Electric Codes (NEC ) and are UL Listed. Switches may be internally or externally mounted.

#### Liquidtight Conduit

A conduit tube is furnished for running electrical wiring through the curb cap and into the motor compartment. A large diameter Liquid tight Nonmetallic conduit for installing electrical wiring through the curb cap into the Motor compartment.

## Direct drive 4 Pole - 50Hz



## Sound Data

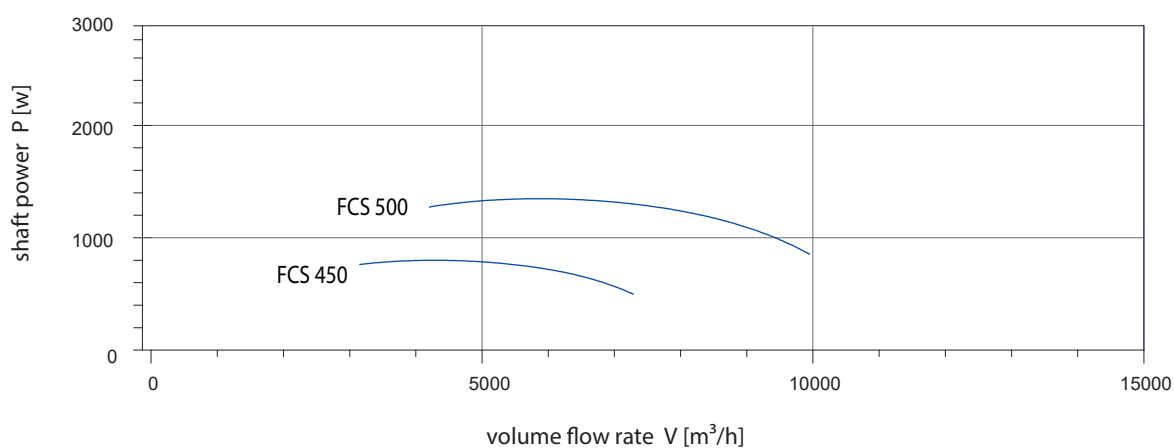
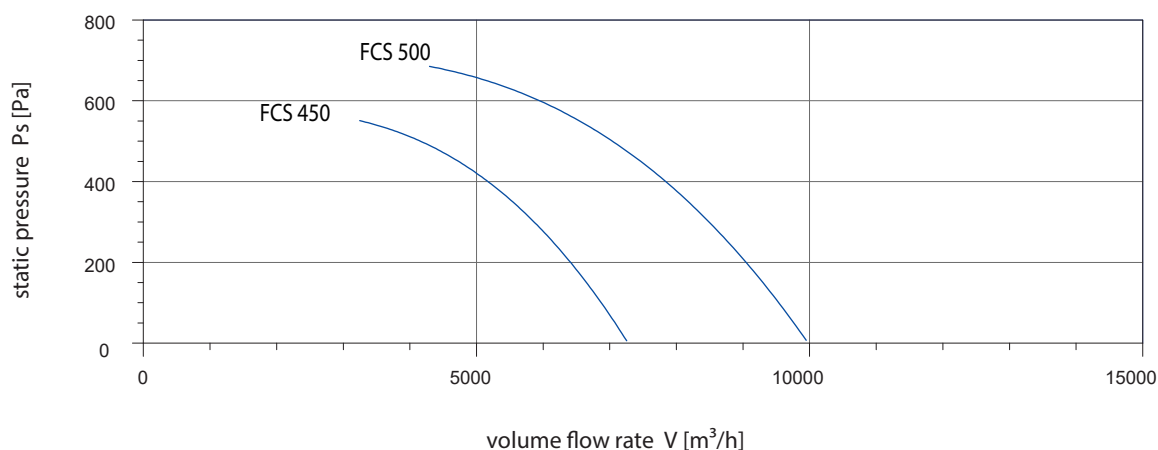
Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
Model	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3
FCS 300	79.6	67.5	69	75.7	71.5	70.1	70.5	70.2	83	58
FCS 355	67.4	65.9	76.3	76.8	76.5	73	79.4	65	84	63
FCS 400	71	69.5	80	80.4	80.1	76.6	83	68.6	88	66

4 Pole - 50Hz						
Model	Q (CMH)	Type of motor	Max Power (watts)	A (amp)	V/P/Hz	IP/CL
FCS 300	2400	ODP	180	6	240/1/50	IP21/F
FCS 355	3600	ODP	370	7.2	240/1/50	IP21/F
FCS 400	5100	ODP	550	8	240/1/50	IP21/F

Above motor data subject to change after performance

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Direct drive 4 Pole - 50Hz



## Sound Data

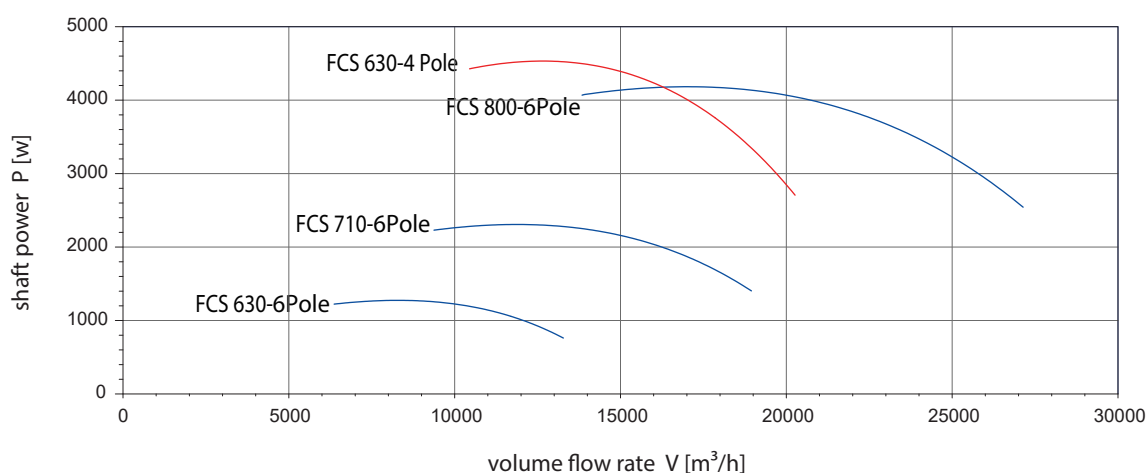
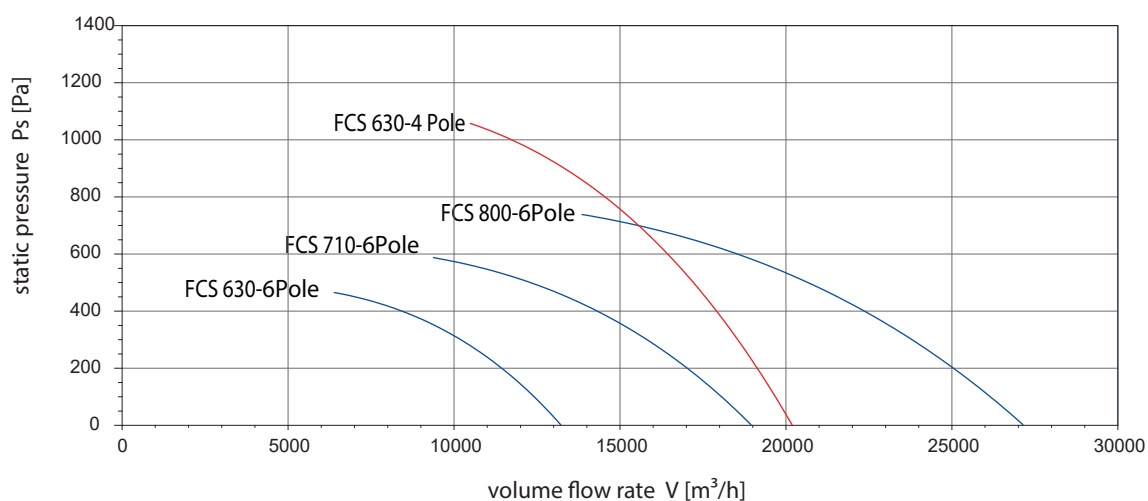
Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
Model	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
FCS 450	74.5	73.1	83.5	83.9	83.6	80.2	86.6	72.1	91	70
FCS 500	77.8	76.3	86.7	87.2	86.9	83.4	89.8	75.4	94	73

4 Pole - 50Hz						
Model	Q (CMH)	Type of motor	Max Power (watts)	A (amp)	V/P/Hz	IP/CL
FCS 450	7200	ODP	1100	8.3	240/1/50	IP21/F
FCS 500	10000	ODP	2200	4.4	415/3/50	IP21/F

Above motor data subject to change after performance

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Direct drive 4 & 6 Pole - 50Hz



## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
Model	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
FCS 630-4 Pole	95.1	102	98	94.4	89	85	79.4	72.9	105	76
FCS 630-6 Pole	85.4	93.9	89.3	85.3	79.5	75.7	70.1	63.9	96	67
FCS 710-6 Pole	89.5	96.6	92.5	88.9	83.4	79.5	73.8	67.4	99	70
FCS 800-6 Pole	93.4	99.7	95.9	92.4	87.2	83.2	77.5	71	103	74

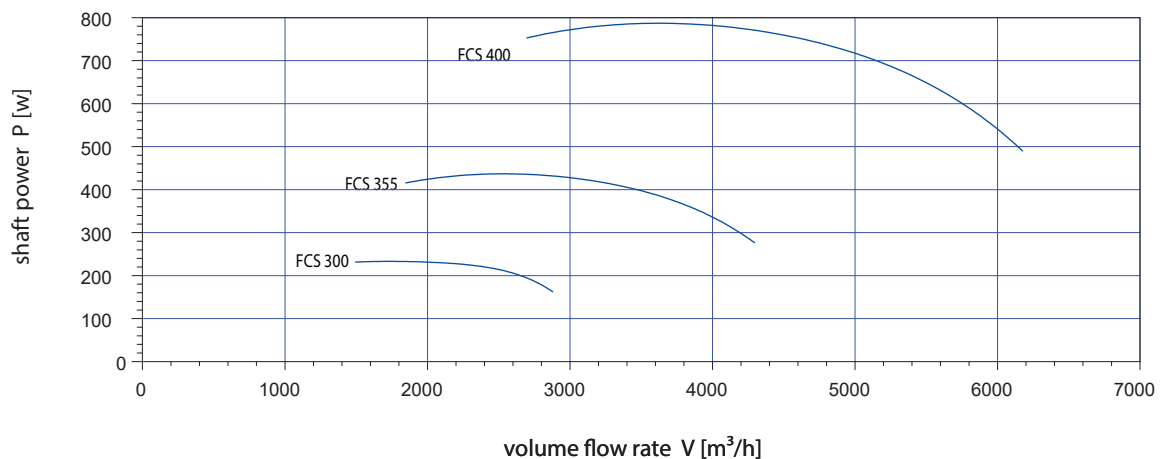
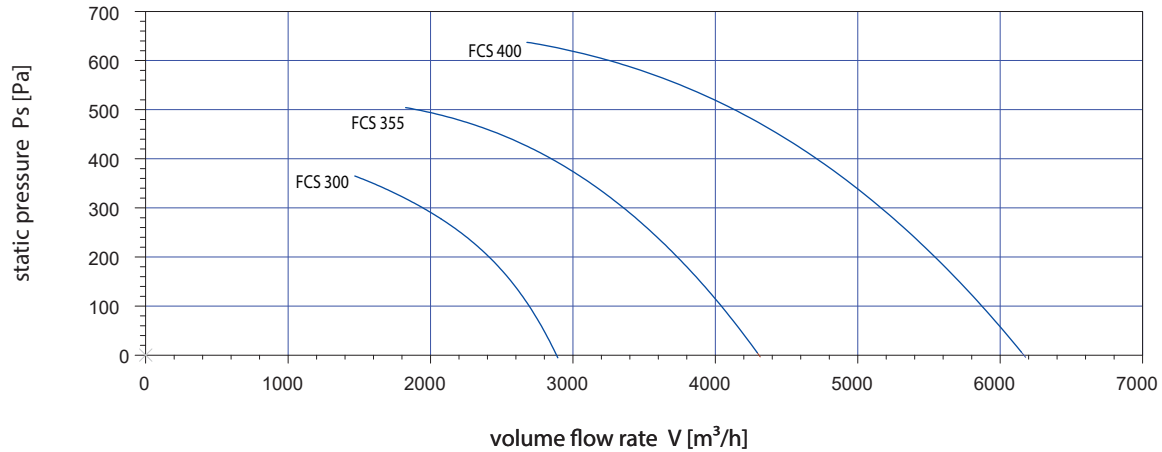
4&6 Pole - 50Hz						
Model	Q (CMH)	Type of motor	Max Power (watts)	A (amp)	V/P/Hz	IP/CL
FCS 630-4 Pole	2900	IEC	5500	8.5	415/3/50	55/F
FCS 630-6 Pole	2900	IEC	1500	7.3	240/1/50	55/F
FCS 710-6 Pole	4300	IEC	3000	4.6	415/3/50	55/F
FCS 800-6 Pole	6200	IEC	5500	8.5	415/3/50	55/F

For actual motor rating check either with factory or motor data.

Above motor data subject to change after performance

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Direct drive 4 Pole - 60Hz



## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
Model	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A) @ 3m)
FCS 300	83.4	74.2	68.8	75.1	70.2	68.6	68.4	64.6	85	48
FCS 355	72.2	68.1	81.4	76.3	75	70.4	72.3	63.7	84	60
FCS 400	75.8	71.7	85	79.9	78.6	74	75.9	67.3	88	64

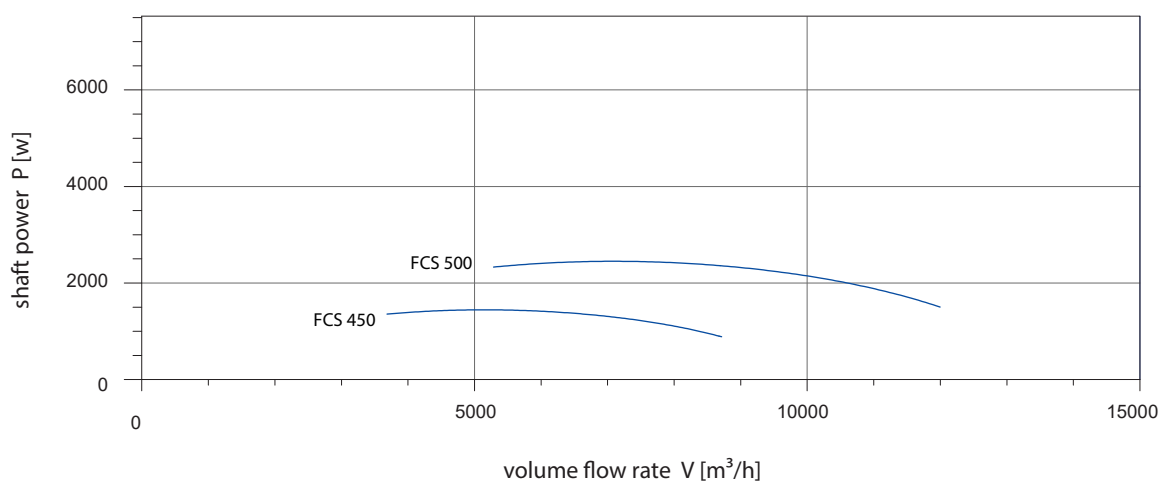
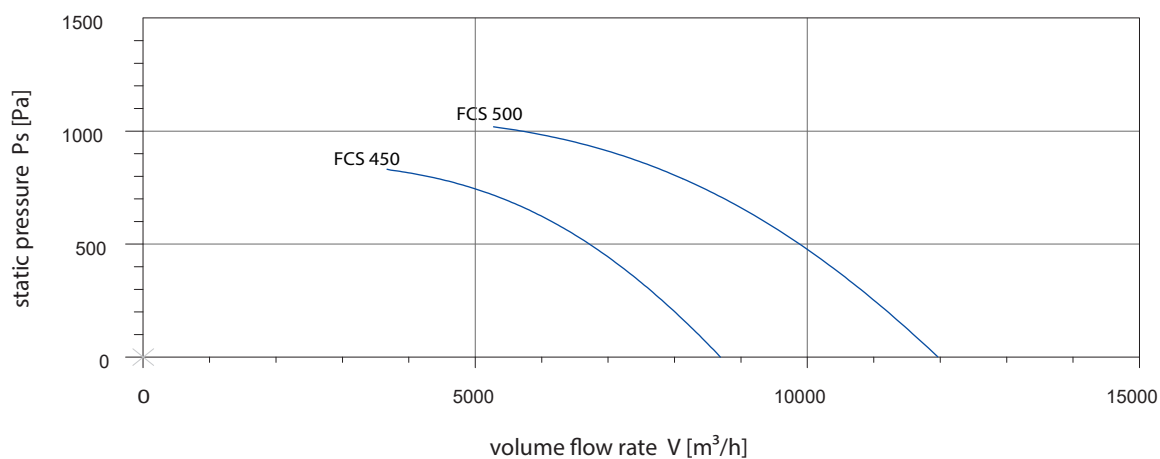
4 Pole - 60Hz						
Model	Q (CMH)	Type of motor	Max Power (watts)	A (amp)	V/P/Hz	IP/CL
FCS 300	2900	ODP	370	4.9	240/1/60	IP21/F
FCS 355	4300	ODP	550	8	240/1/60	IP21/F
FCS 400	6200	ODP	1100	9.6	240/1/60	IP21/F

Above motor data subject to change after performance

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.



## Direct drive 4 Pole - 60Hz



## Sound Data

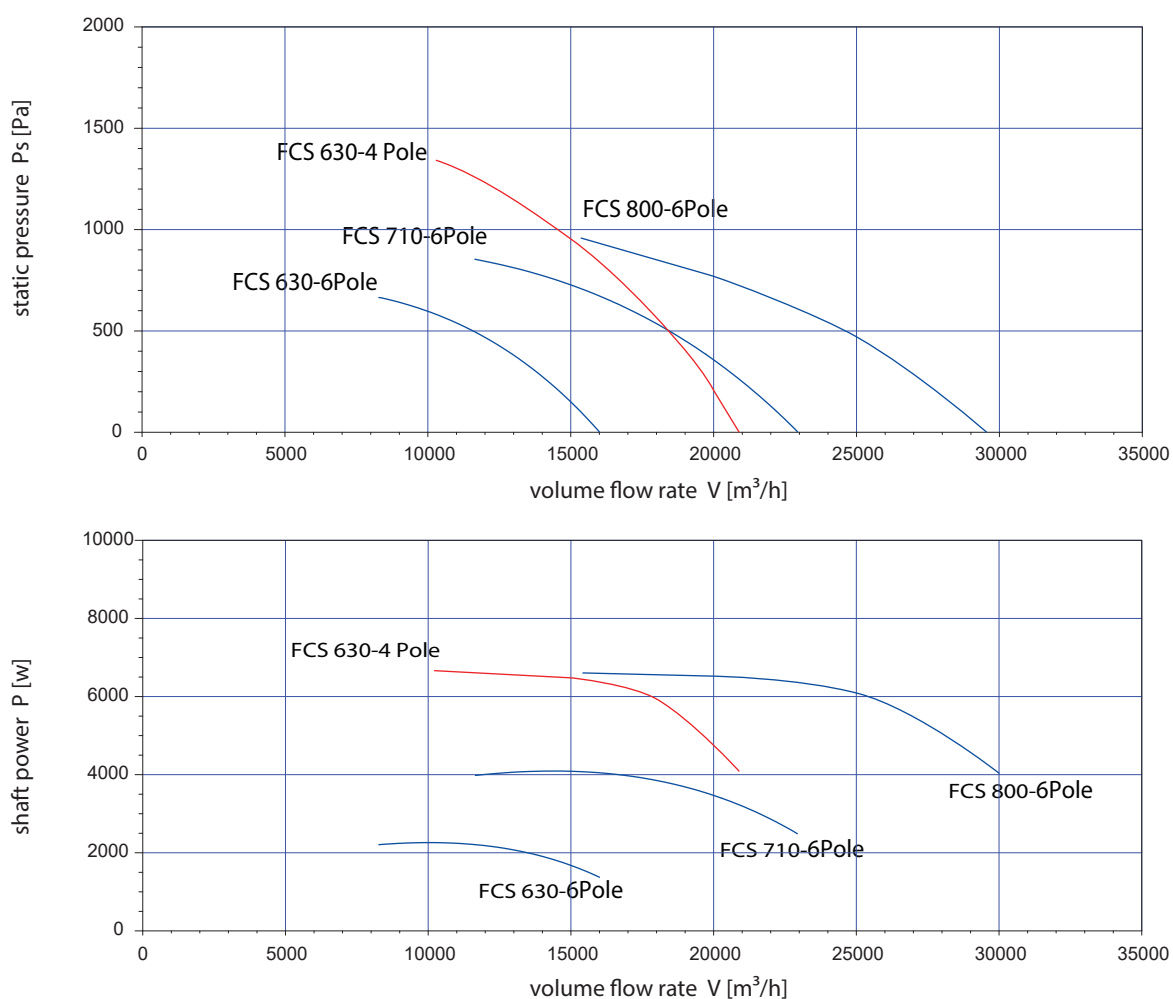
Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
Model	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A) @ 3m)
FCS 450	79.4	75.3	88.6	83.4	82.1	77.5	79.4	70.9	91	67
FCS 500	82.6	78.2	91.8	86.7	85.4	80.8	82.7	74.1	95	70

4 Pole - 60Hz						
Model	Q (CMH)	Type of motor	Max Power (watts)	A (amp)	V/P/Hz	IP/CL
FCS 450	8900	ODP	2200	4.89	380/3/60	IP21/F
FCS 500	12000	ODP	3700	7.2	380/3/60	IP21/F

Above motor data subject to change after performance

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Direct drive 4 & 6 Pole - 60Hz



## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
Model	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
FCS 630-4 Pole	99.3	105.8	101.9	98.4	93.2	89.1	83.5	77	109	80
FCS 630-6 Pole	89.8	97.5	93.2	89.4	83.8	80	74.3	68	100	71
FCS 710-6 Pole	93.8	100.4	96.5	92.9	87.7	83.7	78	71.5	103	74
FCS 800-6 Pole	97.3	103.4	99.9	96.5	91.5	87.5	81.8	75.2	106	78

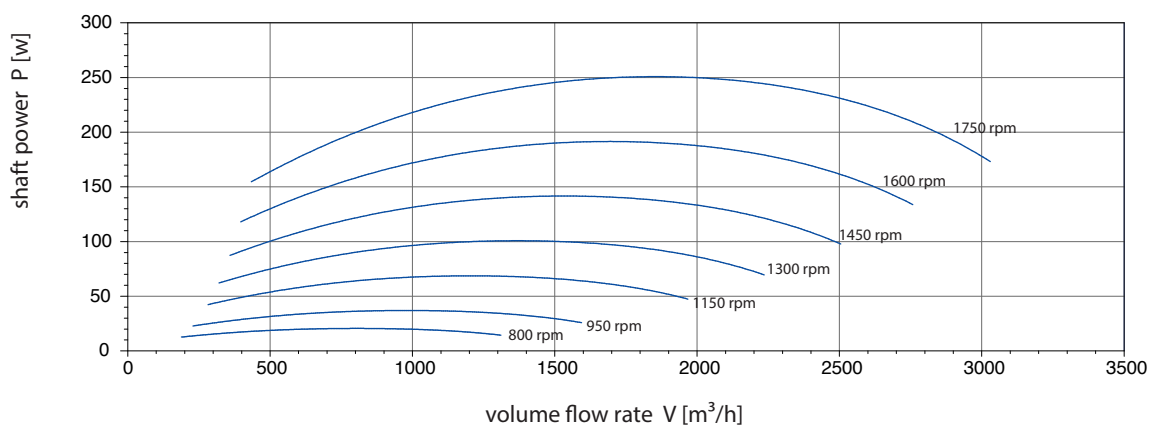
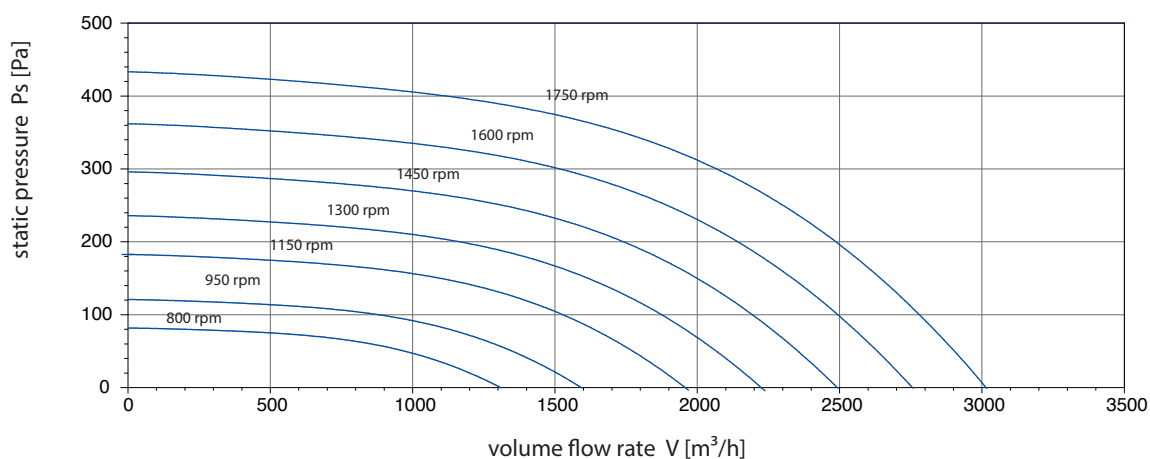
4&6 Pole - 60Hz						
Model	Q (CMH)	Type of motor	Max Power (watts)	A (amp)	V/P/Hz	IP/CL
FCS 630-4 Pole	2900	IEC	7500	12.7	380/3/60	55/F
FCS 630-6 Pole	2900	IEC	3000	5.1	380/3/60	55/F
FCS 710-6 Pole	4300	IEC	5500	9.3	380/3/60	55/F
FCS 800-6 Pole	6200	IEC	7500	12.7	380/3/60	55/F

For actual motor rating check either with factory or motor data.

Above motor data subject to change after performance

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

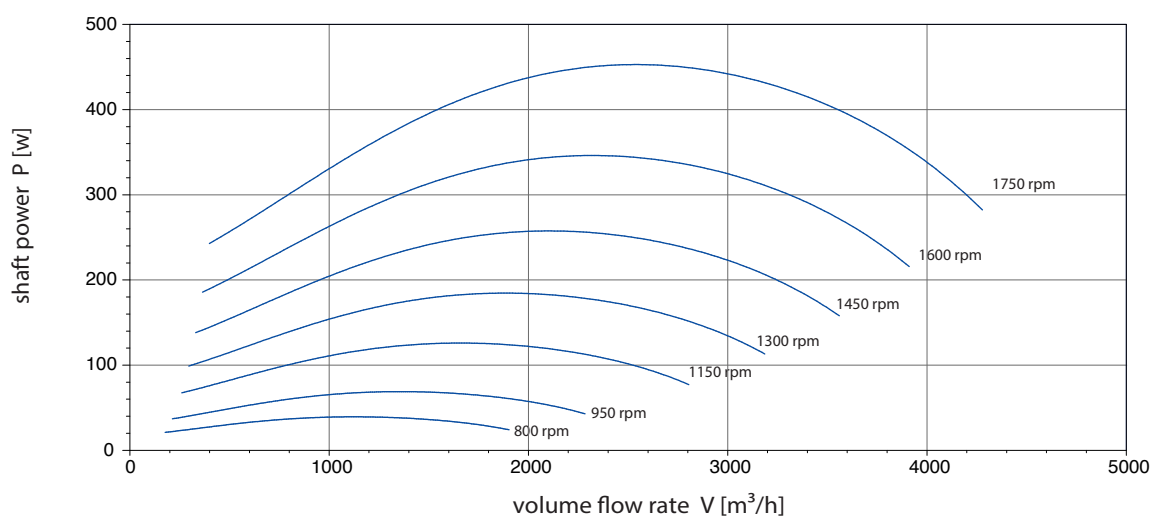
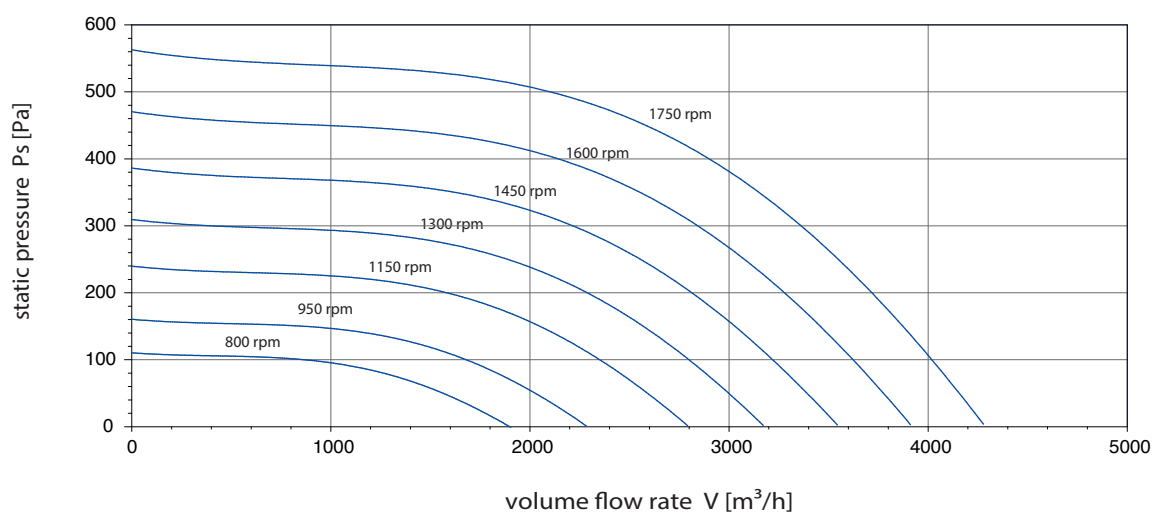


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
800	66.7	54.6	56.1	62.8	58.6	57.2	57.6	57.3	70	45
950	70.2	61	55.5	61.9	56.9	55.3	55.1	51.2	72	43
1150	74.1	65.7	59.6	68.2	60.8	58.8	57.4	51.7	76	48
1300	76.9	69.1	64	72.5	63.9	61.8	59.8	53.8	79	51
1450	80.1	71.8	67.7	76.2	66.8	64.5	62.2	56.3	82	55
1600	82.6	74.1	72	80.7	69.6	67.3	64.7	59	86	59
1750	84.7	76.1	75.5	84.4	72	69.5	66.8	61.2	88	62

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

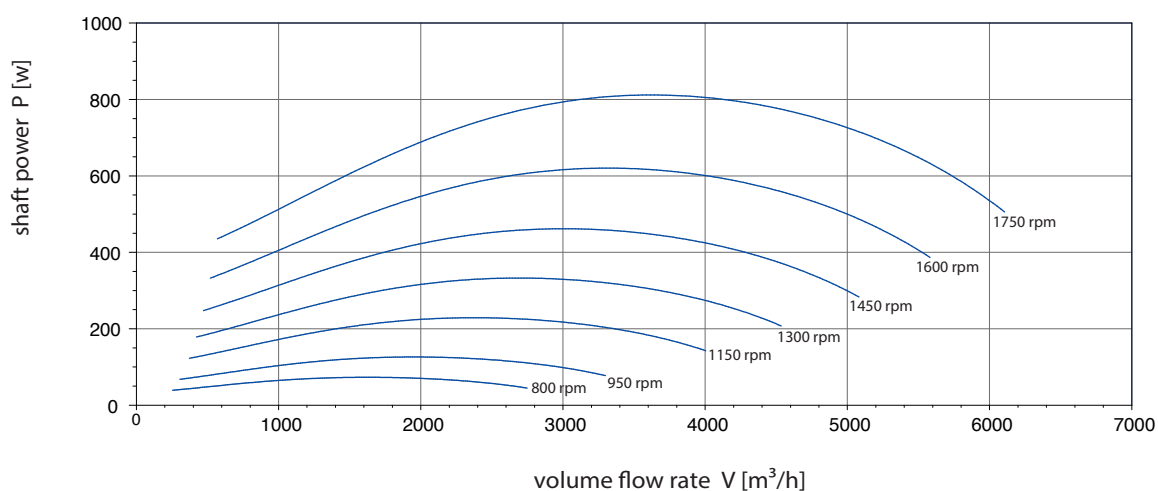
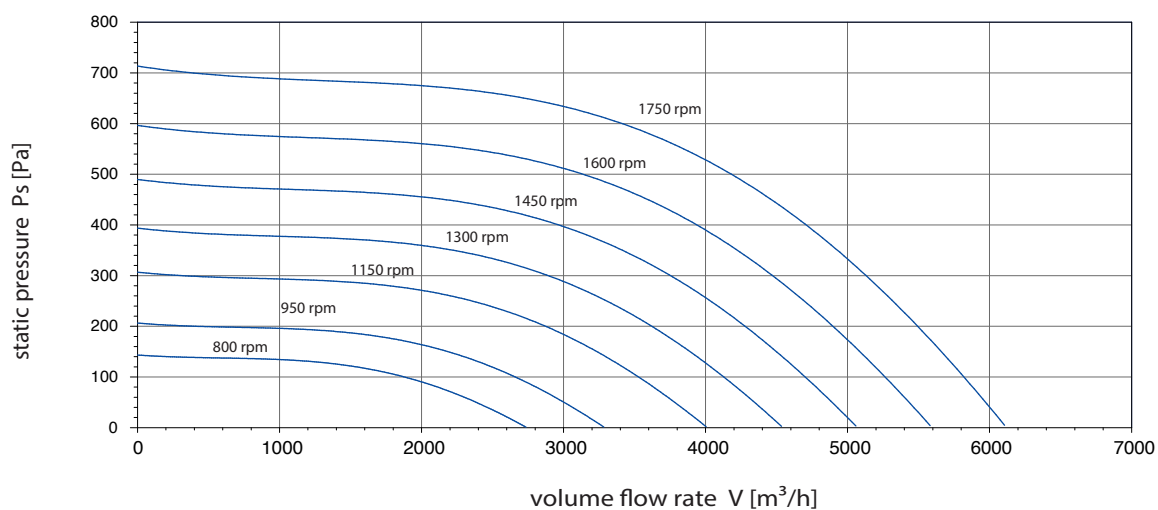


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
800	54.5	53	63.4	63.9	63.6	60.1	66.5	52.1	71	50
950	59	54.9	68.2	63	61.8	57.2	59.1	50.5	71	47
1150	63.8	57.8	70.7	65.1	63.9	59.4	57.1	52.4	73	48
1300	65.3	60.8	70.8	67.4	66.3	62	59.1	54.6	77	51
1450	68.6	64.1	79.6	70.1	68.7	64.6	61.5	57.1	81	55
1600	71.1	68.1	84.5	73.2	71.2	67.2	63.9	59.4	85	58
1750	72.8	71.8	88.8	76.1	73.5	69.4	66	61.4	89	62

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

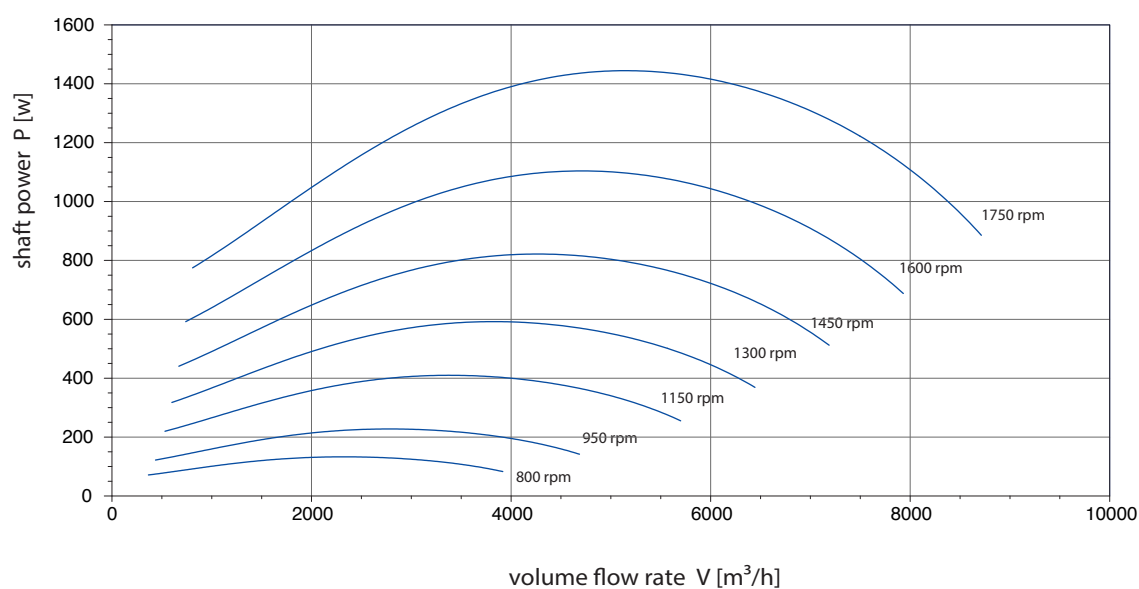
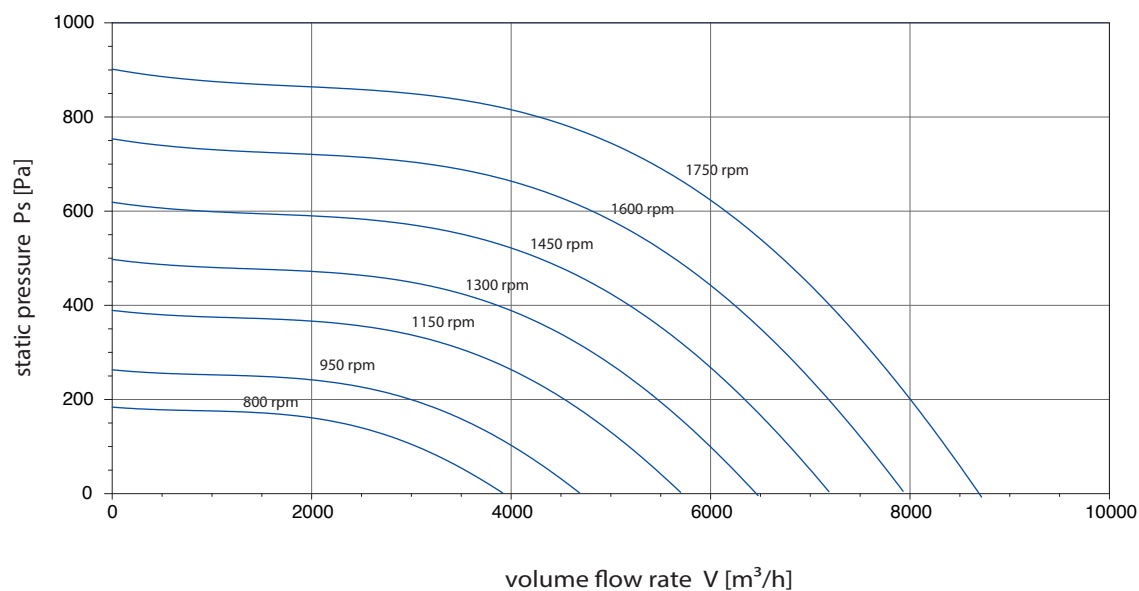


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
800	58.1	56.6	67.1	67.4	67.2	63.7	70.1	55.7	75	53
950	62.6	58.6	71.9	66.7	65.5	61	63	54.2	75	50
1150	67.5	61.4	74.3	68.8	67.5	63	60.8	56.1	77	52
1300	69.1	64.3	78.2	70.9	69.9	65.6	62.7	58.2	80	55
1450	72	67.6	82.9	73.7	72.3	68.2	65.1	60.6	84	58
1600	74.7	71.5	87.7	76.7	74.8	70.7	67.5	63	89	62
1750	76.5	75.2	92.2	79.6	77.1	73	69.6	65	93	65

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

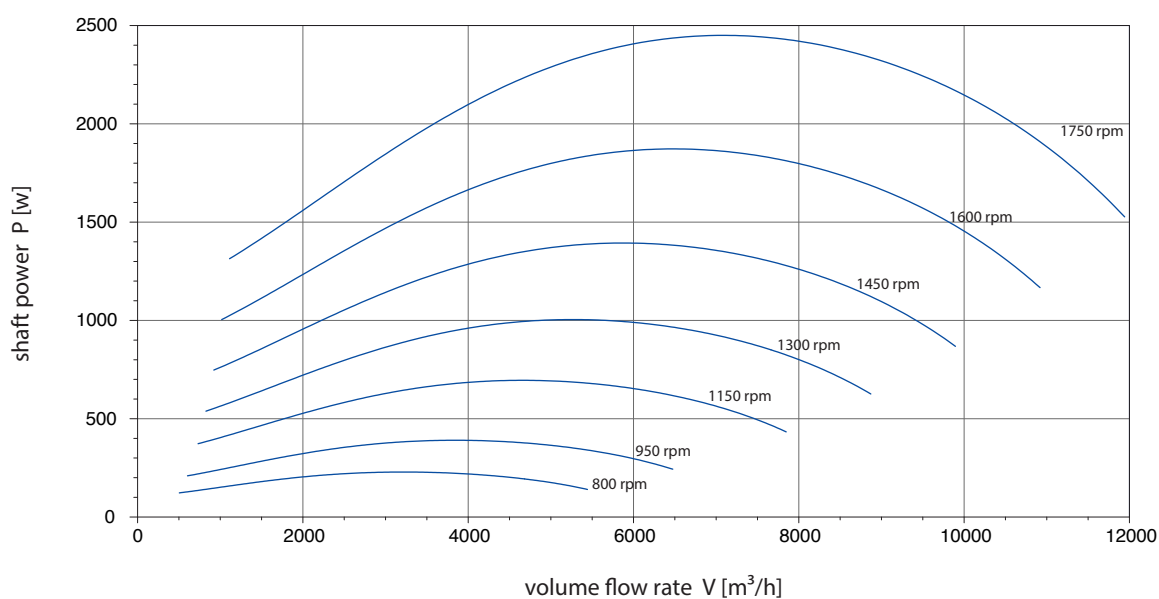
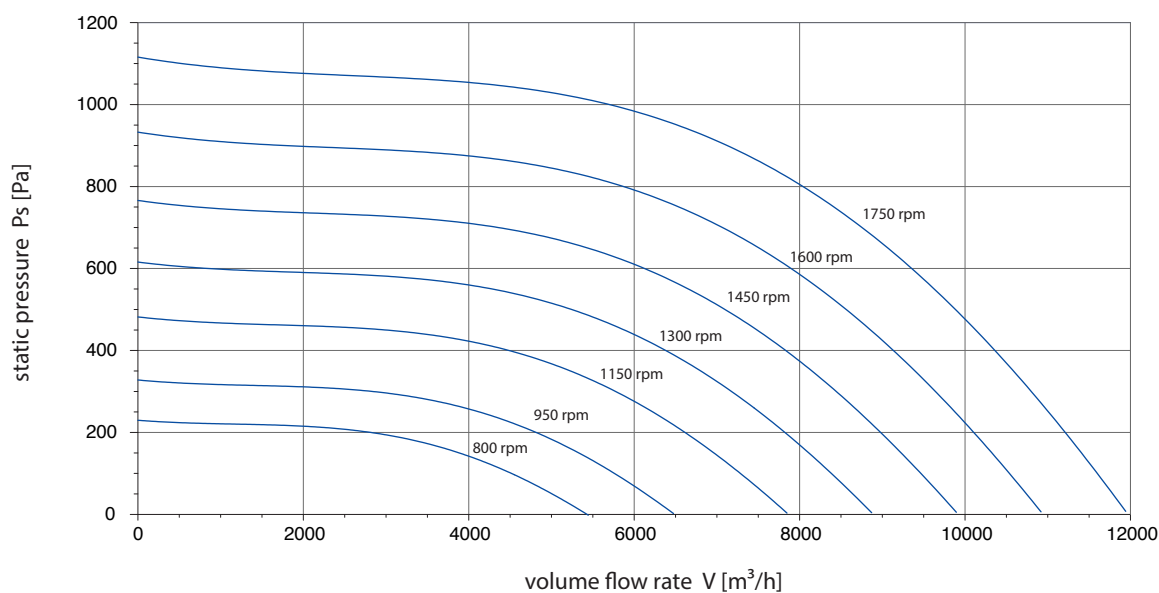


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
800	61.7	60	70.9	70.8	70.6	67.2	73.4	59	78	57
950	66.1	62.7	75.4	70.2	69	64.4	66.3	57.7	78	54
1150	71	65	77.8	72.3	71.1	66.6	64.3	59.6	81	56
1300	72.7	67.9	81.7	74.5	73.4	69.2	66.2	61.8	84	58
1450	75.6	71.2	86.5	77.3	75.8	71.7	68.7	64.2	88	62
1600	78.3	75	91.3	80.2	78.3	74.3	71.1	66.5	92	65
1750	80	78.8	95.7	83.1	80.6	76.5	73.2	68.6	96	69

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

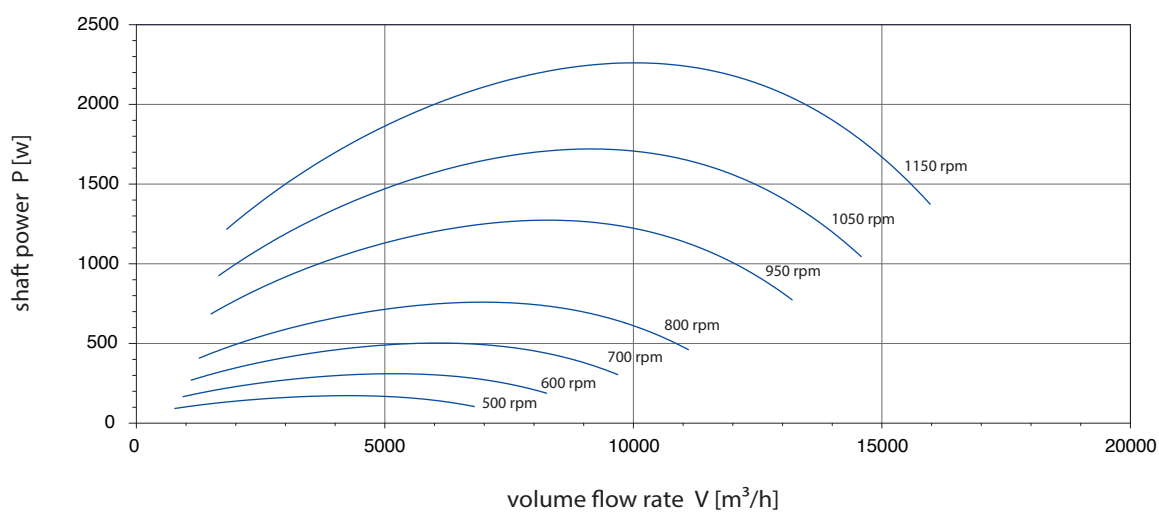
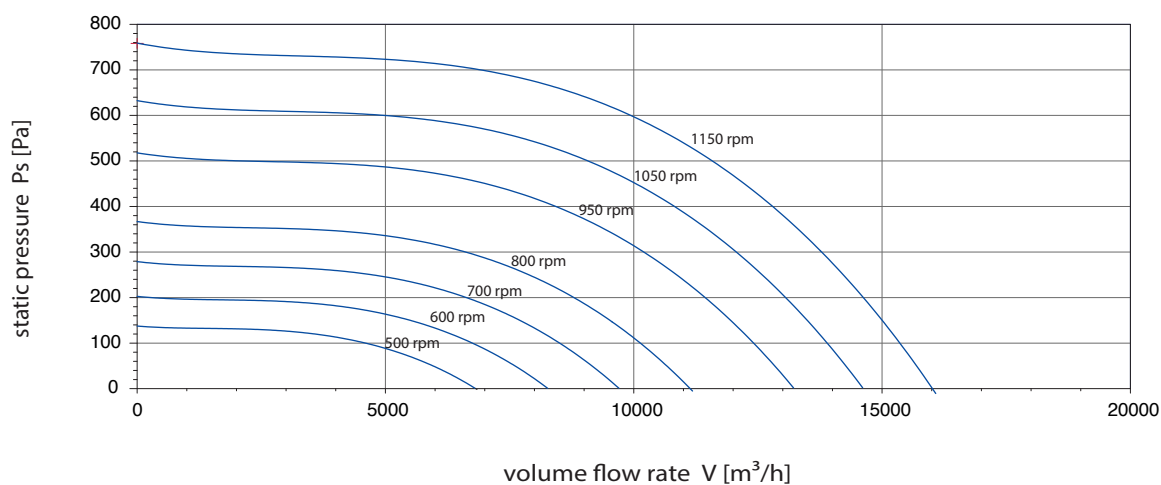


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
800	64.9	63.4	73.9	74.2	74	70.5	76.9	62.5	82	60
950	69.4	65.4	78.8	73.5	72.4	68	70	61.1	82	57
1150	74.4	68.3	81	75.6	74.4	69.9	67.7	63	84	59
1300	76.2	71.1	84.6	77.6	76.6	72.4	69.5	65	87	61
1450	78.6	74.3	89.5	80.5	79.1	74.9	71.9	67.4	91	65
1600	81.6	78	94.2	83.4	81.5	77.4	74.3	69.7	95	68
1750	83.3	81.8	98.6	86.3	83.8	79.7	76.4	71.8	99	72

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz



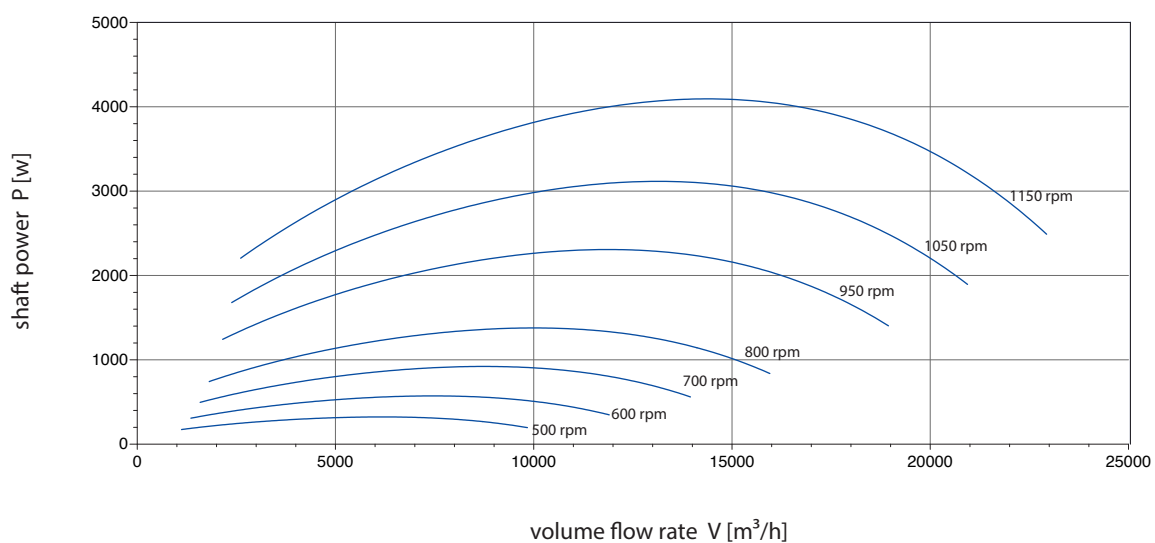
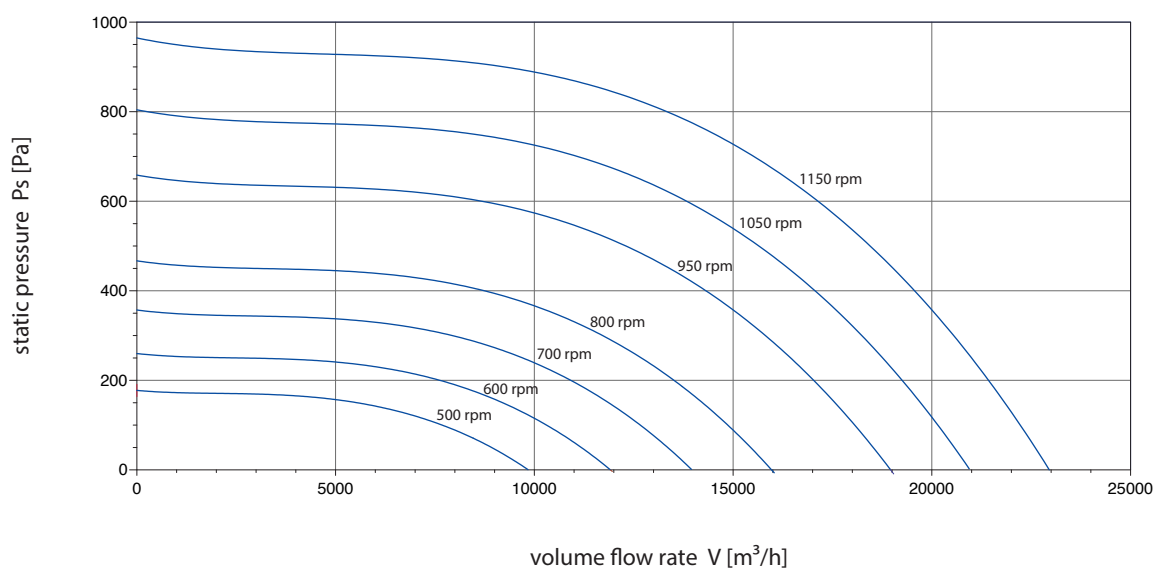
## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
500	73.2	69.1	75.6	73.9	69.8	77.7	72.2	55.8	82	60
600	73.7	72.3	82.4	75.1	68.7	71.1	61.3	55	84	58
700	74.3	75.2	82	77.2	70.4	70.2	63.1	56.6	85	58
800	76.7	80.2	83.8	79.2	73.2	71.5	65.8	59.5	87	61
950	80.2	89.2	87.4	82.3	76.7	73.7	69.6	63.9	92	64
1050	82.6	93.5	90.3	84.9	79.2	76.3	72	66.3	96	67
1150	84.8	97	92.9	87.3	81.4	78.7	74.2	68.4	99	69

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.



## Belt drive - 50Hz/60Hz

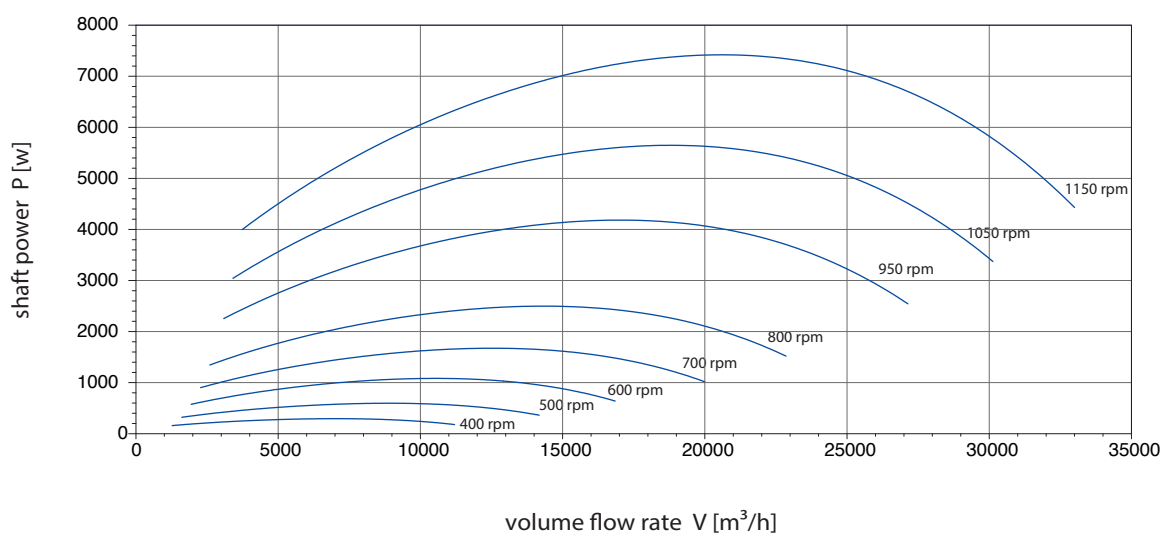
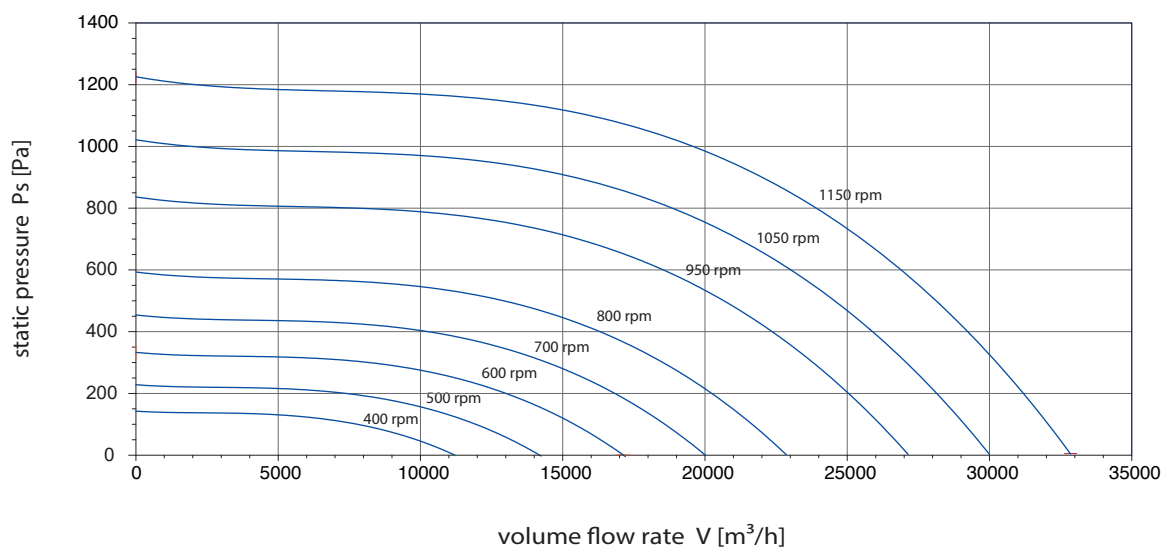


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
500	76.8	72.7	79.3	77.5	73.5	81.3	75.8	59.4	86	64
600	77.4	76	86.2	78.7	72.4	74.9	65	58.7	88	62
700	77.9	78.8	85.7	80.8	74.1	73.9	66.8	60.3	88	62
800	80.3	83.7	87.6	83	76.8	75.2	69.4	63.1	91	64
950	83.9	92.6	91.1	85.9	80.4	77.4	73.3	67.5	96	68
1050	86.2	97	93.9	88.5	82.8	79.9	75.7	69.9	100	71
1150	88.4	100.5	96.5	90.9	85	82.3	77.9	72.1	103	73

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

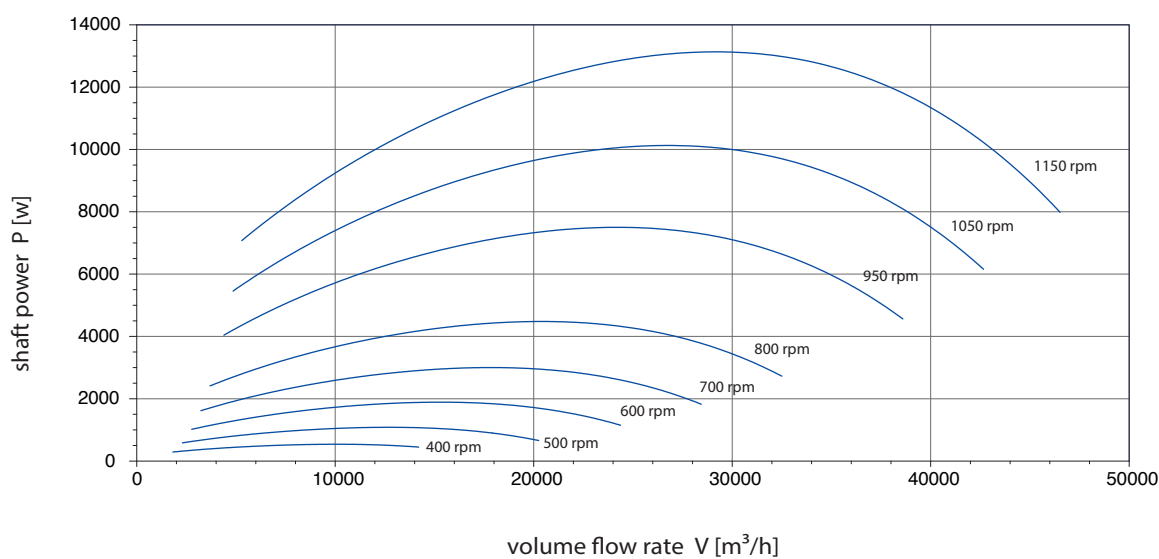
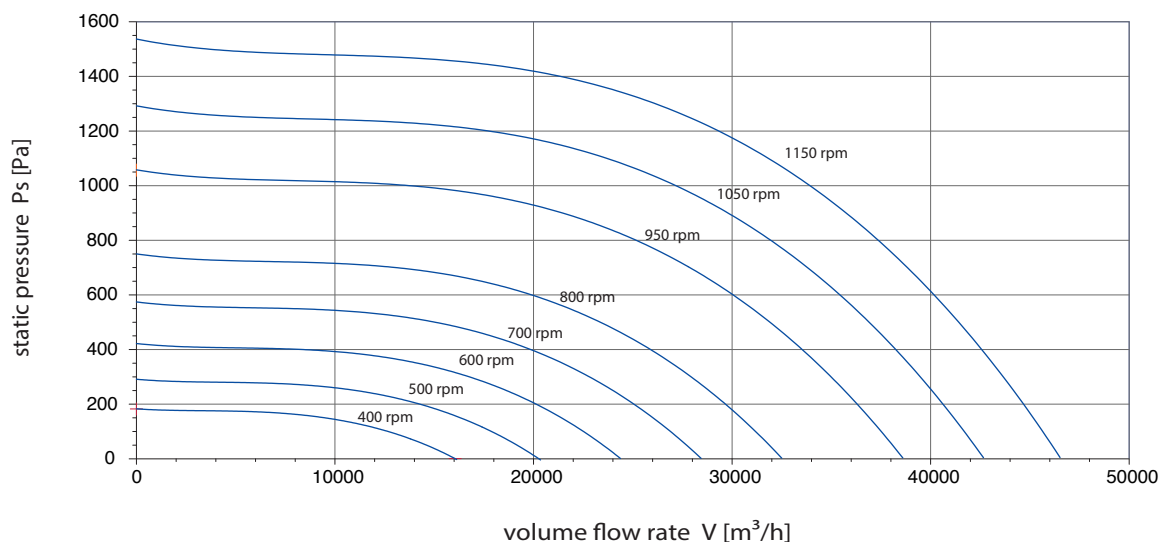


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
400	75.6	71.5	78.1	76.3	72.3	80.1	74.6	58.2	85	63
500	76.1	75.2	84	77.9	71.3	73	64	57.7	86	60
600	77.9	79.9	85.7	80.8	74.4	72.9	66.8	60.4	88	62
700	81	87.1	87.7	83.1	77.4	75.3	70.3	64.3	92	65
800	83.8	93.9	91.3	86	80.4	77.3	73.3	67.5	97	68
950	88	100.6	96.3	90.5	84.6	82	77.4	71.6	103	73
1050	91.4	103.7	98.8	93.3	87.3	84.5	79.7	73.8	106	76
1150	94.7	106.3	101	95.8	89.8	86.7	81.8	75.7	108	78

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

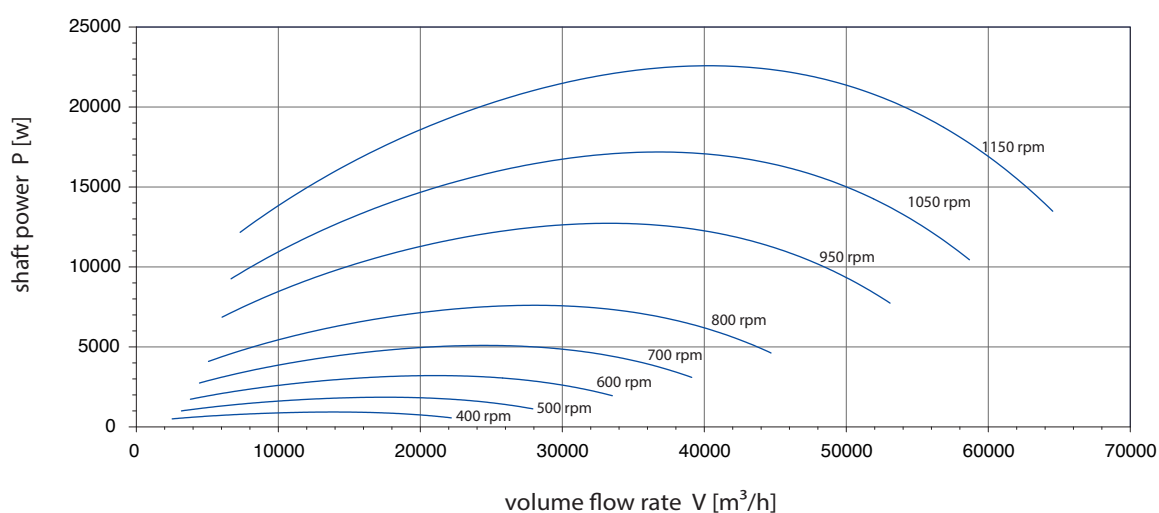
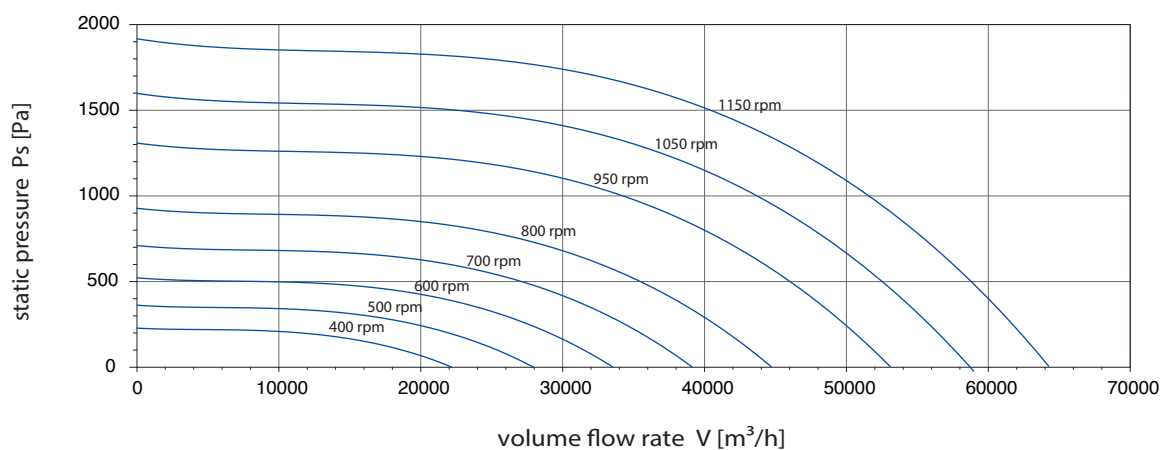


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
400	79.2	75.1	81.6	79.9	75.9	83.7	78.2	61.8	88	66
500	79.7	78.8	87.7	81.5	74.9	76.7	67.6	61.3	90	64
600	81.5	83.4	89.3	84.4	78	76.6	70.3	64	92	66
700	84.5	90.4	91.3	86.7	81	79	73.9	67.8	95	68
800	87.4	97.3	97.8	89.5	84	80.9	76.8	71.1	100	71
950	91.5	104.1	99.8	94.1	88.2	85.6	81	75.2	106	76
1050	94.9	107.2	102.4	96.8	90.8	88.1	83.3	77.3	109	79
1150	98	109.6	104.4	99.2	93.2	90.1	85.2	79.1	111	81

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## Belt drive - 50Hz/60Hz

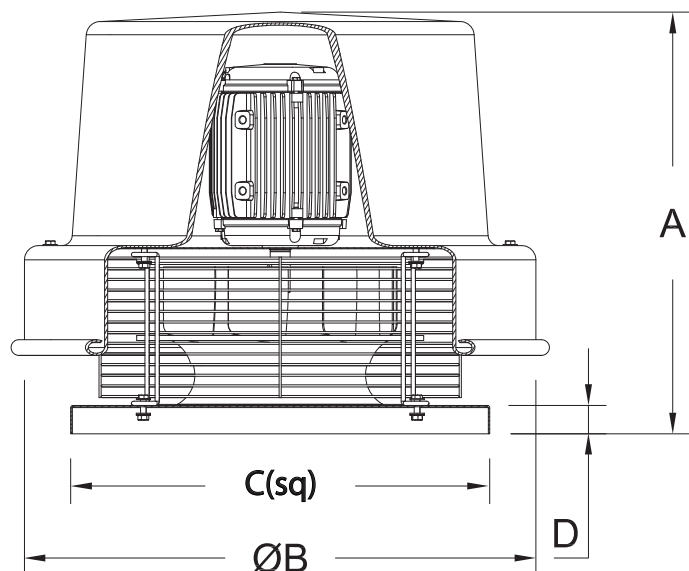


## Sound Data

Sound Power Level (Fan), dB - Octave Band Centre Frequency, Hz										
RPM	63	125	250	500	1000	2000	4000	8000	Total	Lp A(dB(A)) @ 3m
400	82.3	78.3	84.9	83.1	79	86.9	81.2	65	92	70
500	83	82.1	91	84.7	78.2	80	70.8	64.5	93	67
600	84.7	86.6	92.5	87.7	81.2	79.9	73.6	71	95	69
700	87.7	93.5	94.5	89.9	84.2	82.2	77.1	71	99	71
800	90.6	100.5	98	92.7	87.2	84.1	80	74.3	103	75
950	94.8	107.2	103	97.3	91.4	88.8	84.2	78.4	109	80
1050	98.1	110.4	105.6	100	94	91.3	86.5	80.6	112	82
1150	101.4	113	107.8	102.5	96.5	93.5	88.6	82.5	115	85

Fans are tested in accordance with AMCA 210 for airflow and AMCA 300 for sound performance rating.

## FCS Direct & Belt Drive Dimension Details



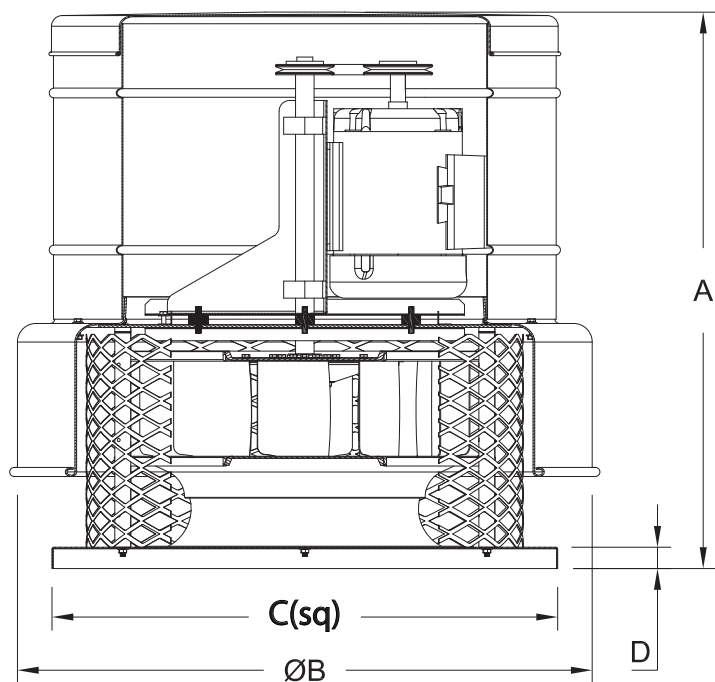
Models FCS - D

Model No	A	B	C(sq)	D	Weight(Kg)*	Damper size (sq)
FCS 300	534	650	600	40	21	395
FCS 355	580	720	660	40	28	395
FCS 400	636	780	700	40	34	555
FCS 450	689	840	780	40	43	555
FCS 500	765	930	830	40	54	555
FCS 630	977	1080	950	40	63	850
FCS 710	1195	1200	1100	40	75	850
FCS 800	1332	1438	1160	50	87	1000

All dimension's are in 'mm'

\*Approximate weight without motor.

For actual fan dimensions check with factory.



Models FCS - B

Model No.	A	B	C(sq)	D	Weight(Kg)*	Damper size (sq)
FCS 300	685	680	600	40	38	395
FCS 355	702	720	660	40	44	395
FCS 400	718	780	700	40	52	555
FCS 450	774	830	780	40	69	555
FCS 500	882	940	830	40	86	555
FCS 630	1047	1080	950	40	124	850
FCS 710	1265	1200	1100	40	186	850
FCS 800	1402	1438	1160	50	269	1000
FCS 900	1524	1608	1370	50	332	1000
FCS 1000	1600	1780	1410	50	390	1200

All dimension's are in 'mm'

\*Approximate weight without motor.

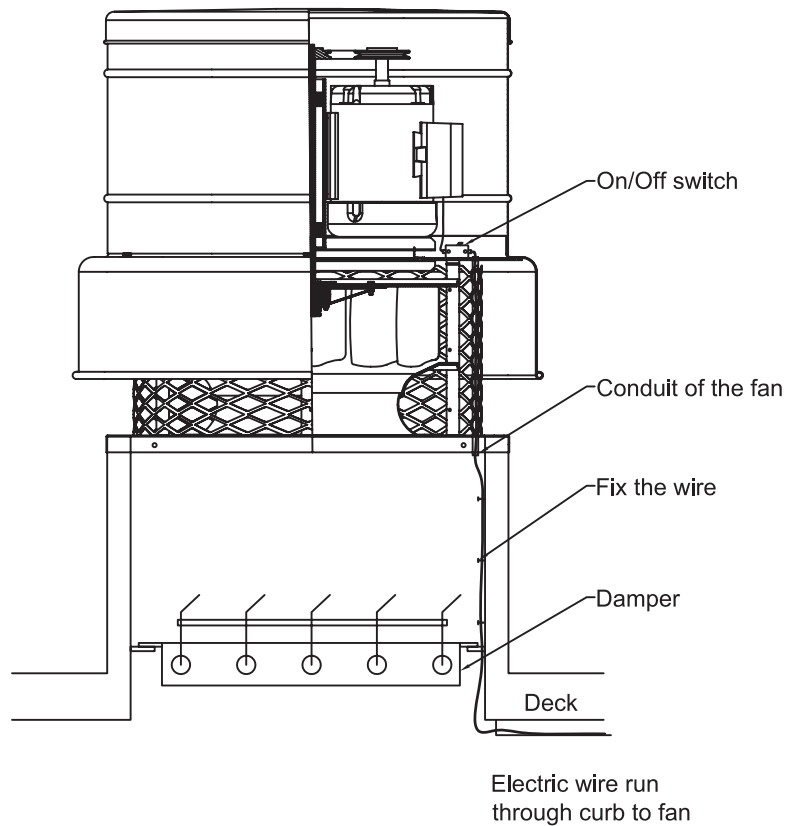
## Roof Fan Downblast - Belt

The roof opening size shall be provided to the contractor at early stage when the roof is under construction.

### Roof Curb Fabrication

The contractor is the only party who is responsible for the fabrication and procedures to make a roof curb, the attached drawing is for reference only. The thickness of curb wall shall be different according to the material. The concrete wall shall be between 70-80mm, steel structure shall be between 30-45mm.

As to the metal where the fan contact the curb in the top, a linear rubber vibration isolation pad shall be applied, also acts as seal. The thickness of the pad shall be decided according to the fan weight, and the hardness shall make sure it still maintain proper elasticity after fan is seated. The pad can be cut from typical carpet type isolation pads and are to be provided by contractors.



### How to Mount The Fan

Pull the fan curb, and fix it all four sides by self-tapping screw, as per attached drawing. The fan must be kept leveled.

### How To Mount The Back - Draft Damper.

Make sure the damper blades can be fully open to 90 degree when the fan starts, and shut down automatically by gravity after fan is stopped.

The dynamic weight of the fan while installation will differ than the actual weight. Dynamic load should be considered 25% extra on actual fan weight.

## Typical Installations Models FCS-D and FCS-B



### General Clean Air

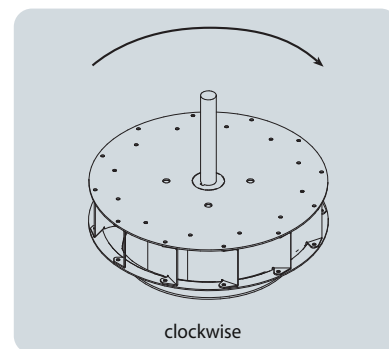
Models FCS-D and FCS-B exhaust fans are designed to meet the needs of general clean air applications. Tests were conducted to assure safe, rugged and reliable fans.

Due to the varying types of airstreams encountered in commercial ventilation, system designers must be aware of national, state, and local codes and guidelines governing these installations. Local code authorities should be consulted before proceeding with any ventilation project.

- When roofing materials extend to the top of the curb, roof curbs should be 1 inches ( 1 inch on each side) less than the unit curb cap to allow for roofing and flashing.
- For recommended duct size, damper size, and roof opening dimensions, refer to the performance data pages.
- Installation must include a means for inspecting, cleaning and servicing the exhaust fan

### Wheel Rotation

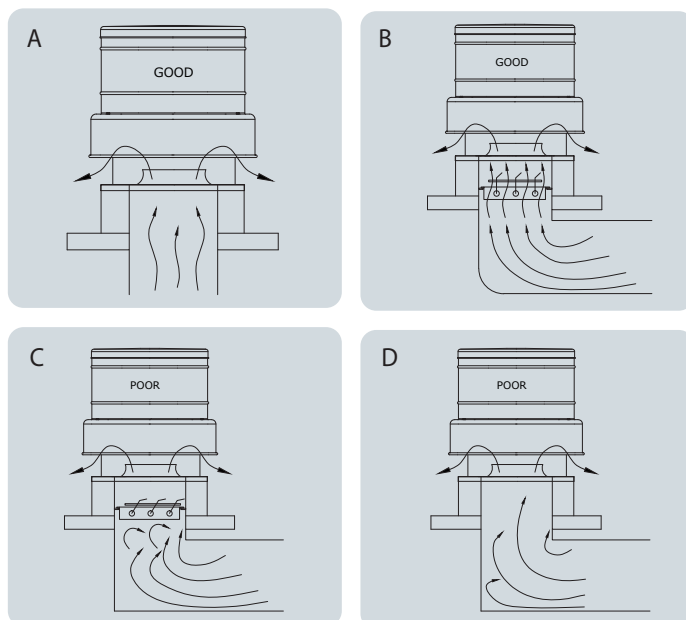
Direction of rotation is very critical. Rotation in the wrong direction will result in excessive horsepower, possible motor burnout, and increased noise levels. Check rotation by energizing the unit momentarily. The rotation should be the same as the rotation decals affixed to the unit and is clockwise when viewed from the top of the unit



### Fan Inlet Connections

In order to assure proper fan performance, caution must be exercised in fan placement and connection to the ventilation system. Obstructions, transitions, poorly designed elbows, improperly selected dampers, etc., can cause reduced performance, excessive noise, and increased mechanical stress. For performance to be as published, the system must provide uniform and stable airflow into the fan.

- A. Provide uniform airflow at fan inlet to assure optimum performance.
- B. Provide uniform airflow at fan inlet and through the damper to assure optimum performance.
- C. Dampers must open fully. Use motorized dampers in low airflow applications to reduce losses
- D. Avoid sharp turns or entrance conditions which cause uneven flow. Use turning vanes in elbows to reduce adverse effects.





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