airventurer™ industrial fans

Axial Flow Fans
Product Information

info@airventurer.com
www.airventurer.com

Axial Flow Fans

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About The Company

ABOUT AIRVENTURER

AirVenturer, an acronym coined from Air Ventilation Manufacturer, is that and more.

AirVenturer offers a wide range of industrial fans that includes tube axial flow fans, vane axial fans, variable pitch axial fans, contra-rotating fans, bifurcated fans, centrifugal fans, duct fans, and in-line fans.

Venturing into the industrial fan market in July 2010, AirVenturer fans are proprietary to Chevon International (Singapore) Pte Ltd, a renowned radiator and heat-exchanger manufacturer and design house with well-equipped R & D facilities.

Technically, Chevon International is no stranger to industrial fans. Prior to specializing in the industrial fan market, we have been an extensive user of fans as a system designer. As a frequent user, all our fans are manufactured in-house. With experience and technical know-how chalked up over the years, a natural course would be to eventually turn it into a business.

In fact, as a user of industrial fans for many years, we have a true understanding of what exactly are our customer's needs. With first hand experience of what limitations engineers face when selecting fans, we are in the best position to offer practical solutions to even the most unconventional of problems.

Currently, AirVenturer AF Series axial flow fans are manufactured in one of Chevon's factories in Senai, Malaysia under the supervision of its Singapore-based headquarters. Additional manufacturing facilities have been earmarked to accommodate growth as the fan division progresses.

ABOUT CHEVON INTERNATIONAL

Established in 1994, Chevon International is a leading manufacturer of cooling equipment. The rapidly growing company presently comprises 5 factories, 11 sales offices, and employs more than 500 staff across 4 countries.

With its comprehensive range of machineries over multiple manufacturing facilities totaling 90,000 square meters, Chevon is devoted to providing best products and services to its esteemed customers.

Committed to ISO 9001 quality management system, Chevon adopts a systematic approach towards a set of stringent processes in a controlled environment. The objective sets out to innovate products that consistently meet quality standards and beyond.

Chevon International was awarded the right to bear the ASME U-Stamp on its pressure vessel products. It was also accorded the Enterprise 50 Award in 2009 in recognition for its contributions to the economic development in Singapore and abroad.

Axial Flow Fans

General Information

INTRODUCTION

AirVenturer axial flow fans are outfitted with adjustable aerofoil impellers which empowers it to produce a wide range of airflow capacity and static pressures through varying the number of blades and their pitch angles.

Standard AF series axial flow fans come in 11 impeller sizes ranging from 315mm to 1000mm in nominal diameters. The series arrangements can produce an aerodynamic performance with up to 1,200Pa and volumetric flow rate of up to 75,000m^3/h.

For higher pressure requirements, multi-stage axial flow fans with contra-rotating impellers can be produced up to 1,800mm in diameter.

Outside standard requirement-specific axial flow fans are also available from AirVenturer fan manufacturing facilities.

IMPELLERS

The aerofoil axial impellers employed by AirVenturer fans are industry-proven, and have undergone stringent tests by international standard bodies.

These profiled blades are tested in wind tunnels designed in accordance to AMCA 210-99/ISO 5801.

Standard Series impellers are made of pressure die cast aluminium alloy (AL) or Glass Reinforced Nylon (GRN).

Operating temperature range for AL: -60°C to +245°C
Operating temperature range for GRN: -40°C to +110°C
Tip Speed Limit for both AL and GRN: 115m/s

FAN CASING

Fan casings are made from heavy-gauge mild steel sheet that are cut, roll-formed, welded and flange-rolled to produce a seamless flange that is superior in both strength and aesthetic.

Standard finish can be hot-dipped galvanized or spray painted.

Standard fan casings enclose the impeller and motor completely, and are externally fitted with weather-proof terminal boxes.

MOTOR

AirVenturer powers its axial flow fans with foot-mounted squirrel cage induction motors. Totally Enclosed, Fan-Cooled with IP55 protection, Class F insulation. Frame sizes classified in accordance to IEC dimensions.

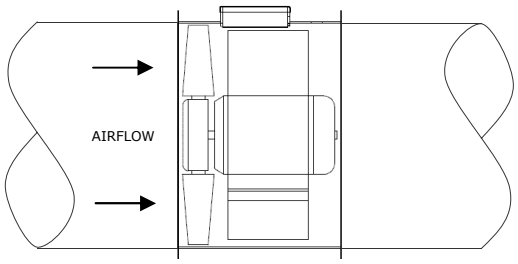
Electrical inputs: 220-240V; 1-Phase; 50Hz
380-415V; 3-Phase; 50Hz

FORMS OF RUNNING AND TYPES OF INSTALLATION

Performance data shown in this catalogue is based on installation Type D: ducted inlet; ducted outlet.

Airflow direction is based on Form B running condition: airflow pressured over motor.

FORM B running
TYPE D installation



Form A running shall have the airflow in the opposite direction of Form B.

Other installation types:

- Type A: free inlet; free outlet.
- Type B: free inlet; ducted outlet.
- Type C: ducted inlet; free outlet.

As the form of running and type of installation can affect the resultant aerodynamic performance of a given fan, it is therefore important to take them into consideration during fan selection process.

Form B running condition shall be the standard form for all Series products unless otherwise requested prior to purchase.

Axial Flow Fans

Range of Axial Flow Fans

AXIAL FLOW FAN SERIES

All fans in the axial flow fan series are variable pitch blade types. The blades on these axial fans are manually adjustable to permit the blade angle to be changed. This allows operation over a much wider range of airflow volume versus static pressure relationships.

AF Series	Axial Flow, Direct Drive
BA Series	Axial Flow, Belt Driven
BF Series	Bifurcated Axial Flow, Direct Drive
VA Series	Axial Flow, Vane Guided

CUSTOMISATION

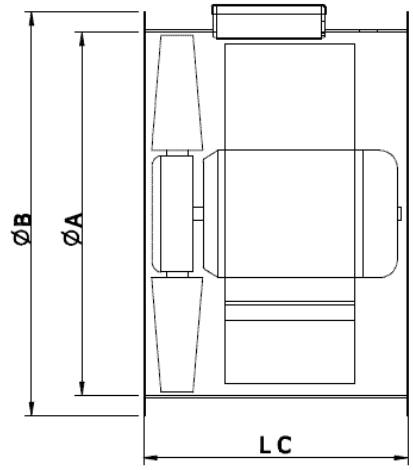
Apart from the standard Series axial flow fans, AirVenturer fan is also able to manufacture to customer's specific requirements.

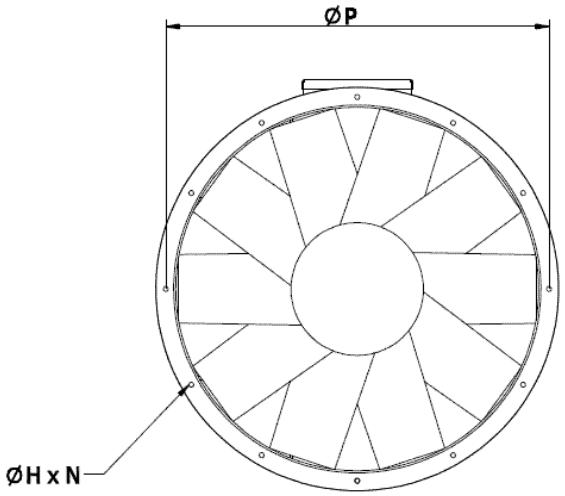
Some examples where customization is required include:

- Larger fan diameter
- Multi-stage contra-rotating configuration
- Spark-resistant construction
- Extreme environmental condition

Axial Flow Fans

Fan Dimensions



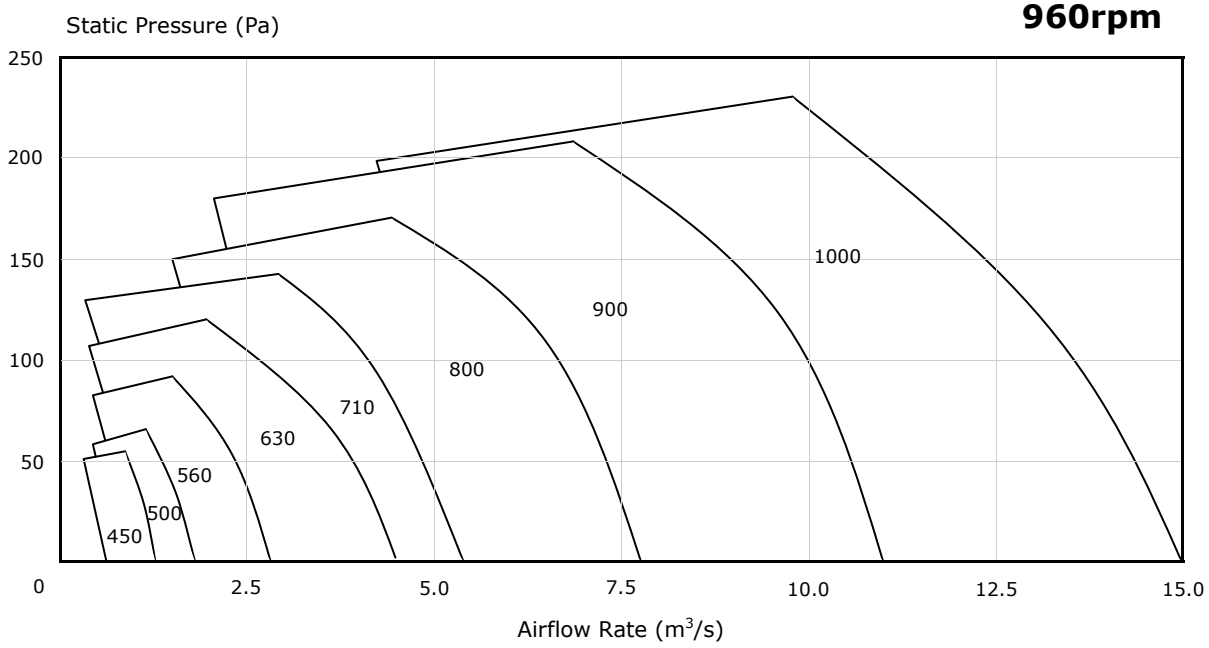


Nominal Size	ØA (mm)	ØB (mm)	ØP (mm)	N	ØH (mm)	LC (mm)
315	315	395	355	8	12	300
355	355	435	395	8	12	400
400	400	490	450	8	12	400
450	450	540	500	12	12	400
500	500	600	560	12	12	400-450
560	560	660	620	12	12	400-570
630	630	730	690	12	12	400-710
710	710	810	770	16	12	450-710
800	800	900	860	16	12	450-710
900	900	1010	970	16	16	450-710
1000	1000	1110	1070	16	16	450-840

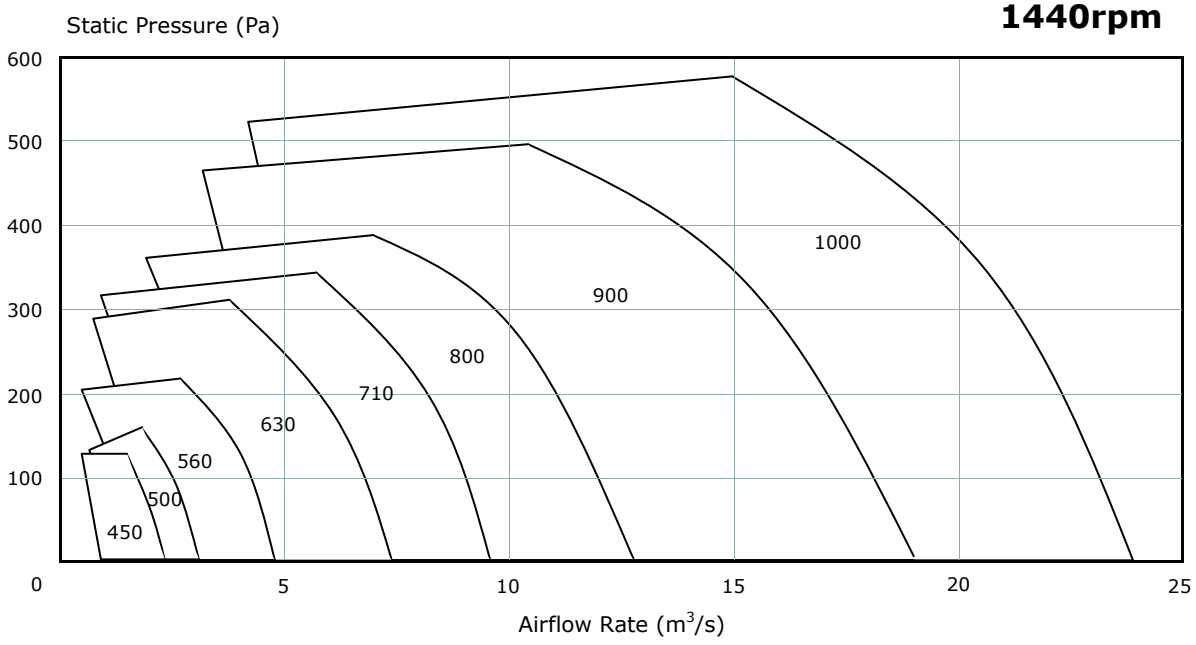
Axial Flow Fans

Quick Selection Guide

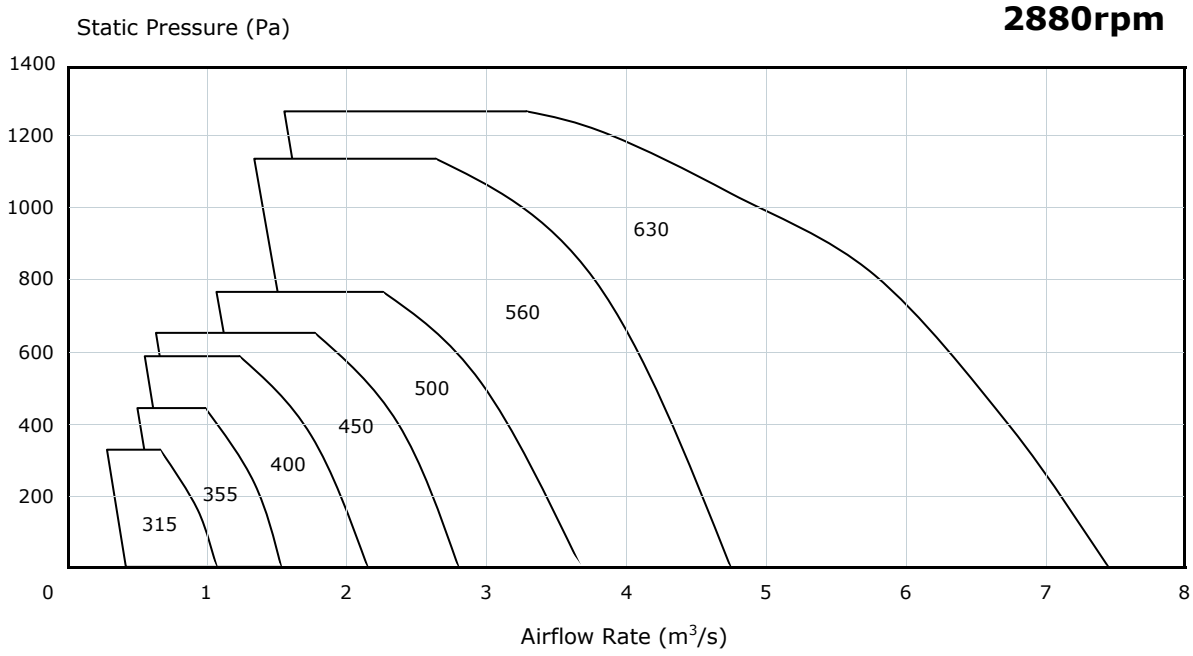
960rpm



1440rpm

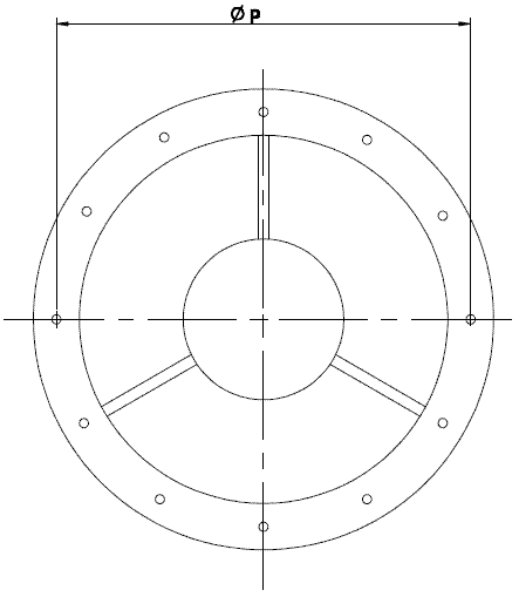


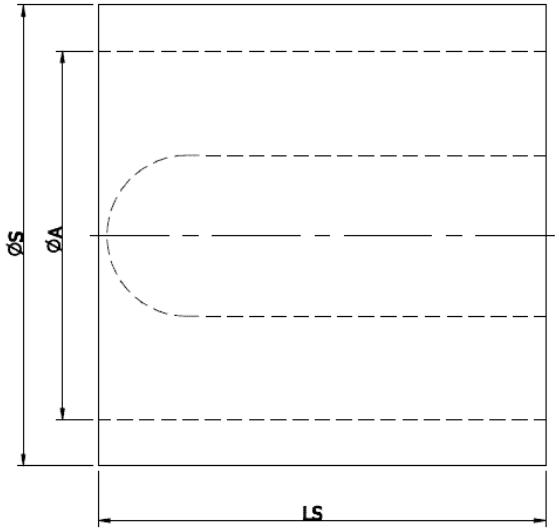
Axial Flow Fans
Quick Selection Guide



Axial Flow Fans

Silencer Dimensions





Fan Size	ØA (mm)	ØS (mm)	ØP (mm)	N	ØT	LS (mm)	
						1D	2D
315	315	465	355	8	M8	315	630
355	355	505	395	8	M8	355	710
400	400	600	450	8	M8	400	800
450	450	650	500	12	M8	450	900
500	500	700	560	12	M8	500	1000
560	560	760	620	12	M8	560	1120
630	630	830	690	12	M8	630	1260
710	710	910	770	16	M8	710	1420
800	800	1000	860	16	M8	800	1600
900	900	1100	970	16	M12	900	1800
1000	1000	1200	1070	16	M12	1000	2000

Axial Flow Fans

Silencer Attenuation Data

DYNAMIC INSERTION LOSS

Dynamic insertion loss through an axial flow circular silencer is the difference in the sound power level of a fan before and after being fitted with a silencer. The table below represent the attenuating performance of AirVenturer circular silencers. Sound power level reductions presented are in Decibel Watt (dBW).

AirVenturer circular silencer comes in both podded and non-podded models. Pod states are denoted as: NP—Non-Podded; PD—Podded.

Fan Size	Silencer Length	Pod State	Dynamic Insertion Loss (dBW) Across Octave Band (Hz)							
			63	125	250	500	1000	2000	4000	8000
315 355 400 450 500 560	1D	NP	1	4	6	10	12	11	7	7
		PD	3	5	7	11	17	18	17	13
	2D	NP	3	7	11	17	22	18	12	9
		PD	7	9	11	21	25	26	23	20
630 710 800	1D	NP	3	4	10	15	14	7	7	5
		PD	3	6	8	18	24	19	18	9
	2D	NP	5	8	12	22	20	12	12	8
		PD	8	10	16	25	30	30	27	18
900 1000	1D	NP	3	5	10	14	14	7	7	5
		PD	3	6	11	18	17	16	13	10
	2D	NP	6	8	12	22	18	12	10	9
		PD	8	12	18	25	28	26	20	15

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AirVenturer Fans are the proprietary products of
Chevon International (Singapore) Pte Ltd
For more information, kindly visit our website, or
email us at:
info@airventurer.com
www.airventurer.com

Chevon International (Singapore) Pte Ltd
No.30 Tuas Avenue 4
Singapore 639380
Tel: +65 6861 1812 Fax: +65 6861 1443