

# PRODUCT GUIDE



**FAN & BLOWER**  
COMPANY OF AUSTRALIA





# THE FAN AND BLOWER COMPA

The Fan & Blower Company (FBA) is a wholly Australian – owned company, formed in 1968 and specialising in the manufacture of a wide range of centrifugal and belt driven axial fans. They are part of the Harvey Industries Group, a diverse mechanical services company operating in Parramatta NSW since 1895.

FBA has the largest manufacturing facility for producing centrifugal fans in Australia. From cutting fan

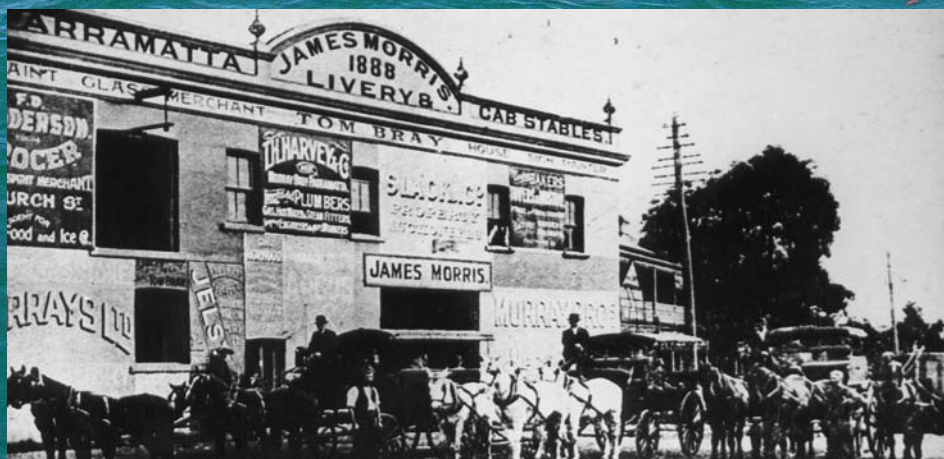
components with our computerised plasma machine, to the final test run of the fan assembly, it is all completed at our dedicated facility in Parramatta.

FBA has a tradition of service and dependability, coupled with innovative production methods in manufacturing.

We have established a network of agents in every state and territory in Australia and New Zealand, staffed by competent fan

engineers. Using our computerised selection programs, technical data can be provided on our complete range of fans, as well as providing a full back up service.

Over the last three decades our fans have been used for a diverse range of commercial and industrial applications in Australia, New Zealand and other overseas countries. These include major hospitals, shopping centres, cinemas, tunnels, multi storey office buildings, entertainment





# NY OF AUSTRALIA

centres, sewerage treatment plants, steel mills, cement works, schools, etc.

Fan performance has been computed from tests conducted in accordance with BS 848: Part 1 1980 "Fans for General Purposes Part 2 Methods of Testing Performance.

Published Sound levels are derived from tests performed in accordance with AS 1247-1972. The test method used is similar

to the AMCA 300-96 Type D test code that is widely used in the USA. FBA has adopted a Quality Assurance System conforming to AS 3902 ISO 9002.

This publication introduces our range of centrifugal, industrial, belt driven axial and special purpose fans. All components are manufactured at our factory in Parramatta, including our own range of spun impeller and inlet cones.

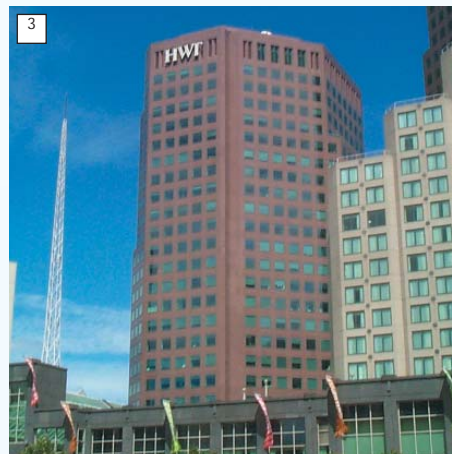
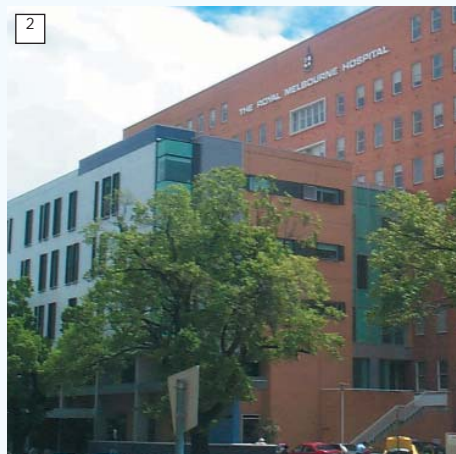




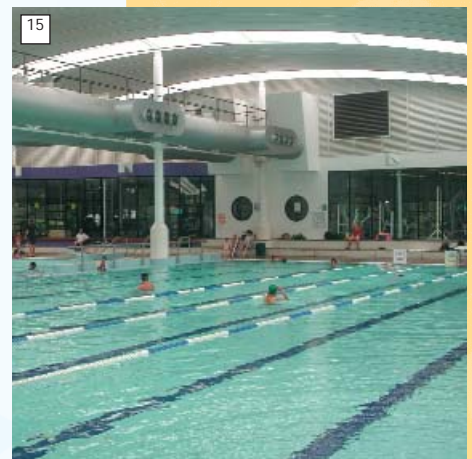
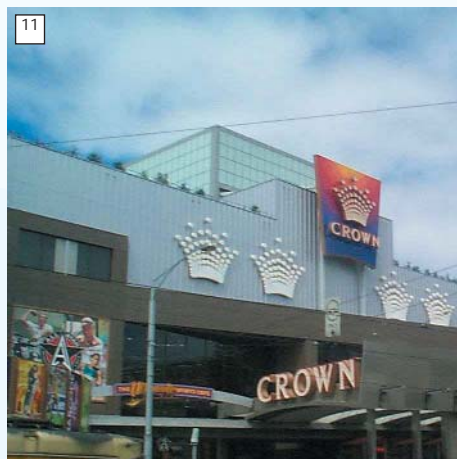
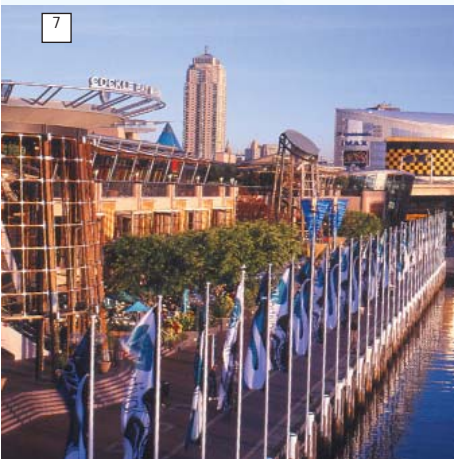
# FBA PROJECTS

Highlighted are several recent building projects around Australia where FBA fans have been installed.

- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| 1. Prince Charles Hospital – QLD  | 8. Esso – VIC                       |
| 2. Royal Melbourne Hospital – VIC | 9. Fairfield City Council – NSW     |
| 3. Herald & Weekly Times – VIC    | 10. Renzo Piano Building – NSW      |
| 4. Southbank – VIC                | 11. Crown Casino – VIC              |
| 5. Novotel Homebush Bay – NSW     | 12. City Link Tunnel – VIC          |
| 6. Ford Motor Company – VIC       | 13. BTR Foundry – SA                |
| 7. Cockle Bay – NSW               | 14. Westmead Institute – NSW        |
|                                   | 15. Prairewood Leisure Centre – NSW |









# FBA PRODUCT RANGE

The following pages display the FBA product range. Each section includes a description of the product, with typical performance curves, dimension details, drawings and actual photographs of the main fan types. This information is intended to supplement our fan selection program, which is available on computer disk from FBA, or our agents on request.

The range is currently comprised of:

SERIES 1000 SWSI FANS

SERIES 1000 DWDI FANS

IN LINE CENTRIFUGAL FANS

MILL EXHAUST - MATERIAL HANDLING FANS

TURBOVANE RADIAL TIP FANS

SERIES 101 - PRESSURE BLOWERS

SERIES 2000 BLOWERS (Backward Inclined)

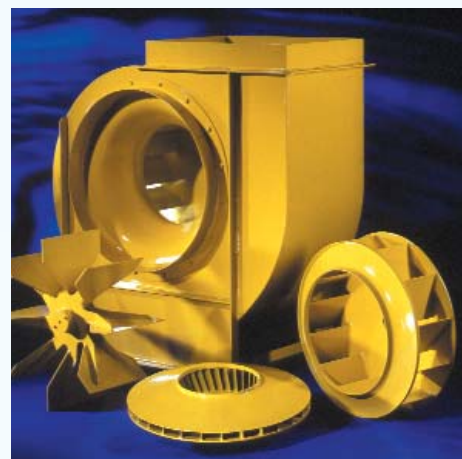
SERIES 3000 BLOWERS (Radial)

PLUG FANS

AXIAL FANS

PLENUM FANS

PURPOSE BUILT FANS



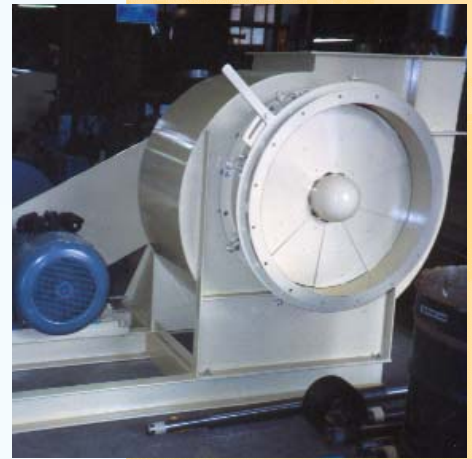
## STANDARD FEATURES:

- Fan casings and impellers are fabricated from hot-rolled steel sheet and plate, fully welded, materials conforming to AS 1594-1992.
- All fabricated parts are plasma cut in our computer controlled profile-cutting machine.
- Paint finish – all fabricated parts are prime coated.
- Impellers are balanced both statically and dynamically in our works using our hard-bearing type, dynamic balancing machine.
- Ball bearings are contained in pillow block housings. Larger fans or heavy-duty fans have roller bearings in split plumber block housings.
- Fan shafts are machined from Grade CS1030 bright steel conforming to AS1443-1983.
- All fans are mechanically tested at our factory prior to dispatch.

## ANCILLARY EQUIPMENT:

FBA fans can accommodate a range of additional features including:

- Access panel
- Inlet screens
- Discharge and inlet flanges (spigot connection is standard)
- Matching discharge and inlet flanges
- Vibration isolators
- Drain connection
- Split casing
- Variable inlet vane control
- High temperature construction
- Spark-resistant construction
- Stainless steel or aluminium construction
- Non-standard finishes
- Hot dipped galvanised casings
- Inverter speed controllers





# SELECTION GUIDELINES

## ENVELOPE CURVES

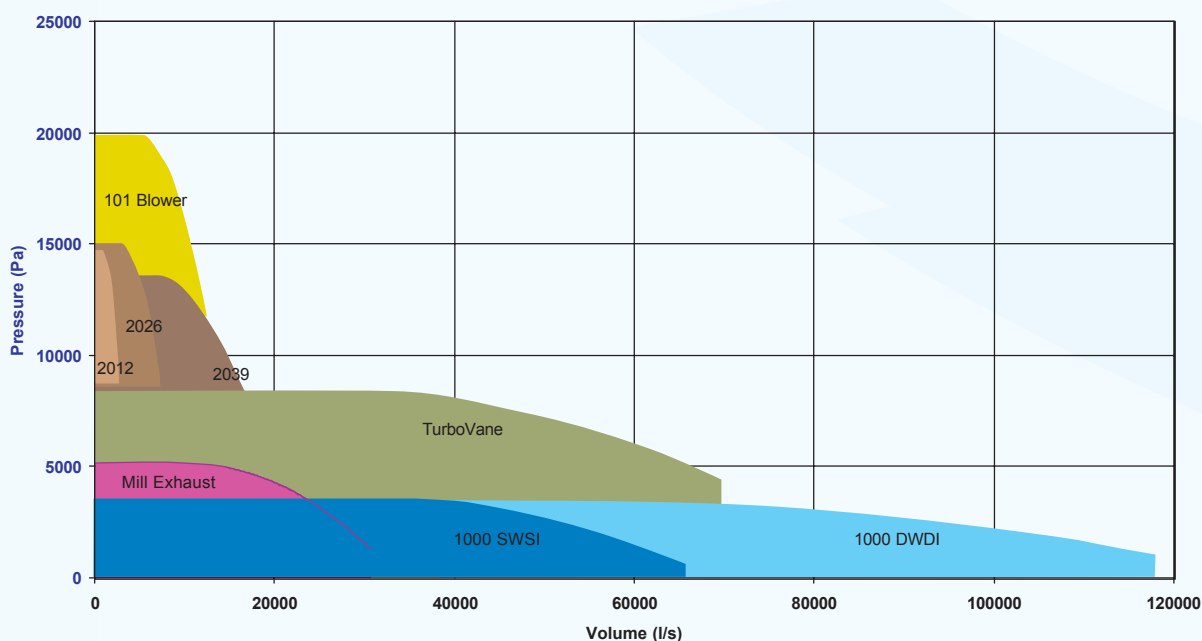
The following graph shows the **volume - pressure** envelope curves for the various series of fans offered in this product guide.

It can act as a guide to match the required duty with the appropriate fan series. Only the single stage performance characteristics are shown.

For duties outside the envelopes shown contact FBA.

The envelope curves for the Series 3000 Blowers have not been included, as they closely approximate those drawn for the 2000 Series. Similarly, the envelope curve for the in-line Series approximates that identified for the Series 1000 SWSI fans.

Envelope Curves



## TEMPERATURE EFFECTS.

Fan and Blower standard Arrangement 1 Centrifugal fans will handle air up to a temperature of 120°C. With the addition of **heat slingers, separate motor bases, insulated housings and bearing modifications**, temperatures of 400°C can be handled. Fans can be constructed to suit applications in excess of 400°C with further modification.

The selection data for FBA fans has been determined for standard air: 1.2 kg/m<sup>3</sup> or 20°C at sea level.

As well as changes to the fan construction, the selection data also requires modification when handling gases at differing densities.

A fan can be considered as a **constant volume machine**. The volume of the gas delivered does not change with a change in gas density.

Factors must be applied however to the pressure and absorbed power. Additional information is contained within the selection program or from FBA.



## FAN PERFORMANCE CURVES

The following is an example of the fan curves represented in this product guide. For each fan in a series, the **volume - pressure envelope curve** with the corresponding **power curve** has been shown on a single graph. This graph shows the pressure limits of our standard single stage fans and blowers for our common fan sizes.

Although they can be belt driven, the high pressure blowers, **Series 2000**, **Series 3000** and **Series 101**, are usually supplied arrangement 4 – directly driven. The performance graph for these fans have therefore been formulated at 2900 rpm. For the other fan series, the performance graphs have been formulated with a limit of 2900 rpm and a limiting tip speed. By using a belt driven fan the **desired performance requirements** within the envelope curve can be **exactly matched** at a reduced speed.

The **volume - pressure curve**, represented in **blue**, has two sections. The solid portion is the preferred operation area and is referred to as the **stable** side of the curve. For the Series 2000, Series 3000 and Series 101 Blower, the entire curve can be used, however another fan selection may offer a more efficient solution.

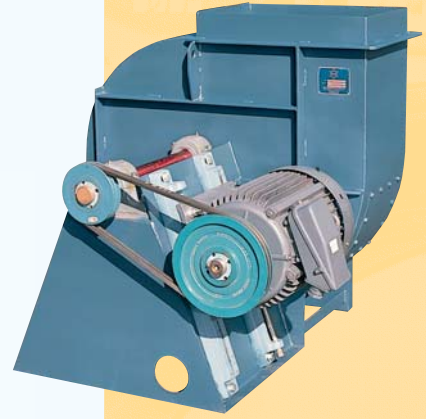
For our other range of fans, a **green system curve** has been included that shows the limit of stable operation for that particular fan size. Care must be taken to ensure that fans are selected to the **right** of this system curve.

A **power curve**, represented in **red**, has been formulated for the stable portion of each fan.

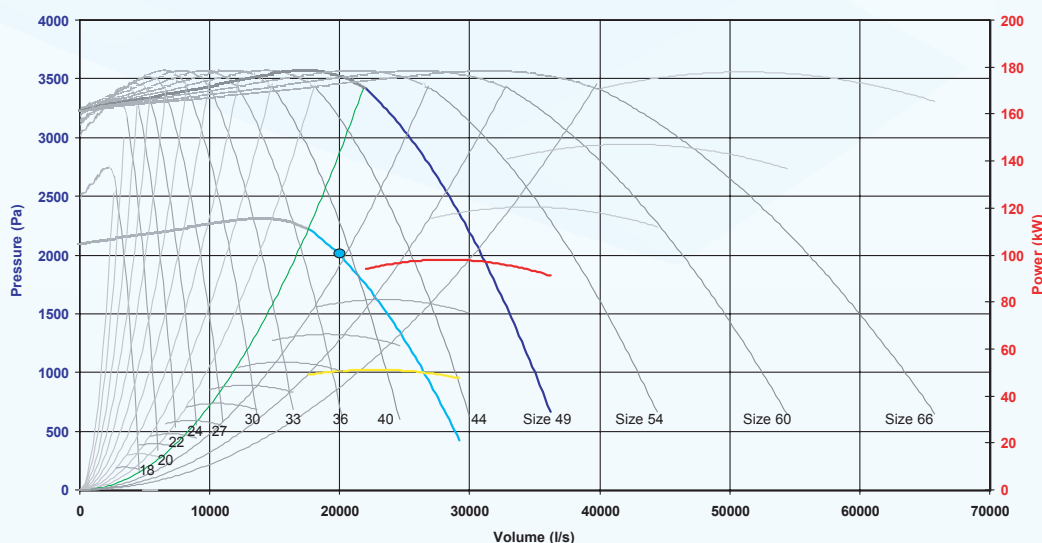
**Example:** Assume a duty of 20000 l/s and 2000 Pa. This duty is denoted by a cyan coloured dot.

A stable selection is to the right of the system curve. By following the first green system curve to the left of the duty point to its intersection point with the pressure curve, we can determine that the **largest** and probably the most **quiet** fan for this duty is a size 49. The actual fan curve has been shown with the corresponding power curve for the fan operating at the reduced speed.

A true comparison between this fan and the next smaller fan can be determined by examining the detailed information from the selection program.



General Curve





# SERIES 1000 SWSI FANS

Series 1000 Single Width Single Inlet (SWSI) fans are most commonly used when suction duct is required on the fan inlet. The single width fan has the advantage of providing a connection from the duct straight to the fan inlet, without the use of inlet boxes.

This can also be advantageous when the air is contaminated or at a very high temperature, and it is desirable to have the bearings excluded from the air stream, without the use of inlet boxes.

A range of optional extras, including special finishes with construction in various types of metal, such as stainless steel, are available. These fans can be made suitable for smoke spill applications, subject to meeting appropriate standards.

SWSI fans can be supplied in various arrangements as noted on our fan handing sheet, and can be constructed to operate at temperatures up to 400°C.

## SERIES 1000 FANS

**Series 1000 Fans** are the most widely used type of centrifugal fan. They are mainly used in air conditioning and ventilation industries, industrial processes – exhaust, drying, cooling and combustion air supply.

**Key features** of FBA Series 1000 centrifugal fans are:

**Backward Inclined Centrifugal Impeller** - for superior performance. This series of fans incorporates aerodynamically designed casings and streamlined inlet cones, which are compatible with both Laminar (L) and Aerofoil (AL) impellers.

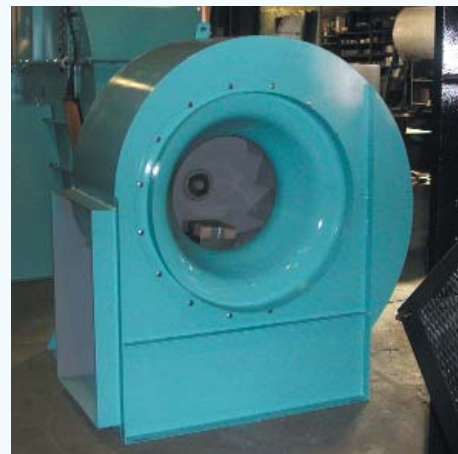
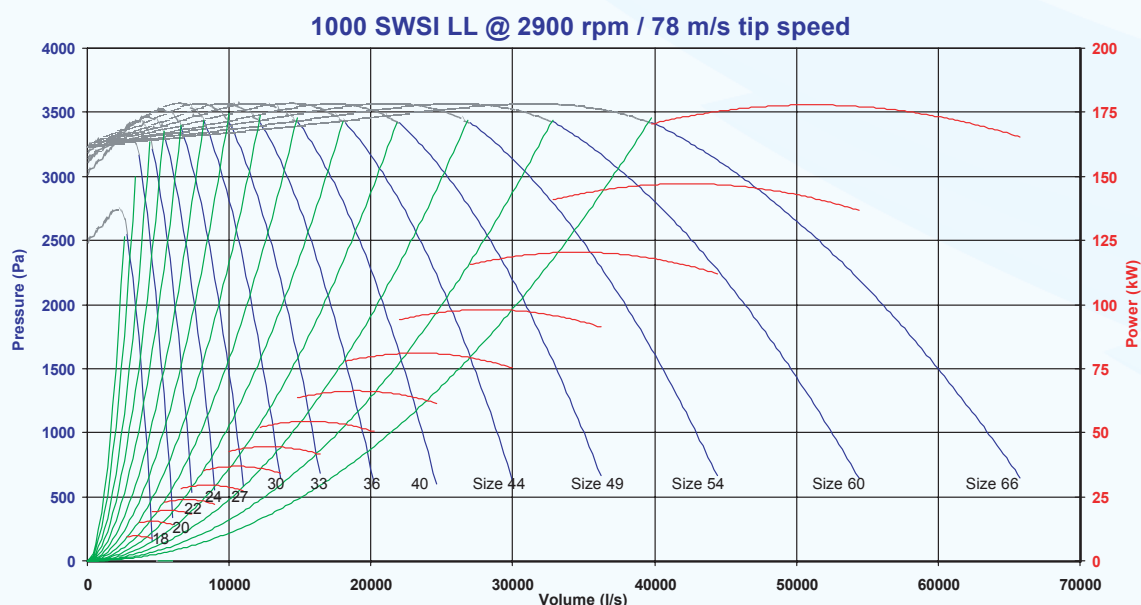
**High Efficiency / Low Operating Cost** - characteristically these fans have a broad efficiency curve. This results in lower power consumption and operating cost for the life of the installation.

**Quietness of Operation** - the impeller design allows for air expansion over the entire blade width, with relatively low velocity and minimum turbulence.

**True Non-Overloading Absorbed Power** - the power curve peaks within the normal operating range and at maximum efficiency. Thus the motor selected for the desired duty is usually sufficient to operate the fan over its complete volume-pressure curve, without overloading.

**Stable pressure curve** - the inherent design of the backward inclined impeller results in a steep-rising pressure characteristic over a wide range of capacities. This ensures minimum changes in volume with shifts in system pressure, providing extremely smooth operation.

Series 1000 fans centrifugal fans are available with impeller diameters ranging from 310mm to 2260mm.



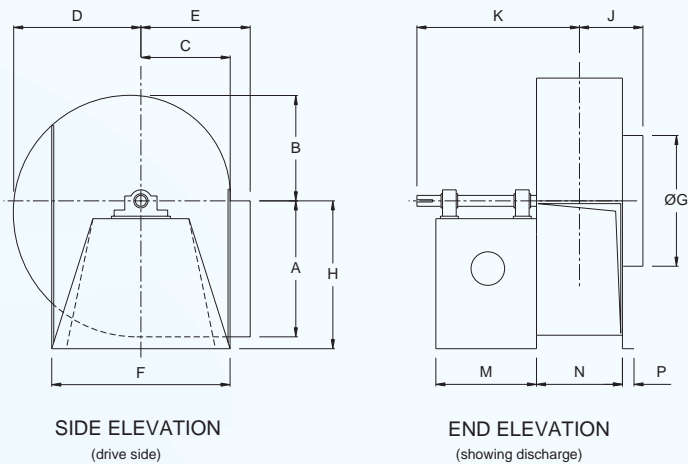


DIMENSIONS: SERIES 1000 SWSI FANS
ARRANGEMENTS 1 & 9

This data refers to the dimensions of the Series 1000 SWSI fans, Arrangements 1 & 9.

The handing illustrated is anti-clockwise, discharge angle 0° (ACW0). Other positions shown on the fan handing page can be determined by rotating the case about the shaft centre.

Certified drawings and performance and dimensional data for larger sizes are available on request.



ARRANGEMENT No. 1

FAN SIZE	A	B	C	D	E	F	G	J	K	M	N	P	H
12	330	260	215	310	300	430	350	175	455	250	250	40	395
13	365	285	235	345	320	474	380	175	488	270	275	40	430
15	405	320	265	380	350	530	420	188	520	290	300	40	455
16	445	350	290	420	375	580	470	200	558	310	335	40	495
18	490	390	320	460	405	640	515	218	605	330	370	40	545
20	540	425	350	505	440	700	560	235	658	365	405	50	590
22	600	475	390	560	480	770	615	253	735	420	450	50	650
24	660	520	430	620	525	854	690	288	830	465	495	50	710
27	725	570	475	680	520	944	755	311	892	505	548	65	780
30	805	630	525	755	620	1044	830	350	960	570	600	65	860
33	885	695	580	830	675	1160	910	375	1085	635	666	65	940
36	980	760	640	920	735	1270	1000	405	1100	620	734	75	
40	1080	840	705	1015	780	1400	1205	510	1230	705	820	75	
44	1190	930	780	1120	890	1520	1315	552	1315	745	905	75	
49	1315	1025	860	1230	970	1700	1435	650	1410	795	1000	75	
54	1455	1135	950	1365	1065	1885	1580	700	1500	835	1100	75	
60	1610	1250	1050	1510	1170	2085	1740	710	1665	935	1215	75	
66	1775	1375	1155	1660	1275	1680	1890	775	1775	975	1345	75	
73	1955	1520	1280	1825	1465	1880	2090	890	1900	1015	1485	75	
80	2160	1680	1415	2030	1600	2060	2290	975	1315	1345	1645	100	
89	2480	1850	1560	2235	1755	2200	2520	1055	2535	1485	1805	100	

FAN SIZE	H					
	CWO	CW90	CW135	CW180	CW225	CW270
	CW45					
	ACWO	ACW90	ACW180	ACW180	ACW225	ACW270
	ACW45					
36	1060	980	890	815	750	635
40	1160	1065	965	890	815	700
44	1275	1180	1065	990	900	775
49	1395	1295	1170	1090	990	935
54	1535	1420	1295	1195	1090	945
60	1700	1575	1420	1320	1195	1045
66	1865	1715	1550	1450	1295	1150
73	2050	1890	1715	1590	1435	1270
80	2285	2120	1905	1780	1625	1405
89	2495	2325	2095	1955	1755	1545



# SERIES 1000 DWDI FANS

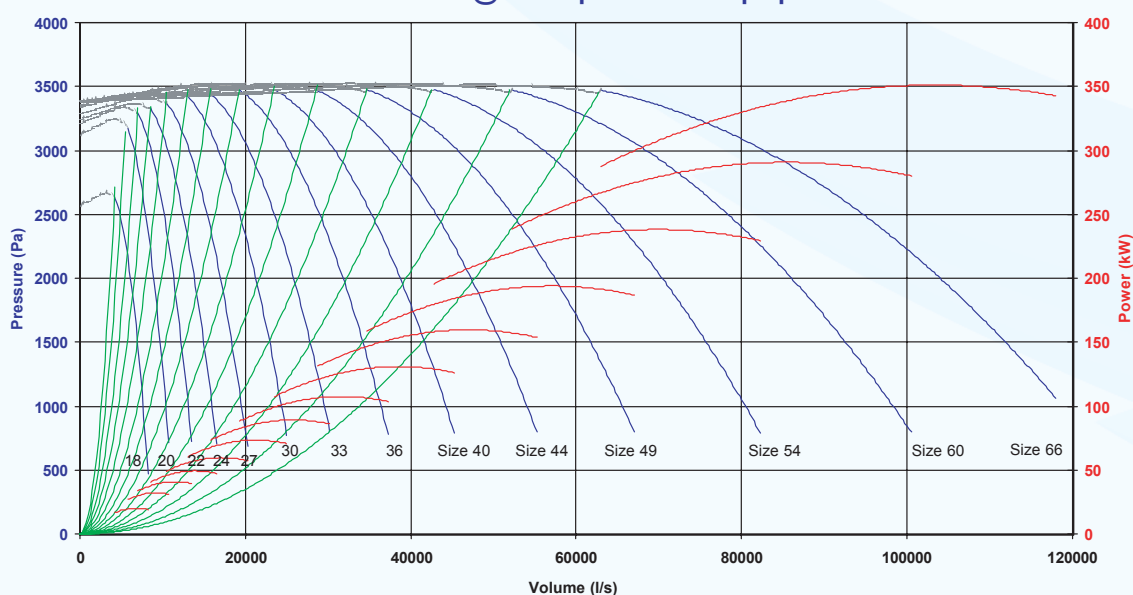
Series 1000 Double Width Double Inlet (DWDI) fans are used primarily in air handling units or in plenum chambers where the connection of the inlet duct directly to the fan is not a requirement. A similar size DWDI fan will produce approximately double the volume at the same static pressure as an SWSI fan. This is an important advantage when space considerations limit the available height but allow ample floor space.

These fans share the identical impeller and case profile with that of the SWSI fans. They therefore have the same **absorbed power, efficiency and non-overloading** characteristics.

A range of **optional extras**, including various types of metal, such as stainless steel, are available. These fans can be made suitable for smoke spill applications, subject to meeting appropriate standards.

DWDI fans can be supplied in **various arrangements**, as noted on our fan handing sheet, and can be constructed to operate at temperatures up to 400°C.

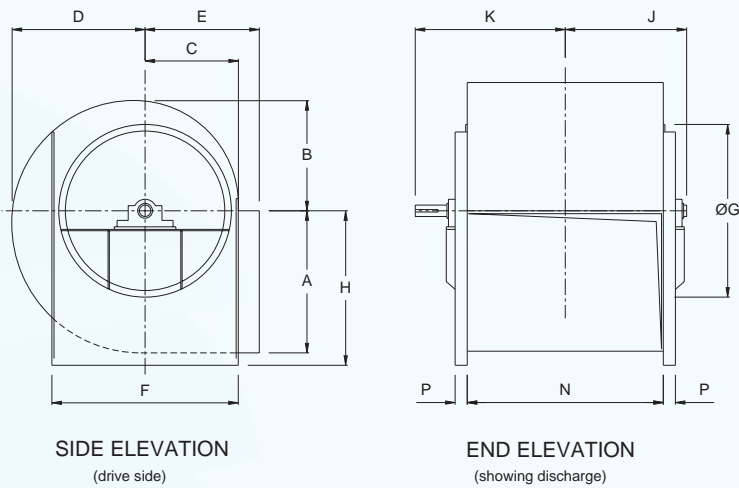
1000 DWDI LL @ 2900 rpm / 78 m/s tip speed





DIMENSIONS: SERIES 1000 DWDI FANS
ARRANGEMENT 3

This data refers to the dimensions of the Series 1000 DWD1 fans – Arrangement 3.
The handing illustrated is anti-clockwise, discharge angle 0°. Other positions shown on the fan handing page can be determined by rotating the case about the shaft centre.
Certified drawings and performance and dimensional data for larger sizes are available on request.



ARRANGEMENT No. 3

FAN SIZE	A	B	C	D	E	F	G	J	K	N	P	H
12	330	260	215	310	300	430	350	350	420	495	40	395
13	365	285	235	345	320	474	380	375	445	545	40	430
15	405	320	265	380	350	530	420	405	475	605	40	455
16	445	350	290	420	375	580	470	435	505	665	40	495
18	490	390	320	460	405	640	515	470	540	735	40	545
20	540	425	350	505	440	700	560	520	590	805	50	590
22	600	475	390	560	480	770	615	570	640	900	50	650
24	660	520	430	620	525	854	690	615	685	985	50	710
27	725	570	475	680	520	944	755	665	720	1090	65	780
30	805	630	525	755	620	1044	830	715	815	1200	65	860
33	885	695	580	830	675	1160	910	780	880	1330	65	940
36	980	760	640	920	735	1270	1000	850	950	1470	75	
40	1080	840	705	1015	780	1400	1205	910	1030	1590	75	
44	1190	930	780	1120	890	1520	1315	1000	1120	1795	75	
49	1315	1025	860	1230	970	1700	1435	1100	1220	1975	75	
54	1455	1135	950	1365	1065	1885	1580	1215	1340	2185	75	
60	1610	1250	1050	1510	1170	2085	1740	1330	1455	2415	75	
66	1775	1375	1155	1660	1275	2290	1890	1450	1575	2655	75	
73	1955	1520	1280	1825	1465	2540	2090	1620	1770	2940	75	
80	2160	1680	1415	2030	1600	2700	2290	1775	1925	3250	100	
89	2480	1850	1560	2235	1755	3060	2520	1945	2095	3585	100	
H												
	CWO	CW90	CW135	CW180	CW225	CW270						
	CW45											
	ACWO	ACW90	ACW180	ACW180	ACW225	ACW270						
	ACW45											
36	1060	980	890	815	750	635						
40	1160	1065	965	890	815	700						
44	1275	1180	1065	990	900	775						
49	1395	1295	1170	1090	990	935						
54	1535	1420	1295	1195	1090	945						
60	1700	1575	1420	1320	1195	1045						
66	1865	1715	1550	1450	1295	1150						
73	2050	1890	1715	1590	1435	1270						
80	2285	2120	1905	1780	1625	1405						
89	2495	2325	2095	1955	1755	1545						



# IN-LINE CENTRIFUGAL FANS

FBA In-line centrifugal fans combine the performance characteristics of the traditional scroll-type centrifugal fans with the space saving advantages of axial type fans. These fans are applicable for general building ventilation, commercial and industrial air conditioning. They are also suitable for industrial process supply and exhaust, drying and cooling and combustion air supply.

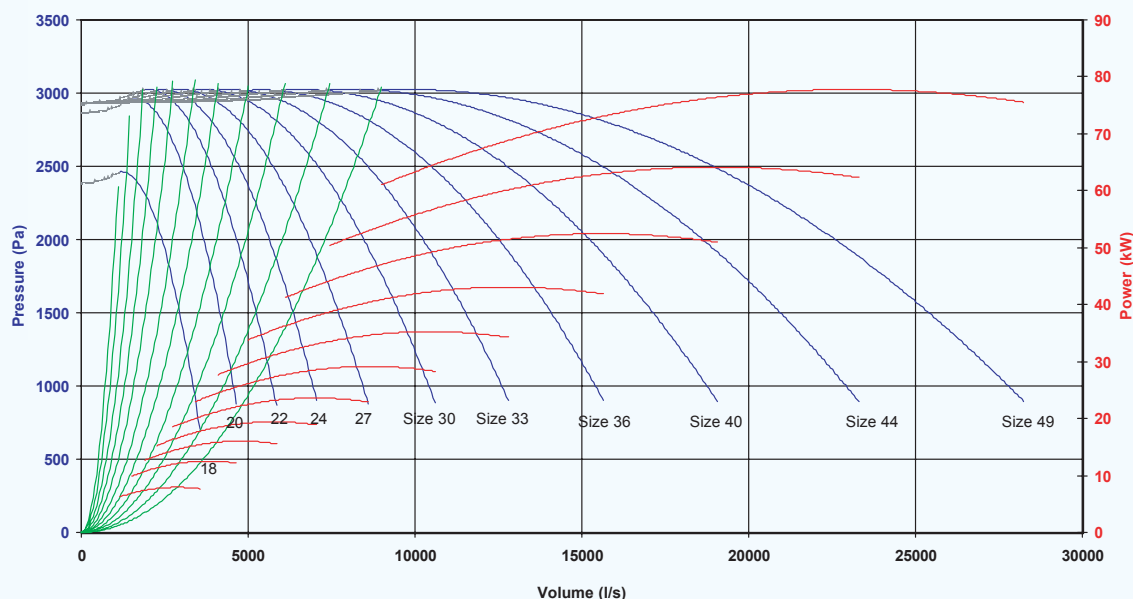
The key features of FBA In-line centrifugal fans are:

- **Backward inclined centrifugal impeller**  
for superior performance.
- **High efficiency / low operating cost**  
The design of the spun inlet and aerodynamic conversion vanes provides a smooth, turbulent – free airflow through the tubular housing, resulting in a high, broad efficiency curve. This delivers lower power consumption, resulting in reduced operating cost for the life of the installation.

- **Quietness of Operation**  
The impeller design allows for air expansion over the entire blade width, passing through the backward inclined blading with relatively low velocity and minimum turbulence.
- **True non-overloading absorbed power**  
The power curve peaks within the normal operating range and at maximum efficiency. This built in protection ensures that the motor selected will not be overloaded.
- **Stable pressure curve**  
The inherent design of the backward inclined impeller results in a steep-rising pressure characteristic over a wide range of capacities. This ensures minimum changes in volume with shifts in system pressure, providing extremely smooth operation.
- **Equal inlet and outlet diameter**  
This means that one size of duct may be used for both the inlet and outlet. No transformations are necessary, making installation simpler and less costly.

In-line centrifugal fans are available with impeller diameters ranging from 470mm to 1530mm.

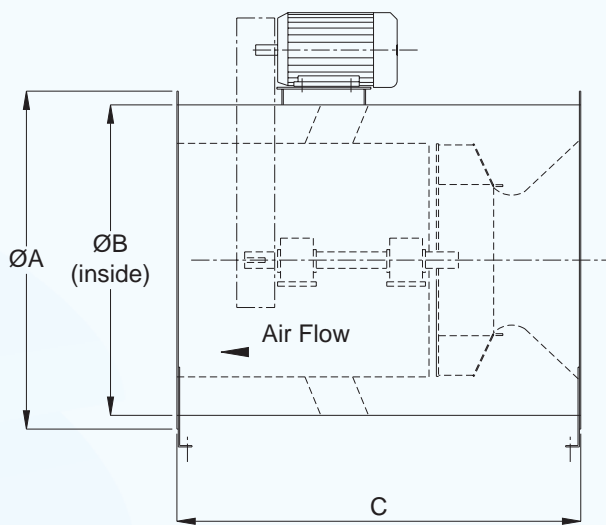
**In Line Centrifugal @ 2900 rpm / 78 m/s tip speed**



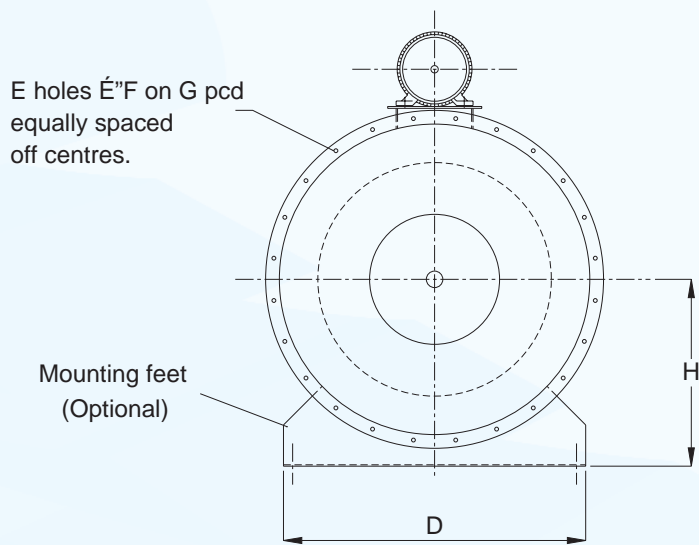


DIMENSIONS:

This data refers to the dimensions of the In-Line Centrifugal fans – Arrangement 1.  
Performance and dimensional data for larger sizes is available.

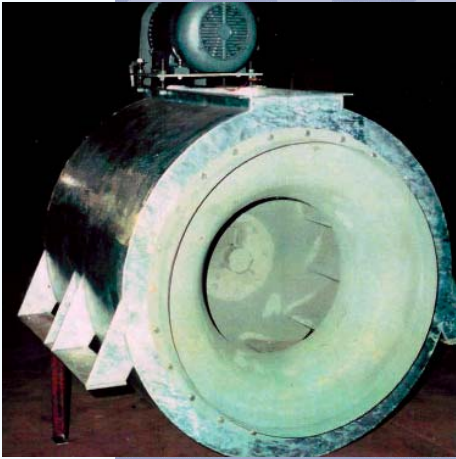


SIDE ELEVATION



FRONT ELEVATION  
(showing inlet)

FAN SIZE	A	B	C	D	E	F	G	H
18	710	624	900	620	12	12	670	405
20	778	692	975	690	12	12	738	440
22	851	765	1050	760	12	12	811	480
24	950	844	1150	840	16	12	900	525
27	1030	924	1250	920	16	12	980	565
30	1106	1000	1350	1000	16	14	1060	610
33	1266	1130	1500	1140	24	14	1200	680
36	1380	1244	1600	1240	24	14	1315	750
40	1520	1384	1750	1380	24	18	1455	810
44	1666	1530	1850	1530	24	18	1600	900
49	1816	1680	2000	1680	32	18	1750	1000
54	1984	1848	2100	1840	32	18	1919	1090
60	2136	2000	2300	2000	32	18	2071	1170





# MILL EXHAUST FANS MATERIAL HANDLING

**FBA Material Handling fans, commonly known as Mill Exhaust fans, are an ideal choice for exhaust systems conveying materials.**

The mill exhaust series has a choice of two impeller designs. The most commonly used impeller is an open “**paddle wheel**” type. This impeller has eight radial blades welded to a fabricated steel spider and is suitable for conveying wood chips, sawdust and all types of granular material, and for exhausting buffing wheel and abrasive dust.

The second choice of impeller, with similar characteristics as the open paddle but with the addition of a backplate, is known as a “**wool wheel**”. It is used for applications

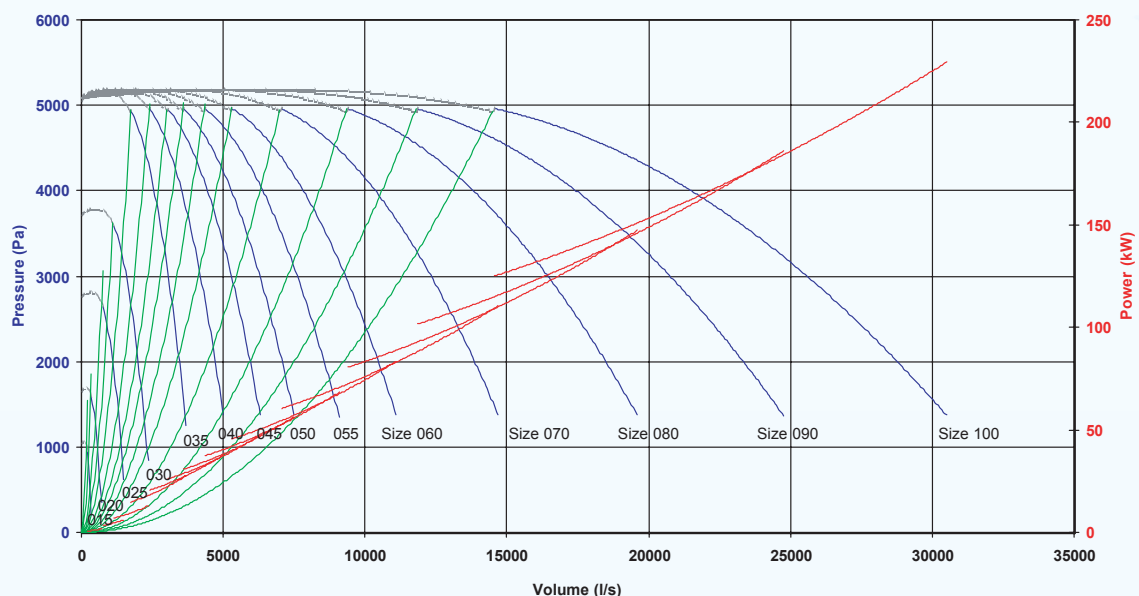
requiring the conveying of fibrous or stringy materials such as paper trim, rags, long wood shavings etc. These materials have a tendency to wrap round the shaft of the open paddle type and clog the unit. The inclusion of a backplate obviates this possibility.

Impellers have flat radial blade surfaces that, are **easy to clean** and reduce material deposit or build up. Wear plates can be fitted to the blades if required.

The rugged construction of the complete fan assembly provides a design for the **heaviest industrial uses**, with impeller diameters ranging from 310mm to 1680mm. A full range of standard accessories is available. Fans can be constructed to operate at temperatures up to 400°C.

The fan characteristic performance curve, shows a steeply rising power curve, necessitating care when selecting the motor.

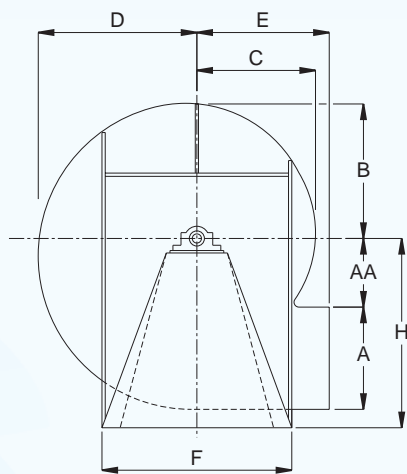
**Mill Exhaust @ 2900 rpm / 81 m/s tip speed**



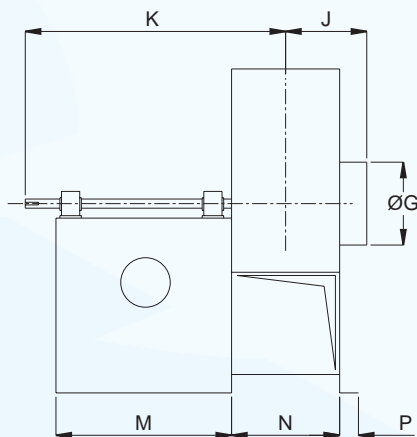


DIMENSIONS:

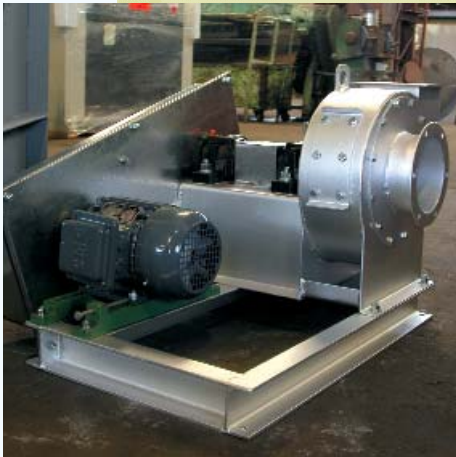
This data refers to the dimensions of the Mill Exhaust fans – Arrangement 1.  
Performance and dimensional data for larger sizes is available.



SIDE ELEVATION  
(drive side)



FRONT ELEVATION  
(showing discharge)



FAN SIZE	A	B	C	D	E	F	G	H	J	K	M	N	P	AA
015	125	175	150	185	160	240	145	240	115	310	190	125	32	68
020	170	220	190	240	215	270	190	305	150	360	215	170	40	92
025	210	275	245	305	270	360	240	360	170	425	240	210	40	116
030	250	330	295	360	315	415	285	445	200	470	265	250	40	143
035	290	395	345	420	370	490	330	540	220	540	315	290	50	162
040	330	440	390	480	415	580	375	590	265	650	370	330	50	189
045	375	490	440	535	475	640	425	655	290	715	420	375	65	208
050	415	550	485	595	525	690	470	705	310	800	480	415	65	235
055	455	605	525	650	575	755	515	780	355	870	530	455	65	260
060	495	660	585	710	625	855	560	810	375	965	575	495	65	286
070	580	770	690	835	760	970	655	950	420	1040	610	580	75	330
080	685	880	775	940	840	1120	750	1035	485	1145	660	685	75	378
090	735	985	875	1040	925	1220	820	1225	545	1220	715	735	75	432
100	820	1095	965	1145	1020	1360	925	1420	750	1315	765	820	75	486

# TURBOVANE RADIAL TIP FANS

**FBA Turbovane Fans are of a heavy duty, rugged design, suitable for handling dust-laden air from industrial processes at standard or elevated temperatures.**

These fans are typically used for induced draught on boilers, incinerators, wet scrubbers, kiln exhaust and various industrial applications requiring a rugged fan construction involving **large air volumes** at moderate to high pressures.

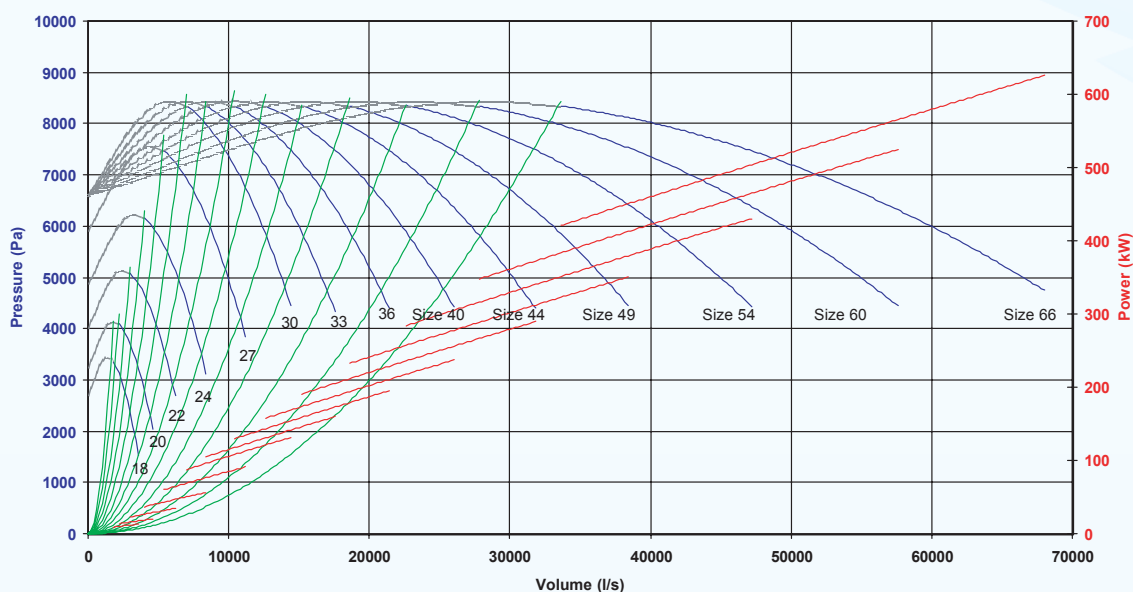
Impeller blades are single plate, forward curved at the entering edge for high efficiency, radial at the tip providing a **self-cleaning characteristic**. Wear plates can be fitted to the blades if required.

Note that the radial tip impeller is not “**non-overloading**” and the power curve rises continuously with increased airflow. If the system does not include a damper to balance the system, consideration should be given to selecting a motor with a higher margin over the estimated absorbed power than would normally be used for a “non-overloading” fan.

FBA can supply a **full range of sizes** for its turbovane radial tip fans, with impeller diameters ranging from 685mm through to 1855mm.

A full range of standard accessories is available including inlet boxes and discharge dampers. Fans can be constructed to operate at temperatures up to 400°C.

**Turbovane @ 2900 rpm / 110 m/s tip speed**

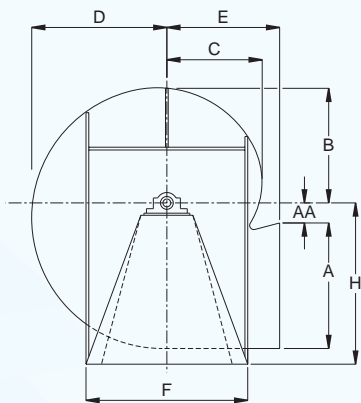




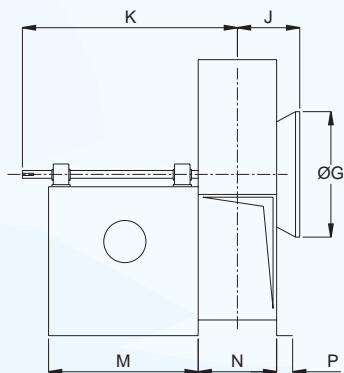
DIMENSIONS:

This data refers to the dimensions of the Turbovane Radial Tip fans Arrangement 1, manufactured by FBA.

Performance and dimensional data for larger sizes is available.



SIDE ELEVATION  
(drive side)



FRONT ELEVATION  
(showing discharge)



FAN SIZE	A	B	C	D	E	F	G	J	K	M	N	P	AA	H
24	605	555	460	650	540	820	470	260	740	465	315	50	93	755
27	665	610	510	715	600	900	512	270	795	505	340	65	103	830
30	745	675	565	795	700	1000	570	290	880	570	380	65	112	915
33	815	745	620	875	730	1100	626	320	965	635	420	65	126	1000
36	905	820	685	970	805	1220	695	340	970	620	460	75	137	
40	996	905	755	1065	885	1345	765	385	1080	705	510	75	153	
44	1100	1000	835	1180	980	1490	880	433	1150	745	565	75	170	
49	1210	1105	920	1300	1080	1640	930	455	1220	795	610	75	188	
54	1324	1215	1015	1435	1250	1815	1020	495	1290	835	670	75	211	
60	1483	1345	1120	1590	1380	2010	1128	538	1435	935	755	75	223	

FAN SIZE	H					
	0°,45°	90°	135°	180°	225°	270°
36	1115	1070	990	940	830	805
40	1215	1150	1070	1000	930	885
44	1350	1270	1160	1100	1020	980
49	1465	1380	1250	1200	1120	1080
54	1615	1530	1400	1330	1250	1250
60	1780	1680	1540	1450	1380	1380

# SERIES 101 PRESSURE BLOWERS

**FBA Series 101 Pressure Blowers are designed to move low volumes of clean or contaminated air at relatively high pressures.**

**Belt driven or direct-coupled models** are available in Single Stage, Multi-Stage or Cross-Over configurations. The blade design is radial tip with a curved inlet heel. Pressure is maintained over a wide range of capacity with the pressure curve stable from closed off to free flow.

Casings and impellers are extremely **robust** to meet the tough working conditions to which they are subjected. The most common arrangement is **No. 4 Direct Drive**,

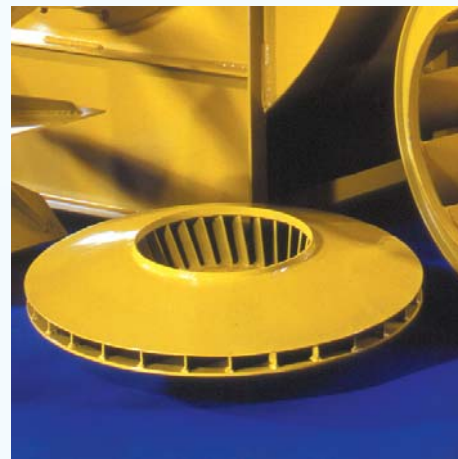
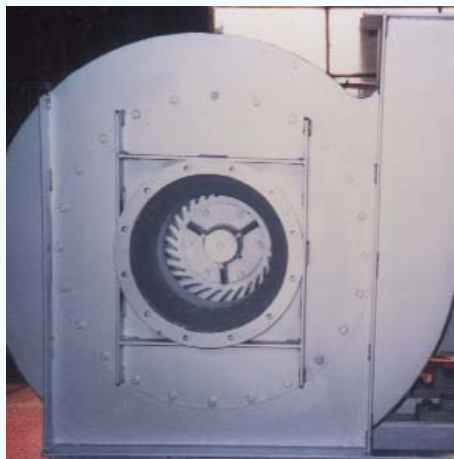
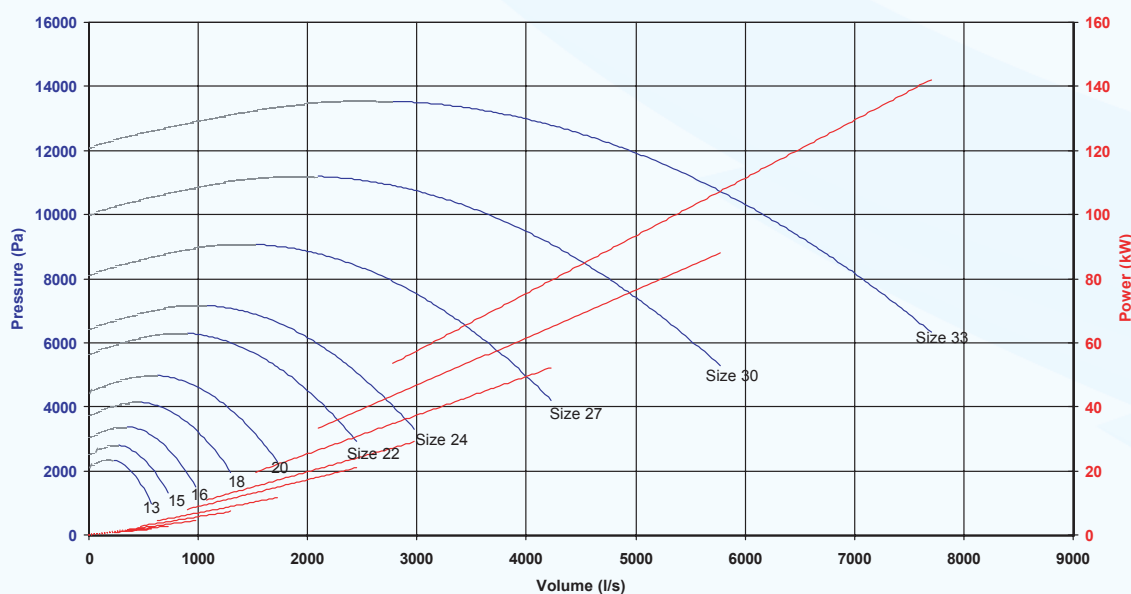
which has the impeller mounted directly onto the motor shaft. Belt drive and coupling driven arrangements are also available.

Blowers can be manufactured from **stainless steel** and can be constructed to operate at temperatures up to 400°C.

Typical use would be on air slides, flotation tables, furnaces, combustion air, vacuum producers and any industrial application requiring air at high pressures.

**Series 101 Pressure Blowers** are available with impeller diameters ranging from 420mm through to 1020mm. A full range of accessories is available including inlet and discharge silencers.

**101 BLOWER @ 2900 rpm**

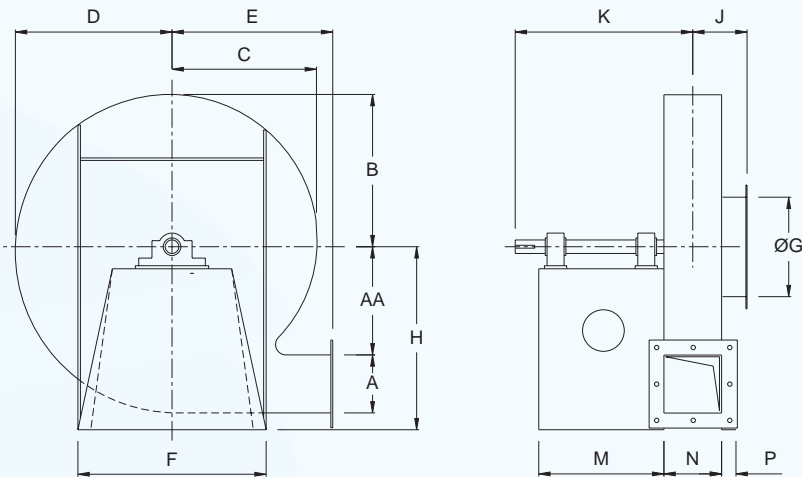




DIMENSIONS:

This data refers to the dimensions for FBA Pressure Blowers Series 101, Arrangements 1 and 4.

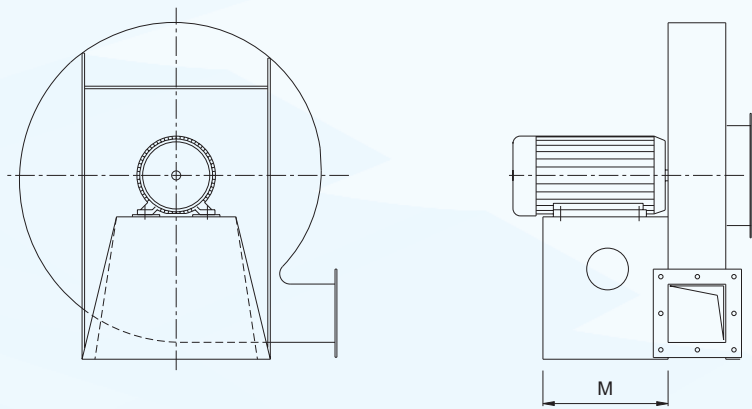
Performance and dimensional data for larger sizes is available.



SIDE ELEVATION  
(drive side)

END ELEVATION  
(showing discharge)

ARRANGEMENT No. 1



SIDE ELEVATION  
(drive side)

END ELEVATION  
(showing discharge)

ARRANGEMENT No. 4



FAN SIZE	A	B	C	D	E	F	G	H	J	K	M	M	N	P	AA
											Arrgt 1	Arrgt 4			
13B	115	285	285	300	305	485	152	355	130	400	270	220	115	40	200
15B	135	335	315	350	340	490	172	405	145	430	290	220	135	40	233
16B	140	350	345	370	360	520	184	430	150	460	310	250	140	40	249
18B	160	400	380	425	420	590	210	485	180	490	330	250	160	50	284
20B	175	440	420	470	460	650	228	540	180	545	365	280	175	50	314
22B	195	500	465	525	520	725	257	600	200	630	420	370	195	50	353
24B	210	530	510	560	550	765	273	640	205	690	465	370	210	50	373
27B	235	595	565	630	620	875	314	715	220	750	505	420	235	50	428
30B	265	660	625	695	690	950	340	780	230	840	570	500	265	50	465
33B	290	725	685	765	760	1050	377	870	275	920	635	500	290	65	516

# SERIES 2000 SERIES 3000 BLOWERS

Featured below are the curves of the largest impeller in each of the three casing profiles for the 2000 series.

Fan static efficiencies up to 80% peak can be achieved with the advantages of a **non-overloading** power characteristic.

The Series 2000 and Series 3000 is a range of backward inclined and radial blade high pressure blowers. Both series share eight case configurations, based from three profiles with up to ten impeller designs.

This ensures our customers can optimise their fan selection with the wide range of performance characteristics to provide the most efficient selection for the required duty.

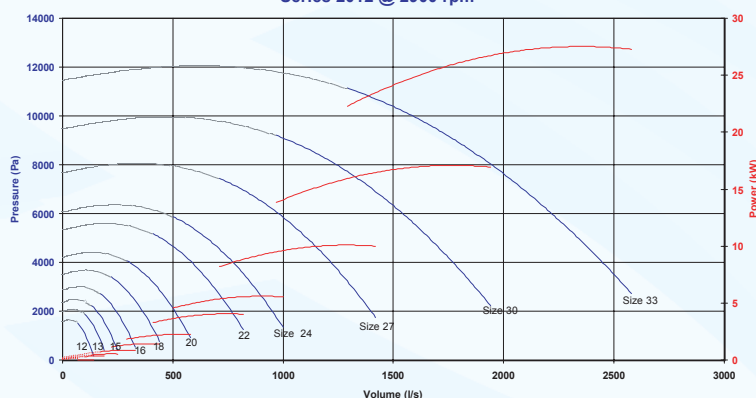
The Series 2000 range of fans has been developed to meet the requirements of low to medium volumes at high static pressures using a backward inclined impeller.

The blades are flat single plate backward inclined types, which are **self-cleaning** to a certain degree. These fans are suitable for operating in various industrial applications where a rugged construction, heavy-duty, high-speed fan, capable of operating over its complete pressure-volume curve is required.

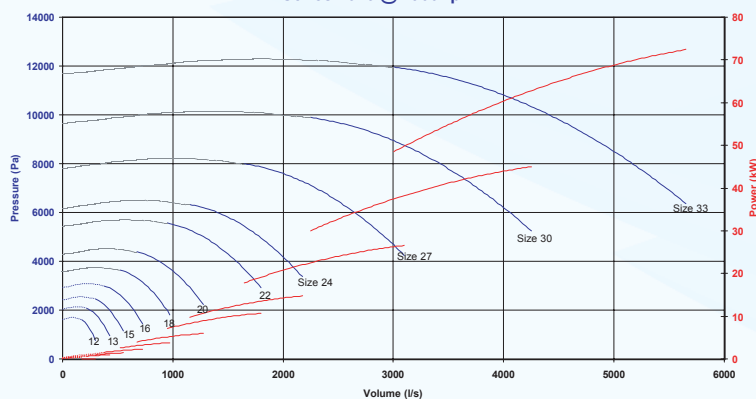
Both Series 2000 and Series 3000 fan ranges are available with impeller diameters ranging from 315mm through to 1520mm. The smaller sizes to 840mm diameter are generally direct drive, arrangement 4.

All sizes can be supplied as **belt driven** arrangement 1 and can also be constructed to operate at temperatures up to 400°C.

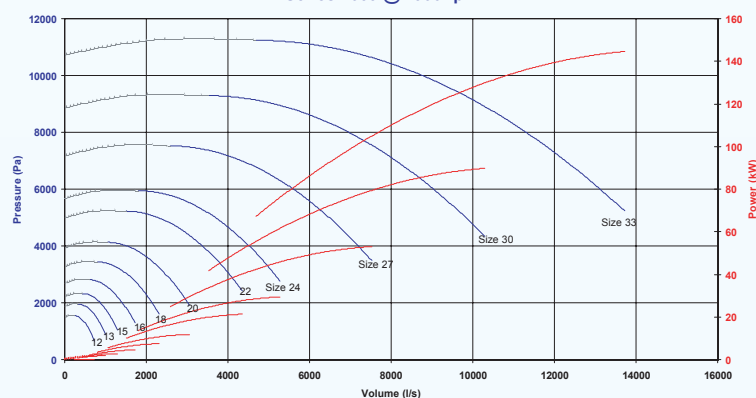
Series 1212 @ 2900 rpm



Series 2026 @ 2900 rpm



Series 2039 @ 2900 rpm

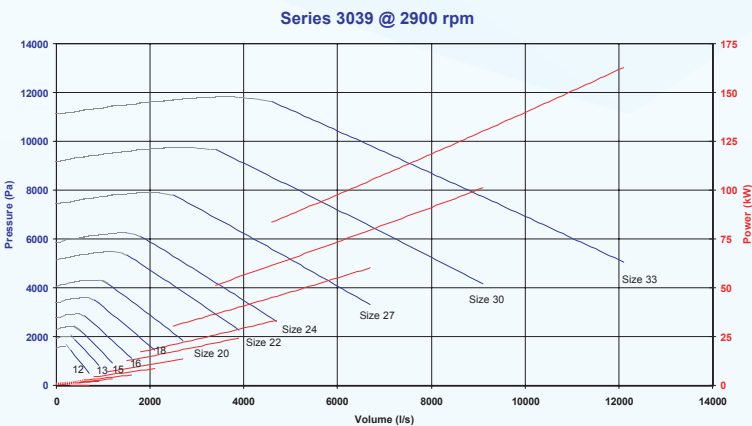
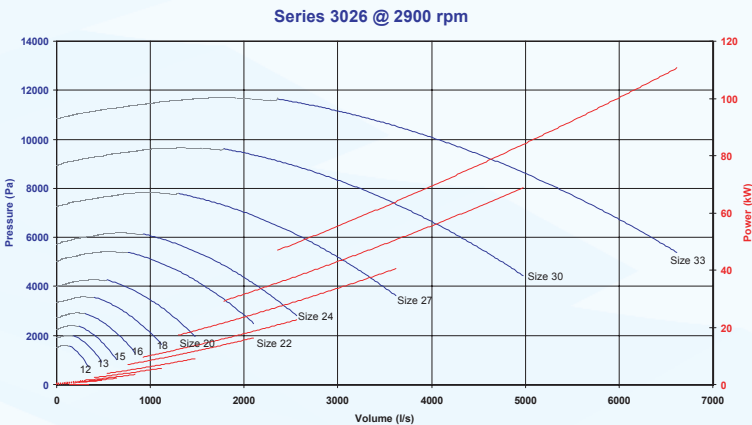
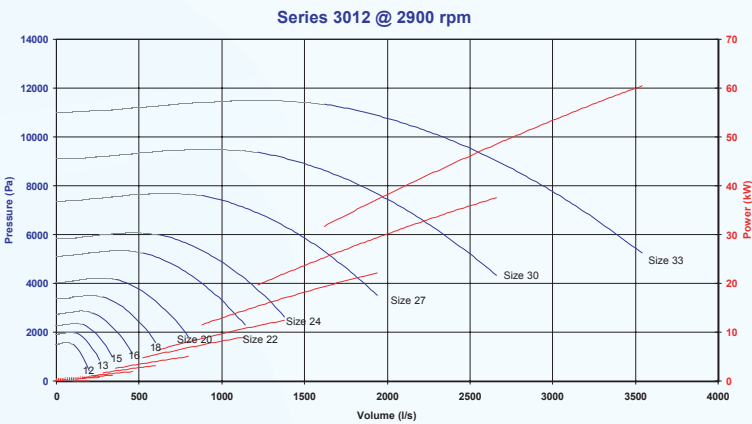
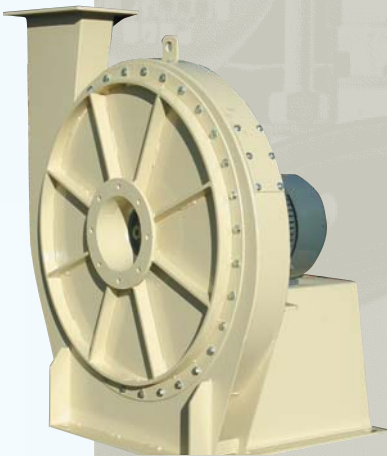




Featured below are the curves of the largest impeller in each of the three casing profiles for the 3000 series.

The **shrouded radial blade** impeller of the **Series 3000** range has the ability to handle greater dust loading than the backward inclined impeller. Blades are largely self-cleaning and if required are easily cleaned. Maximum **peak efficiency** is 65%. As for all radial blade type fans care should be taken when selecting the motor as the power rises continually towards free flow.

For both series, a full range of standard accessories is available and they can be manufactured from **stainless steel** if required.



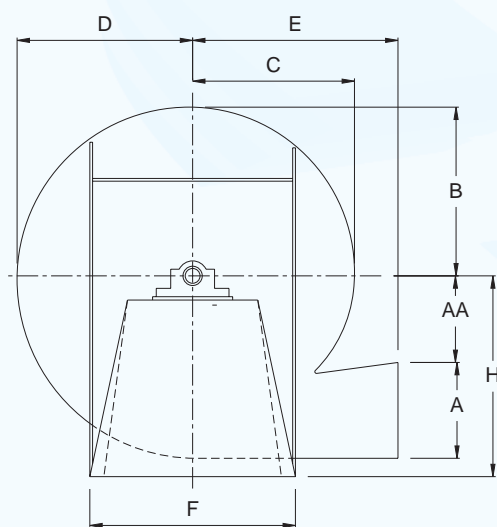
# SERIES 2000 SERIES 3000 BLOWERS



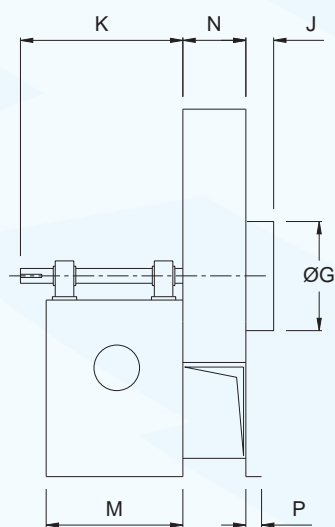
## DIMENSIONS:

This data refers to the dimensions of the Series 2000 and Series 3000 blowers.

Performance and dimensional data for larger sizes is available.

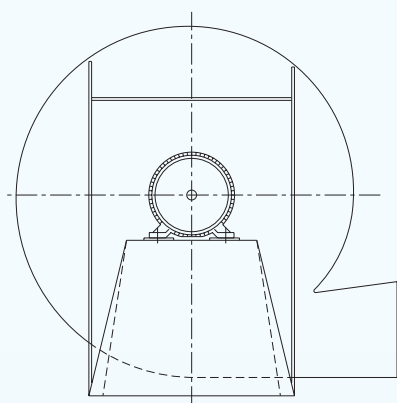


**SIDE ELEVATION**  
(drive side)

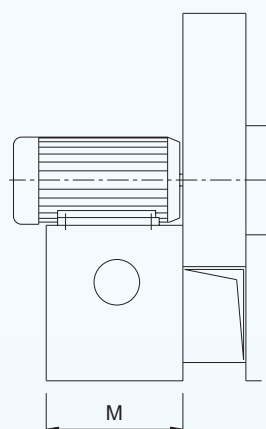


**END ELEVATION**  
(showing discharge)

**ARRANGEMENT No. 1**



**SIDE ELEVATION**  
(drive side)



**END ELEVATION**  
(showing discharge)

**ARRANGEMENT No. 4**



FBA SERIES 2000 & 3000 BLOWERS
DIMENSION SHEET

PROFILES 2010/2012, 3010/3012

FAN SIZE	A	B	C	D	E	F	G1	G2	H	J	K	M	M	N1	N2	P	AA
												Arrgt 1	Arrgt 4				
12	110	195	185	205	235	320	80	110	255	70	300	250	220	39	78	40	98
13	125	215	205	225	255	320	85	120	280	70	320	270	220	43	85	40	108
15	135	240	230	245	285	320	95	135	300	70	340	290	220	48	95	40	120
16	150	260	250	270	315	350	105	145	330	70	360	310	220	52	105	40	132
18	165	290	275	300	350	390	115	160	360	70	390	330	220	58	115	40	147
20	180	315	305	330	380	430	125	180	400	80	425	365	250	65	125	50	161
22	200	350	335	365	425	470	140	200	440	80	500	420	250	70	140	50	179
24	220	385	370	400	465	520	155	220	475	80	545	465	280	78	155	50	197
27	245	425	410	445	515	580	170	240	520	100	615	505	370	85	170	65	217
30	270	470	455	490	570	640	190	265	570	100	680	570	420	95	190	65	241
33	295	520	500	540	630	700	210	295	630	100	745	635	420	105	210	65	265

Note: G1 & N1 refer to models 2010, 2011 & 3010, G2 & N2 refer to models 2012 & 3012. Pedestal length could vary subject to motor size.

PROFILES 2023/2026, 3023/3026

FAN SIZE	A	B	C	D	E	F	G1	G2	G3	H	J	K	M	M	N1	N2	N3	P	AA
													Arrgt 1	Arrgt 4					
12	160	195	185	205	235	320	125	140	155	255	70	300	250	220	85	100	110	40	52
13	175	215	205	225	255	320	135	155	170	280	70	320	270	220	95	110	120	40	57
15	195	240	230	250	285	320	150	170	190	300	70	340	290	220	105	120	135	40	63
16	215	260	250	270	315	350	170	190	210	330	70	360	310	250	115	130	150	40	70
18	235	290	275	300	350	390	185	210	230	360	70	390	330	250	130	145	165	40	77
20	255	315	305	330	380	430	205	230	255	400	80	425	365	280	140	160	180	50	84
22	285	350	335	365	425	470	225	255	285	440	80	500	420	370	160	180	200	50	94
24	315	385	370	400	465	520	250	280	310	475	80	545	465	370	175	195	220	50	103
27	345	425	410	445	515	580	275	310	345	520	100	615	505	420	190	215	245	65	114
30	385	470	455	490	570	640	305	345	380	570	100	680	570	500	215	240	270	65	126
33	420	520	500	540	630	700	335	375	420	630	100	745	635	500	235	265	295	65	139

Note: G1 & N1 refer to models 2023 & 3023, G2 & N2 refer to models 2024, 2025 & 3024, G3 & N3 refer to models 2026 & 3026. Pedestal length could vary subject to motor size.

PROFILES 2037/2039, 3037/3039

FAN SIZE	A	B	C	D	E	F	G1	G2	G3	J	K	M	M	N1	N2	N3	P	AA
												Arrgt 1	Arrgt 4					
12	220	235	205	265	235	320	175	195	220	70	300	250	220	125	140	155	40	75
13	245	260	230	295	255	320	195	215	240	70	320	270	220	135	150	170	40	82
15	270	290	255	325	285	320	215	240	265	70	340	290	250	150	170	190	40	91
16	295	320	280	360	315	350	235	260	295	70	360	310	280	165	185	210	40	101
18	325	350	310	395	350	390	260	290	325	70	390	330	280	185	205	230	40	111
20	360	385	335	435	380	430	285	320	355	80	425	365	370	200	225	255	50	122
22	400	425	375	480	425	470	315	355	395	80	500	420	420	225	250	285	50	136
24	440	470	410	530	465	520	350	390	435	80	545	465	420	245	275	310	50	149
27	485	520	455	585	515	580	385	430	480	100	615	505	500	270	305	345	65	165
30	535	575	505	650	570	640	430	475	535	100	680	570	500	300	340	380	65	183
33	590	630	555	710	630	700	470	525	585	100	745	635	500	330	370	420	65	201

H

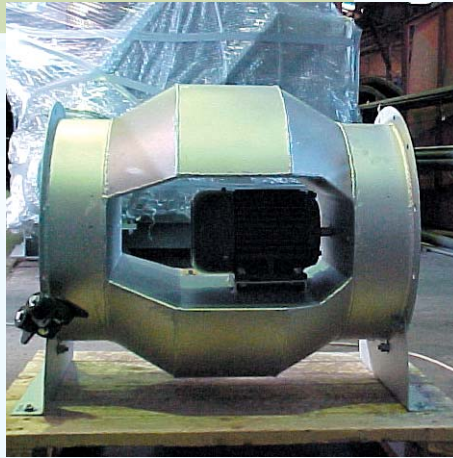
0',45'	90'	135'	180'	225'	270'
345	315	300	285	270	235
375	345	325	310	290	255
410	375	355	340	320	285
445	410	390	370	350	315
485	445	425	400	380	350
540	485	460	435	410	380
595	540	515	485	460	425
650	590	560	530	500	465
710	645	610	580	545	515
780	710	670	635	600	570
865	790	740	700	660	630

Note: G1 & N1 refer to models 2037 & 3037, G2 & N2 refer to models 2038 & 3038, G3 & N3 refer to models 2039 & 3039. Pedestal length could vary subject to motor size.

# AXIAL FANS

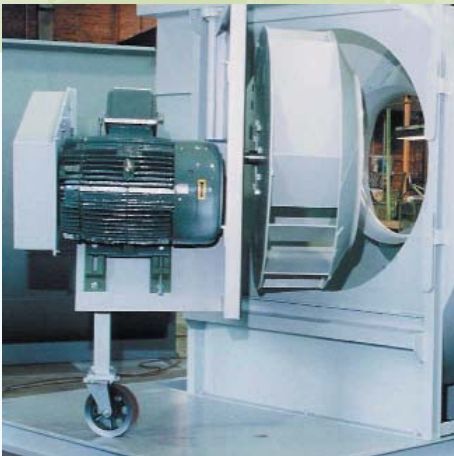
When the application requires clean air at low pressure, an axial fan can be the “first cost” effective choice of fan.

However for large fan duties requiring large motors, the higher efficiencies obtained with centrifugal fans considerably reduces the operating costs.



# PLUG FANS

FBA can supply a full range of centrifugal type fans suitable for mounting directly to the walls of ovens, kilns, dryers etc. and can be constructed to operate up to 450°C.



# PLENUM FANS

FBA Plenum fans are designed for economical, efficient and space saving operation without the typical centrifugal scroll housing.



The FBA range of axial fans includes basic **direct drive** through to **bifurcated** and **belt driven** types. The basic impellers are supplied in polypropylene, however for special applications impellers and casings can be manufactured from mild steel, aluminium, stainless steel etc. Mild steel casings can be hot-dip galvanised after fabrication.

For applications where the motor must be located outside the air stream, the belt driven type is the **ideal** choice. In addition, when the required duty can not be attained by the standard direct drive, the belt drive allows for a variety of duties to be achieved.

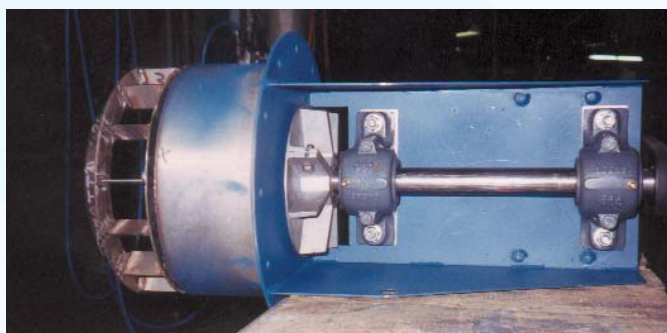
The bifurcated type, where the motor is enclosed in an **aerodynamically designed** tunnel inside the fan casing and with the protection afforded by this tunnel, can be used as an alternative to the belt driven type. Bifurcated fans are direct driven types, therefore selections are limited to the available motor speeds.



Various types of impellers can be supplied depending on the volume-pressure and temperature requirements. Plug fans can be supplied with or without **scroll housing**, depending on the application.

If required, the complete drive and impeller assembly including the drive motor can be fitted to a **swing out door assembly**. This unique design allows quick access to the impeller for cleaning etc. In addition, the shaft design permits 100mm insulation to be incorporated with the door or fixed panel.

This swing out door arrangement can also be used on **standard floor mounted** type fans where quick access to the fan impeller is required without disturbing the connecting inlet duct. A typical use for a swing out door fan would be in large **spray booth** installations.



They can be used in **field-fabricated** or **factory-built** air handling units to pressurise the entire surrounding air plenum.

**Discharge ductwork** can be connected to the air handler unit to allow the airflow to move in both radial and parallel directions. An open mesh screen completely encloses all sides and the back of the fan impeller.

The fan arrangements, sizes available and accessories for standard backward inclined centrifugal fans are also applicable to Plenum fans. Both **direct drive** and **belt driven** models are available.

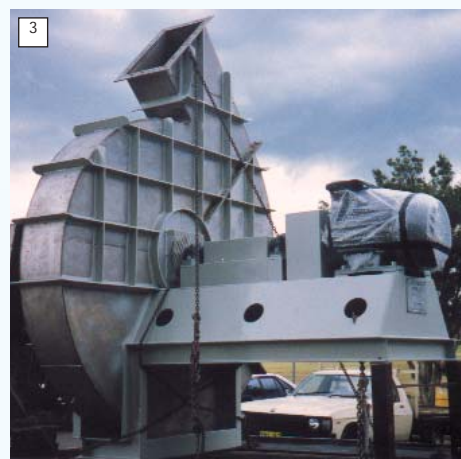
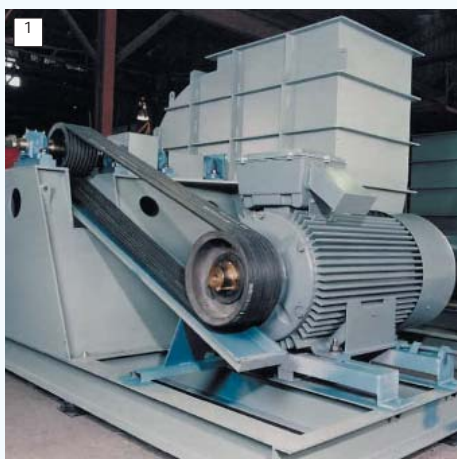
# PURPOSE BUILT FANS

FBA have the capacity to produce special purpose fans and blowers to meet individual requirements. Our engineers and specialised fan managers have the technology and design resources to supervise the construction of a range of heavy-duty industrial fans to meet the needs of specialised industry.

1. This large centrifugal fan was designed and constructed by FBA for use in a dust extraction system in a South Australian Foundry. Aerofoil type blades were adapted for maximum efficiency, with the fan producing air volume of 20,000 l/s and static pressure of 9 kPa. An auxiliary shaft was directly coupled to the main fan shaft, to enable the use of standard grease lubricated bearings, while transmitting the power of the 265 kW motor through a belt drive. This was typical of the ten fans supplied.

2. This two stage blower was designed and manufactured by FBA for an international ship builder in Freemantle, WA. The fan was used to bubble air along the catamaran hulls. The impellers were manufactured from 316 stainless steel, casings and the base from marine grade aluminium. The fan was selected to produce air volume of 4,000 l/s and static pressure of 20 kPa. The power available limited the maximum motor size to 75kW, which placed considerable importance on fan efficiency.

3. The high-pressure blower pictured, was designed and manufactured by FBA for the manganese industry. The client required a highly efficient, self-cleaning fan that could also operate within stringent power requirements. The FBA team designed, developed and supervised the entire process, which culminated in the production of an extremely large high-pressure blower, with an impeller that measured 1500mm in diameter. The fan was constructed of 2304 stainless steel.





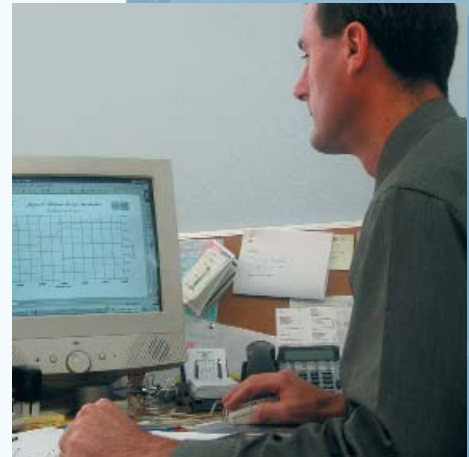
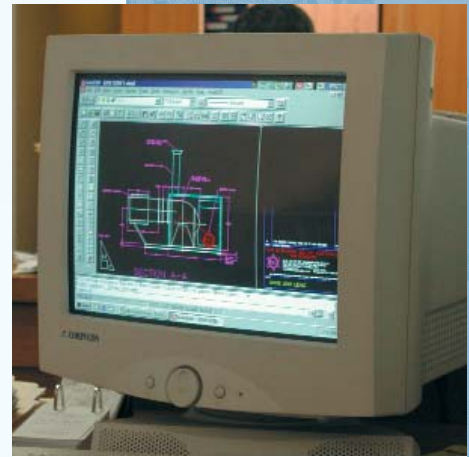
## FBA COMPUTER SELECTION PROGRAM

A comprehensive **computer selection program** has been developed by FBA to provide a complete reference guide for fan data. This program is Windows™ compatible.

This program enables our customers to view the operating parameters of **power, efficiency, velocity and sound power levels** for numerous series and fan sizes that meet the required fan duty.

Once the fan is selected the user can then view performance curves and dimensions of the selected fan in the required handing.

This program currently shows handings for ACW0, ACW90 and ACW180, but others can be provided. A copy of the computer program is available from FBA.



## FBA SERVICE

FBA can offer our customers a comprehensive range of technical services and equipment.

This includes consulting, system design and fabrication, site erection, testing, servicing and computerised fan selection.

A complete range of ancillary equipment and accessories is available.



# FBA ARRANGEMENTS

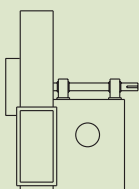
## DRIVE ARRANGEMENTS

**Single Width Single Inlet** fans are provided with duct connections on both inlet and discharge. They are used on both ducted supply and exhaust systems.

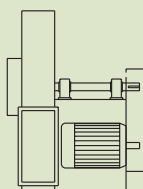
**Double Width Double Inlet** fans are provided with duct connection on discharge only. They are used on both supply and exhaust systems and are usually installed in a plenum chamber or apparatus housing (Air Handling Unit).

## DRIVE ARRANGEMENTS

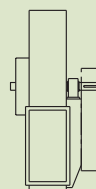
### SINGLE WIDTH SINGLE INLET (S.W.S.I.)



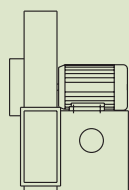
**ARRANGEMENT 1**  
Rotor overhangs bearing pedestal. Can be supplied with integral motor base.



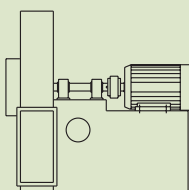
**ARRANGEMENT 9**  
Arrangement 1 fan with motor located on bearing pedestal.



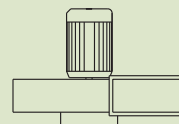
**ARRANGEMENT 3**  
Rotor supported between bearings. Not recommended below size 30. Can be supplied with integral motor base.



**ARRANGEMENT 4**  
Direct-drive, rotor located directly on motor shaft.

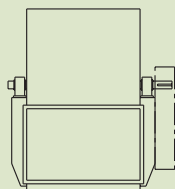


**ARRANGEMENT 8**  
Direct drive, Arrangement 1 with extended pedestal for motor and drive coupling.

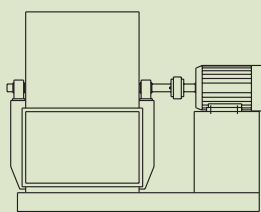


**ARRANGEMENT 4 - VERT**  
Direct-drive, rotor located directly on motor shaft.

### DOUBLE WIDTH DOUBLE INLET (D.W.D.I.)

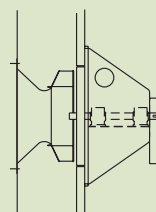


**ARRANGEMENT 3**  
Rotor supported between bearings in both inlets. Can be supplied with integral motor base.

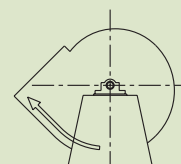


**ARRANGEMENT 7**  
Rotor supported between bearings in both inlets. Direct drive with pedestal for motor & drive coupling.

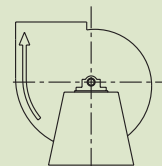
### PLUG FAN (S.W.S.I.)



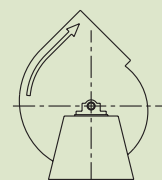
**PLUG ARRANGEMENT**  
Rotor overhangs bearing and motor mounting plate. Insulated for high temp applications. Available with or without inlet cone and fan casing (scroll).



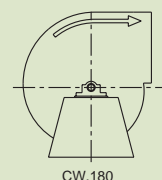
CW.45



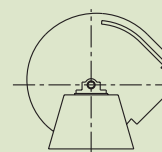
CW.90



CW.135



CW.180



CW.225

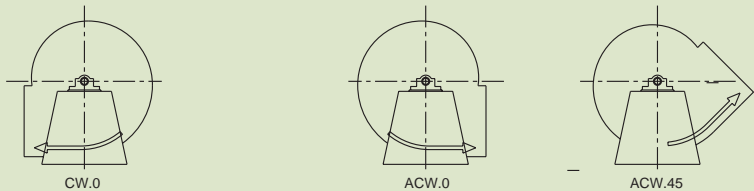


PICTURED HERE ARE SOME TYPICAL FAN ARRANGEMENTS.

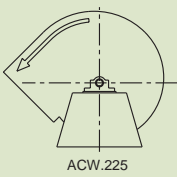
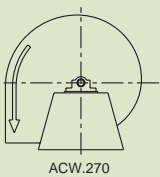
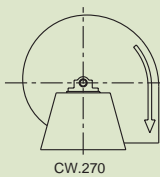
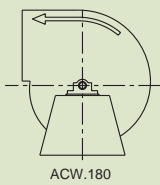
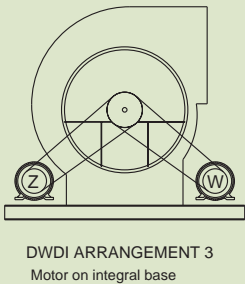
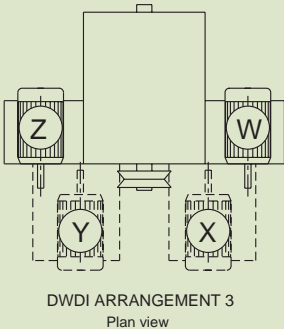
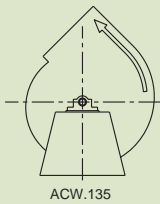
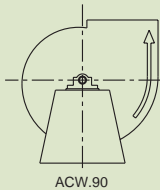
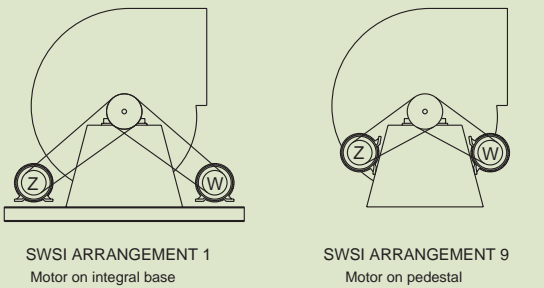
- 1. Arrangement 3, Double Width
- 2. Arrangement 7, Double Width
- 3. Arrangement 9, Single Width
- 4. Arrangement 4, Single Width

FAN HANDING SHEET

DIRECTION OF ROTATION  
&  
DISCHARGE ANGLE



OPTIONAL MOTOR POSITIONS  
(BELT DRIVEN FANS)



Direction of rotation is determined from drive side of fan.  
Motor positions Z & W are standard, X & Y are non-standard.





**FAN & BLOWER**  
COMPANY OF AUSTRALIA

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**FAN AND BLOWER COMPANY OF AUSTRALIA**  
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Telephone: (612) 9630 5100  
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For more information regarding the unparalleled range of technical services and equipment, please contact

Email: [sales@fanblower.com.au](mailto:sales@fanblower.com.au)

Website: [www.fanblower.com.au](http://www.fanblower.com.au)

#### FBA AGENTS

FBA has a comprehensive team of sales agents located around Australia and New Zealand.

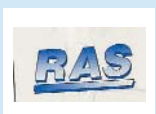
##### NEW SOUTH WALES



**Fantech Pty Ltd**  
Sydney  
Tel: (02) 8811 0400  
Fax: (02) 9831 3676



**UniAir Distributors Pty Ltd**  
Newcastle  
Tel: (02) 4961 6088  
Fax: (02) 4961 5066



**Refrigeration & Air Supplies**  
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Tel: (03) 8545 2345  
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Tel: (08) 8377 0502  
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**Air Design Pty Ltd**  
Brisbane  
Tel: (07) 3805 5944  
Fax: (07) 3805 2577



**Capricorn Air Conditioning**  
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Tel: (07) 4775 5222  
Fax: (07) 4775 5305



**Kirby Refrigeration (NT) Pty Ltd**  
Darwin  
Tel: (08) 8947 2010  
Fax: (08) 8947 2013

##### WESTERN AUSTRALIA



**Systemaire Pty Ltd**  
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Fax: (08) 9345 4212

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**Major Air**  
Tel: (03) 6344 6888  
Fax: (03) 6344 6555

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Tel: (09) 444 6266  
Fax: (09) 444 6200