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CENTRIFUGAL VENTILATORS

DWB SERIES



CATALOGUE ID:

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CENTRIFUGAL VENTILATORS

DWB Series

OVERVIEW

DWB Series of centrifugal fans with backward blade were developed with advanced technologies. They are licensed to bear the AMCA Seal for air performance, sound, and FEG. The DWB Series includes 15 models as described in this catalogue. The volume flow of the DWB Series ranges from 1,000 m³/h to 120,000 m³/h, the total pressure ranges from 200 Pa to 3,000 Pa. Some of the features and characteristics of these fans are: forward impeller blades, a wide range of applications, high efficiency, low noise, and low power consumption. These fans are ideal for use in central air-conditioning systems, in purifiers. They are also suitable for use in a variety of other ventilation applications.

CERTIFICATIONS

AMCA Sound & Air Performance,



Energy Industrial Company L.L.C. certifies that the DWB Series fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. All the Centrifugal Fans described herein are licensed to bear the AMCA Seal, and their certified ratings are shown on pages 09 through 23.

NOMENCLATURE

DWB	500	R	Construction type Type L, R (Basic Model) Type K (Heavy Duty Model) Type Z (Extra-heavy Duty Model)
			Nominal diameter of impeller (mm)
			Fan series with backward blades

➤ PRODUCT FEATURES

ROTATION

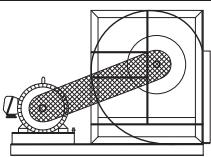
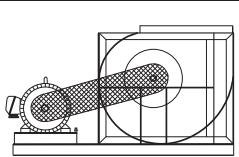
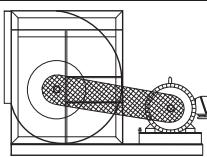
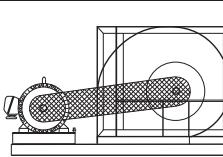
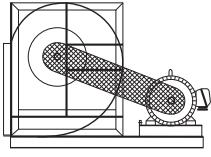
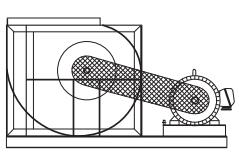
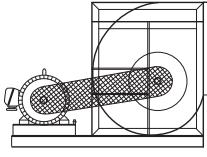
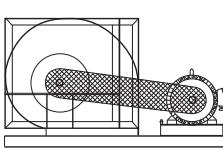
DWB series fans have two direction of rotations, left-hand rotation (LG) and right-hand rotation (RD); Viewing from drive side, if the impeller rotates clockwise, it is left hand (LG) rotation. If the impeller rotates counter clockwise, it is right-hand (RD).

DWB SERIES

DWB SERIES CENTRIFUGAL FAN

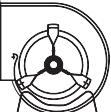
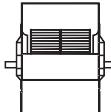
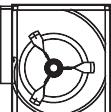
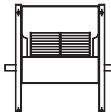
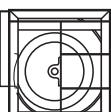
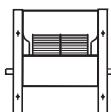
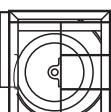
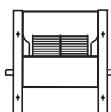
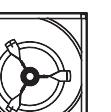
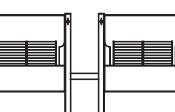
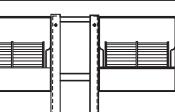
DISCHARGE DIRECTION

As shown in Fig1, DWB Series fans can be constructed in four discharge directions: 0°, 90°, 180°, and 270°.

	0°	90°	180°	270°
LG Left Hand				
RD Right Hand				

TYPE OF CONSTRUCTION

As shown in Fig 2, DWB series fans can be divided into category L, R, K, Z, category R2, K2.

Fan Type	Fan Size	Fan Diagram		Bearing Type
TYPE L	200-250			
TYPE R	200-250			
TYPE R	280-710			
TYPE K,Z	280-1000			
TYPE R2	200-500			
TYPE K2	200-560			

DWB series fans are mainly constructed of housing, impeller, frame, bearing and shaft. Outlet flange (is optional).

1. HOUSING

The housing is made of hot galvanized steel sheet. The side plates include inlets cones that are designed with the best aerodynamics for inlet condition. The scroll is fixed to the side plates by spot welding or "Pittsburg seam locking."

2. IMPELLER

Backwards curved airfoil impeller is constructed of high-grade cold-roll steel sheets, according to the three-dimensional flow theory, the impeller is fixed on the center plate and on the end ring with welding by high precision laser cutting machine. the unity of the impeller is spraying by plastic. All impellers are balanced to ANSI/AMCA Standard 204-05.

3. FRAME

The frames for type L and R construction are made of galvanized steel angle iron bars. The cutting and bending of the frame parts, as well as the TOX connections, are formed with the use of toolings to ensure the high accuracy and the rigidity of the frames; The frames for K constructions are welded by angle steel and flat steel, the frames for Z constructions are welded by thicker angle steel and flat steel, and finished with polyester coating in order to ensure sufficient rigidity and strength. The bearing supports are machined to ensure proper installation and alignments of the bearings.

4. BEARINGS

Ball bearings are used in all of the DWB Series fans. These are high-quality bearings and selected to minimize the fan noise levels. The bearings are pre-lubricated, sealed, and self-centering. For type R and L constructions, the bearings are supplied with lubrication fittings. For type K constructions, the bearings are supplied with radial bearing. For type Z, the bearings are supplied with heavy lift double-row ball bearing.

100,000 hours ($L10 \geq 100000$ hours).

5. SHAFT

The shafts are made of 40 Cr carbon steel bars. The shafts are rough machined and then stress relieved with heat treatment before final machining. The shaft diameters are machined to very accurate tolerance levels, and they are fully checked to ensure precision fit. Each shaft is made turned, ground and polished. They are coated after assembly to provide corrosion resistance. Shaft size should be designed to meet the first critical speed of at least fan maximum running speed 1.4 times.

6. OUTLET FLANGE

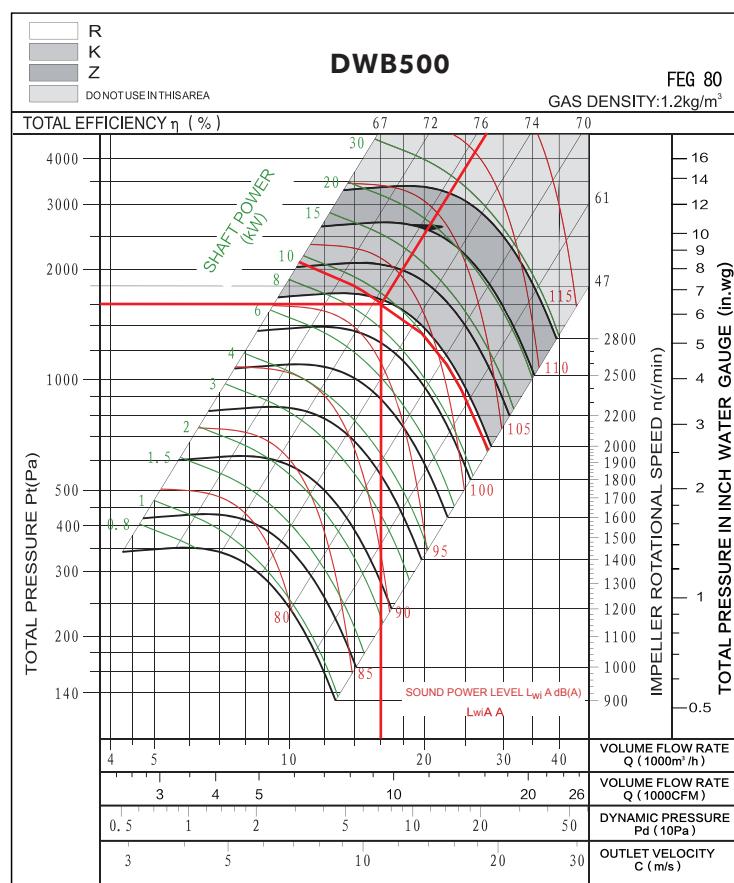
The outlet flange is made of galvanized steel. The connections of the flange components to the scroll are made using a TOX non-welding process. This maintains a good flange appearance while also providing sufficient strength and rigidity.

PERFORMANCE CHART

DWB SERIES CENTRIFUGAL FAN

FAN PERFORMANCE CURVE

Type	DWB500K
Volume	$q_v = 16000 \text{ m}^3/\text{h}$
Total Pressure	$P_{tf} = 1600 \text{ Pa}$
Dynamic Pressure	$P_{df} = 71 \text{ Pa}$
Outlet Velocity	$C = 10.92 \text{ m/s}$
Fan Speed	$n = 1977 \text{ r/min}$
Shaft Power	$P_{sh} = 9.43 \text{ KW}$
A Sound Power Level	$L_{wiA} = 97 \text{ dB(A)}$
Total Efficiency	$\eta_{tf} = 75.4 \%$



MOTOR SELECTION

The power (P_{sh}) on the performance chart refers to the shaft power of the fan.

The rated power of the drive motor equals the total required shaft input multiplied by the safety factor : $P_{sh,p} = P_{sh} \times K \div \eta_{me}$

The value of mechanical drive efficiency can be obtained from Table 1.

The required safety factors is provided in Table 2.

Drive type	η_{me}
Motor Direct Driven	1
Coupling Direct Driven	0.98
V-Belt Driven	0.95

Table 1

Power of electric motor (Kw)	Value k
$\leq 2.2 \text{ Kw}$	1.2
$\leq 7.5 \text{ Kw}$	1.15
$\geq 11 \text{ Kw}$	1.1

Table 2

THE TWIN FAN PERFORMANCE CALCULATION

Comparing the performance of the twin fan of Category L2 Category R2 and Category K2 with the performance of Category L Category R and K in the chart in the same condition of pressure, the twin fans' performance is as the following.

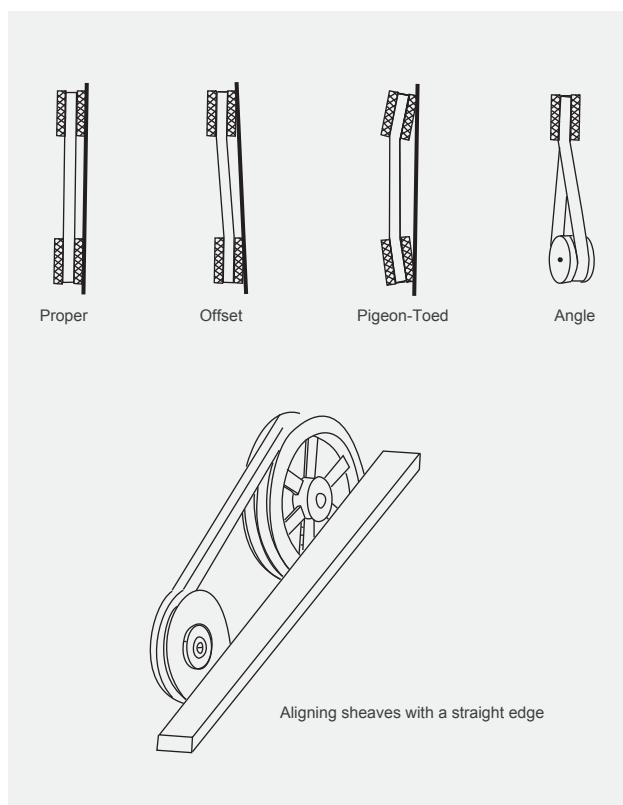
Volume x 2 Speed x 1.05

Shaft Power x 2.15 Noise + 3 dB

Performance of twin fans are not licensed by AMCA International.

V-BELT DRIVE INSTALLATION

- Remove the protective coating from the ends of the fan shaft and ensure that the shaft ends are free of nick and burrs.
- Check fan and motor shafts for alignment.
- The center distance must be controlled as $0.7(d_1+d_2) < a < 2(d_1+d_2)$. The belt speed of forward curve fan should be more than 10m/s, but less than 15m/s, ($10 < v < 15$ m/s). The belt speed of backward curve fan should be more 25m/s, but less than 35m/s ($25 < v < 35$ m/s).
- Slide sheaves on to the shafts, Do not hammer the sheaves on to the shafts with force as this may result in bearing damage.
- Align fan and motor sheaves with a straight-edge, and tighten the sheaves.
- Place belts over the sheaves with care. Do not bend or squeeze the belts, or it might get damaged.
- Adjust the belt tension until the belts appear snug. Run the unit for a few minutes and allow the belts to set properly.
- Switch off the fan, adjust the belt tension by moving the motor base. When in operation, the tight side of the belts should be in a straight line from sheave to sheave and there should be a slight bow on the slack side.



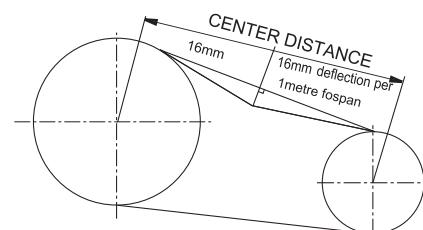
BELT TENSION

A proper level of belt tension is required in order to obtain a satisfactory belt life. If the belt tension level is too high, excessive loads will be imposed on the belts and the bearing, and this will reduce the lives of both of these components. If the belt tension level is too low, the belt will slip. Belt slippage generates a large amount of heat, and this heat will drastically reduce the life of a belt.

Belt-tensioning gauges can be used to determine whether the belts are tensioned properly. A chart is normally supplied with the gauge which indicates the ranges of forces required to deflect the belts by a given amount to obtain the proper belt tension level. The required forces are based upon the center distance of the sheaves and the belt cross-section. The belts are properly tensioned when the forces required to deflect the belt are within the specified range, see Fig 4 and Table 3.

If a belt-tensioning gauge is not available, then the belt should be tightened just enough so that the belt does not squeal when the fan is started. A very short period of noise during the starting of a fans is allowable, but a squeal lasting several seconds or longer is not acceptable. After tensioning the belts and before starting the fan, check to make sure that the sheaves are properly aligned.

Realign the sheaves if necessary. Note that new belts may stretch a little during initial use, so the belt tension level should be checked after a few days of operation.



Belt tension indicator applied to mid centre distance.

Belt Section	Force required to deflect belt 16mm per metre of span		
	Small Pulle/Diameter (mm)	Newtonian (N)	Kilogram force (Kgf)
SPZ	56-95	13-20	1.3-2.0
	100-140	20-25	2.0-2.5
SPA	80-132	25-35	2.5-3.6
	140-200	35-45	3.6-4.6
SPB	112-224	45-65	4.6-6.6
	236-315	65-85	6.6-8.7
SPC	224-335	85-115	8.7-11.7
	375-560	115-150	11.7-15.3
A	80-140	10-15	1.1-1.5
B	125-200	20-30	2.0-3.1

BEARING LUBRICATION

The fan bearings are filled with lubricant when they ship from the factory, so the bearings do not require any additional grease to be supplied before starting the fan. The fans that are equipped with pillow block bearing are provided with lubrication fittings, and these fittings allow for additional lubrication to be supplied to the bearings at regular intervals. The allowable period of time between lubrication of these bearings depends upon the operating speeds and temperatures of the bearing as

well as on the type of lubrication. It is recommended to inspect the condition of the grease that is discharged from the bearings when new grease is added. If the discharged grease looks similar to the new grease, then a longer period of time between lubrications is possible. If the discharged grease is much darker than the new grease, this indicates that the grease is being oxidized and more frequent lubrications of the bearings are required.

INSTRUCTIONS

- When placing the order, it is necessary to state the type of fan, speed, air volume, air pressure, discharge direction, rotation direction, type of electric motor and its specifications.
- Prior to installation, the fan should be carefully inspected. Special care should be taken in checking the shaft, impeller and bearings. If there is an indication of any damage, the damaged parts should be repaired or replaced before the fan is installed or commissioned.
- The inside of the scroll and casing need to be checked to make sure that there are no foreign objects inside the housing, such as tools or loose parts.
- The rotational directions of the motor and impeller should be checked to ensure that they are in compliance with the specification and purchase orders.
- A flexible connector should be used between the fan outlet flange and its mating ductwork. The flex connector should not be over-stretched.
- Following the installation, the impeller should be turned by hand or with the use of a wrench to make sure that it turns freely without colliding with other parts of the fan. Once this is done, the fan can be commissioned normally.
- The rated motor power as calculated herein might not be sufficient to drive the fan with an unrestricted discharge flow. Operating the fan with an unrestricted discharge outlet will result in flow rate that exceeds the specified fan capabilities. Such operation will quickly burn the motor and damage the fan. Great care must be taken in operating the fan to make sure that the maximum rated flows, as provided on the performance charts in this catalog, are not exceeded.
- The fan is limited for use in areas where air substances are non-corrosive, non-toxic and non-erosive and where dust particles are less than 150mg/m³ with a temperature between -20°C and 85°C. Special care should be taken during transportation, load and unload.

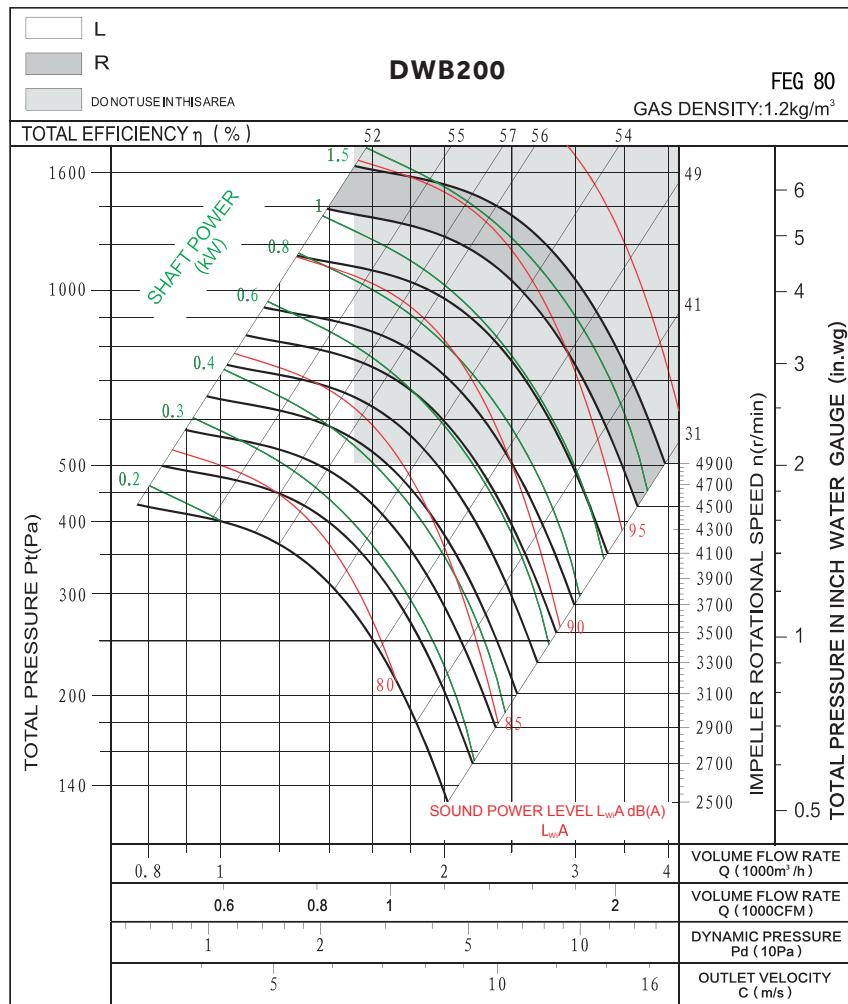
➤ DWB200 FEG80

TECHNICAL DATA

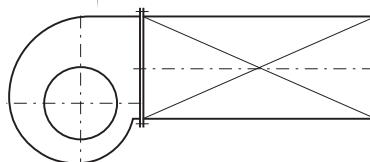
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 200 mm	J = 0.006 kg.m ²	m = 10 kg	n _{max} = 4900 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



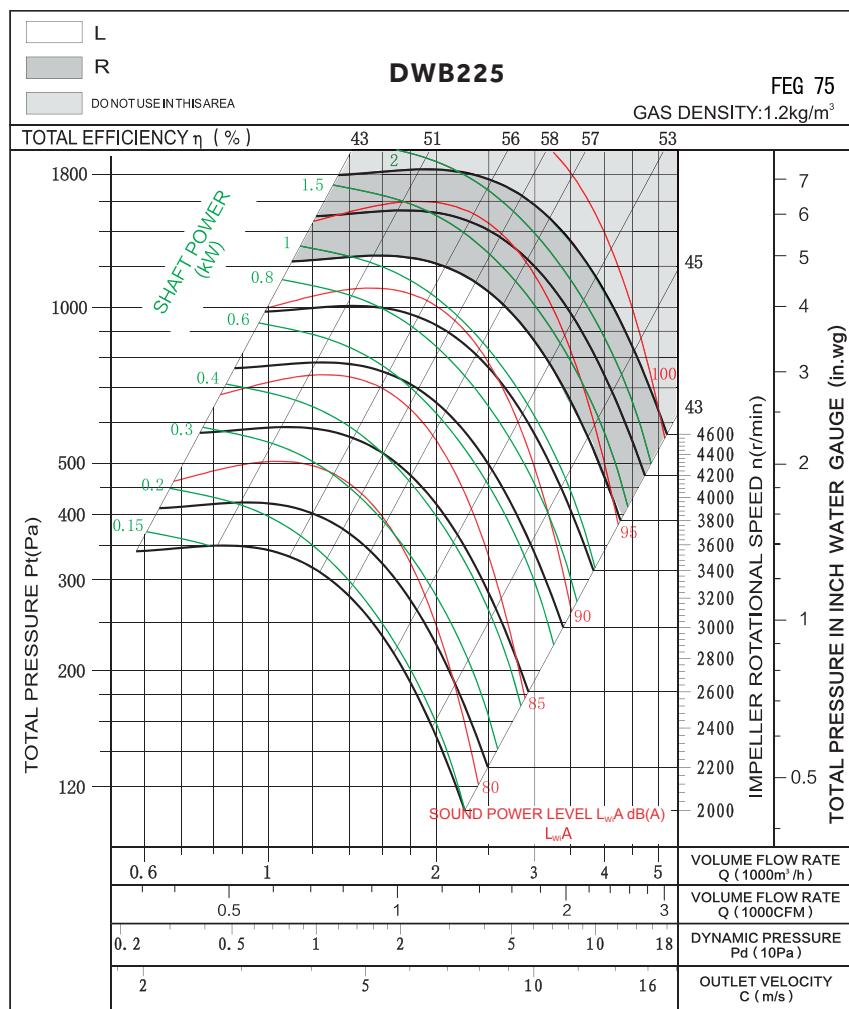
► DWB225 FEG75

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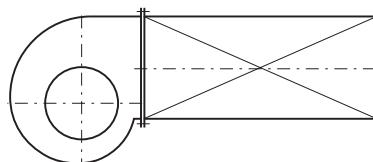
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 225 mm	J = 0.012kg.m ²	m = 12 kg	n _{max} = 4600r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



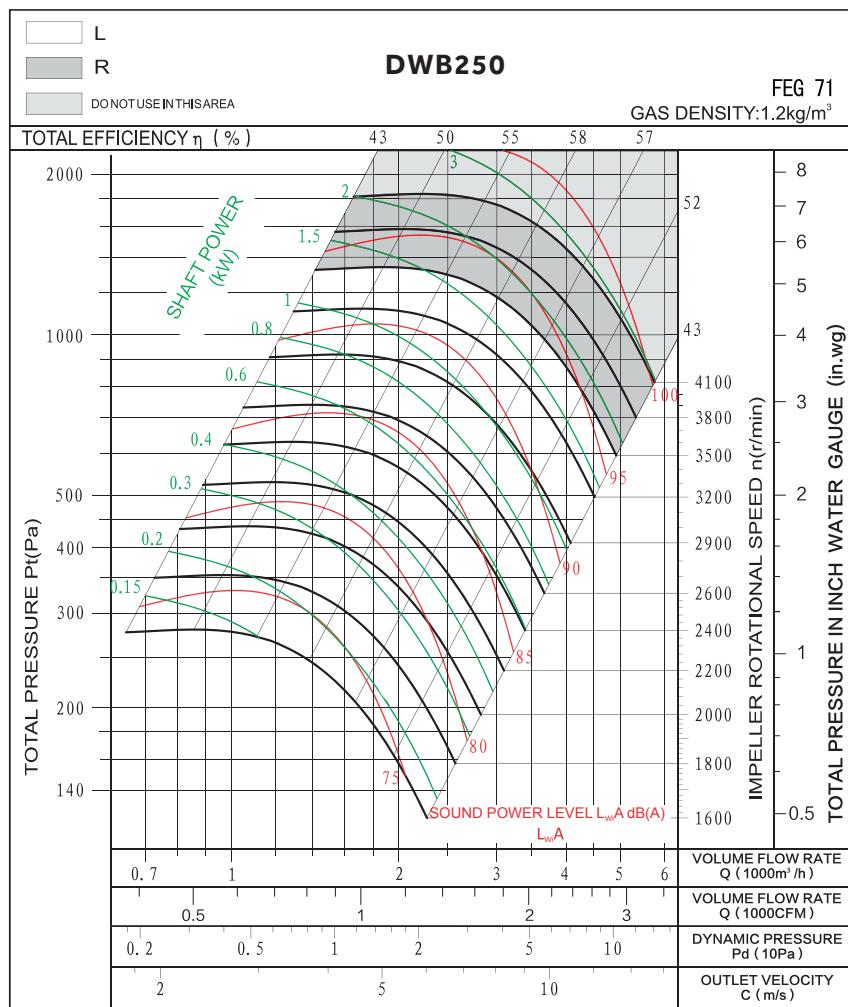
➤ DWB250 FEG71

TECHNICAL DATA

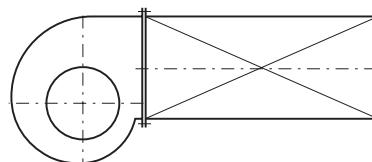
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 250 mm	J = 0.044kg .m ²	m = 18 kg	n _{max} = 4100 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



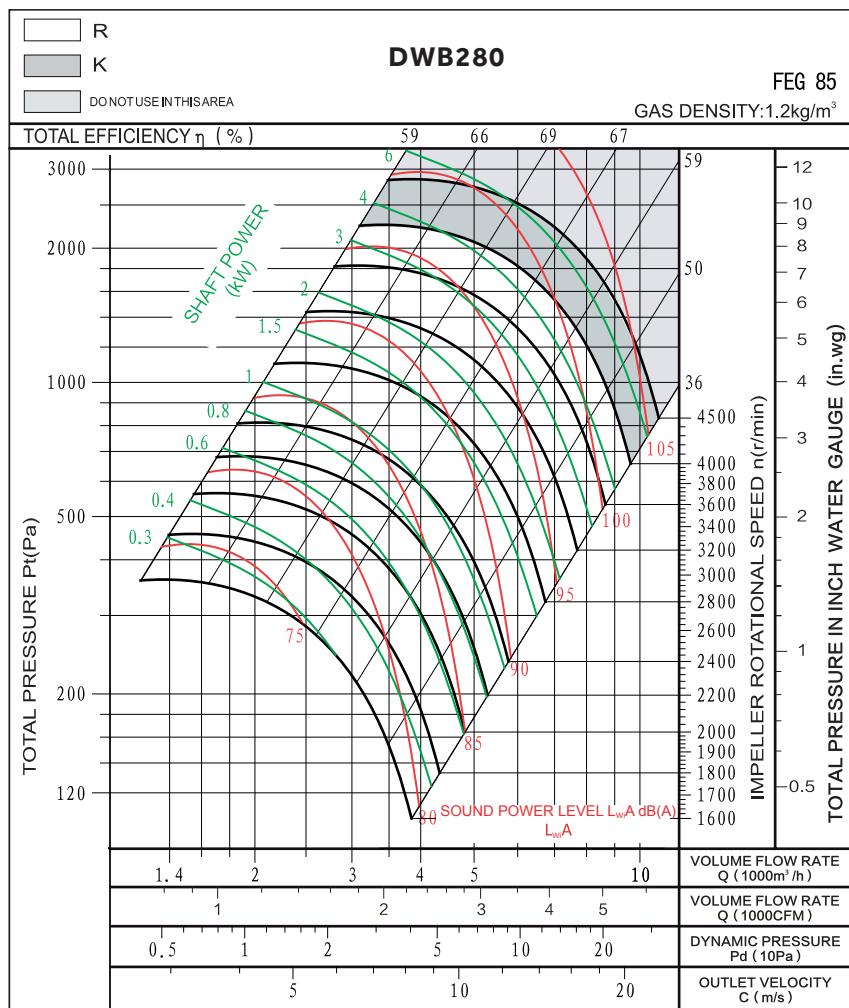
➤ DWB280 FEG85

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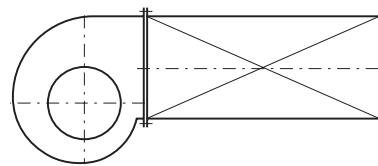
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 280 mm	J = 0.069 kg.m ²	m = 32 kg	n _{max} = 4500 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



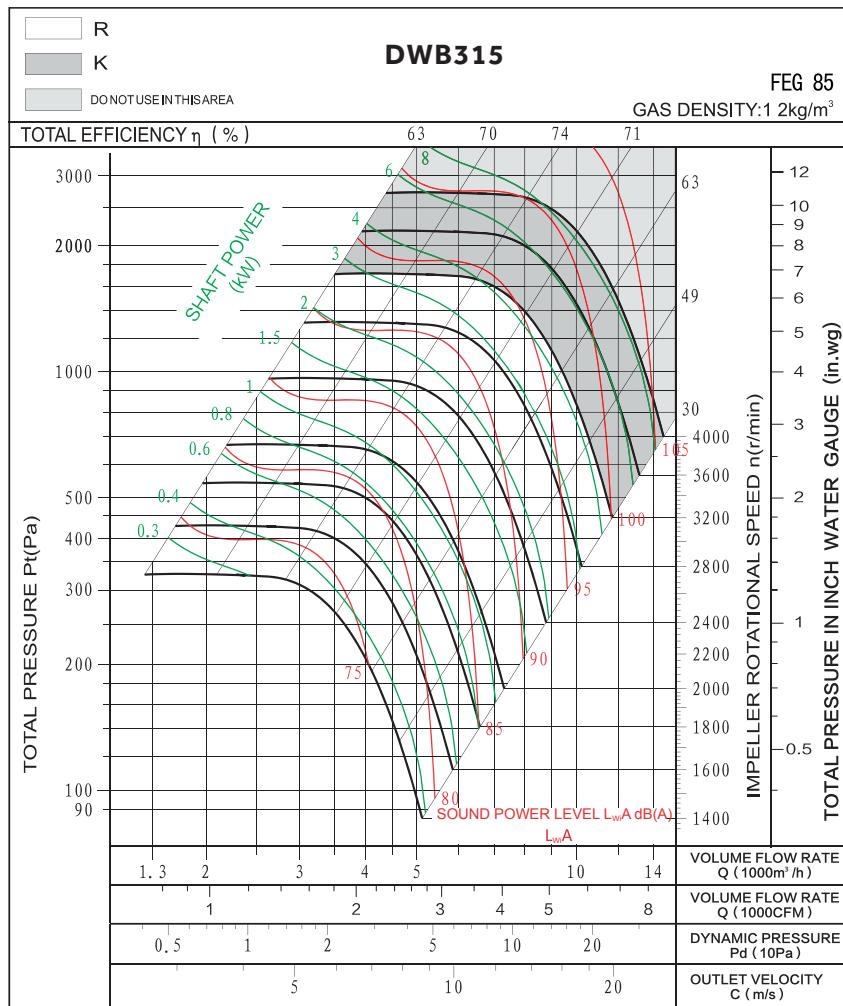
► DWB315 FEG85

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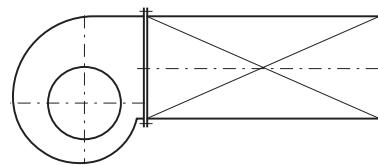
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 315mm	J = 0.11kg.m ²	m = 42.6 kg	n _{max} = 4000 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



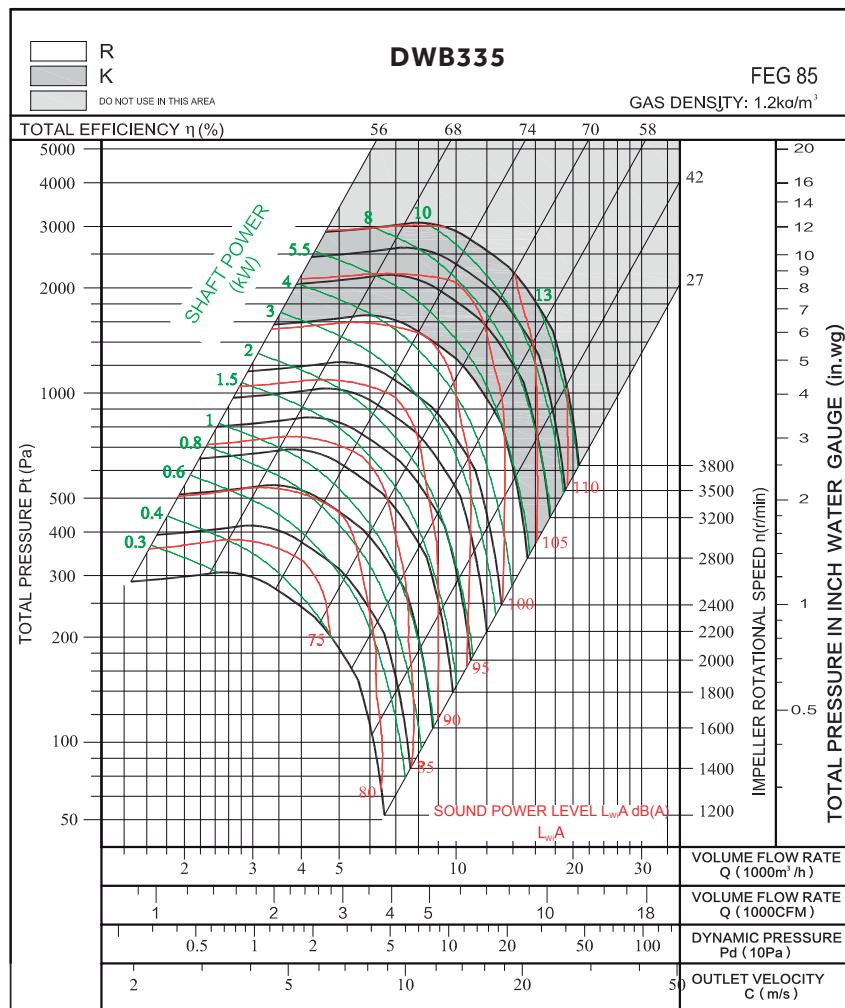
➤ DWB355 FEG85

TECHNICAL DATA

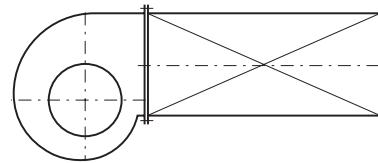
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 355 mm	J = 0.2kg.m ²	m = 54.7kg	n _{max} = 3800r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



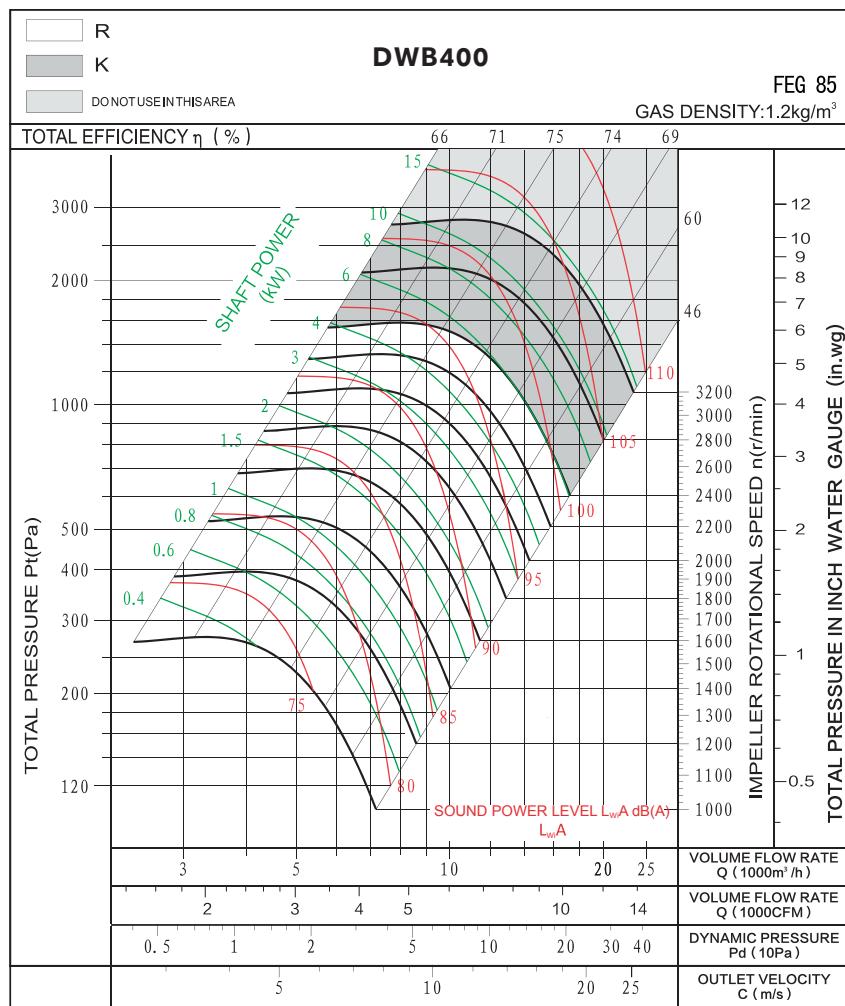
► DWB400 FEG85

TECHNICAL DATA

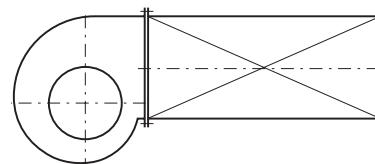
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 400mm	J = 0.34 kg.m ²	m = 63.6 kg	n _{max} = 3200 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



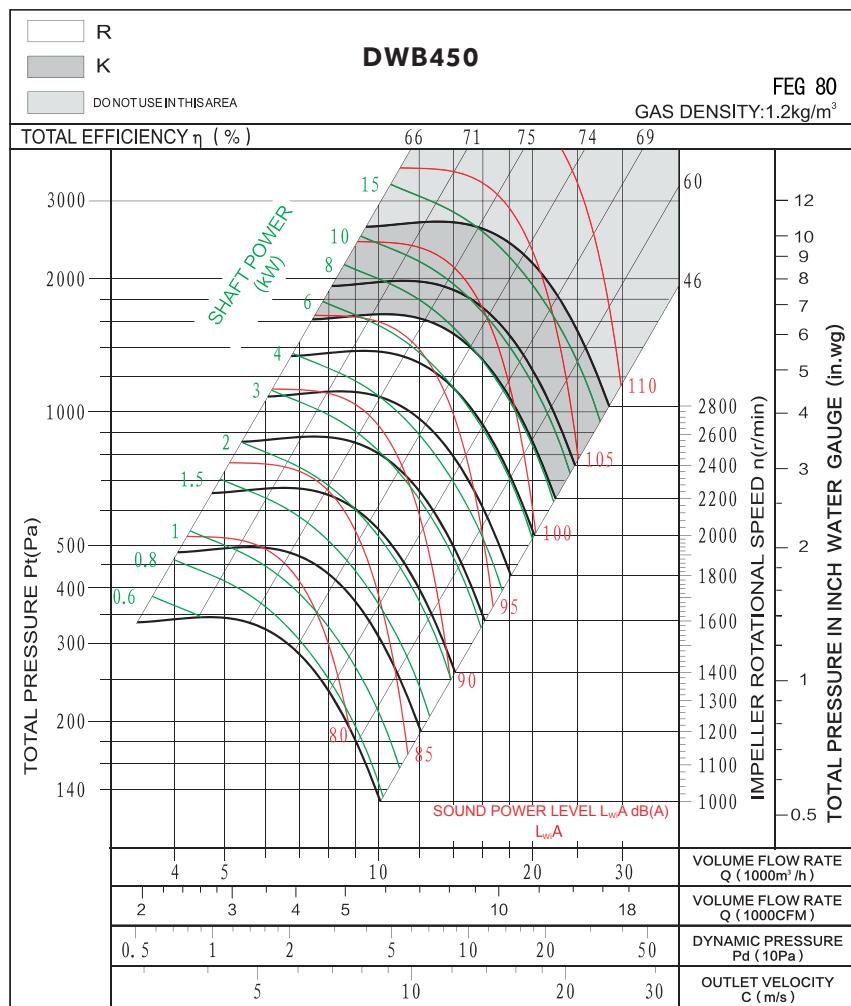
➤ DWB450 FEG80

TECHNICAL DATA

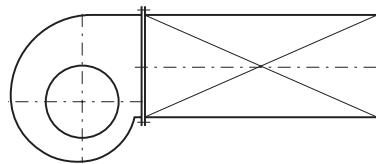
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 450 mm	J = 0.51kg.m ²	m = 82.5 kg	n _{max} = 2800 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



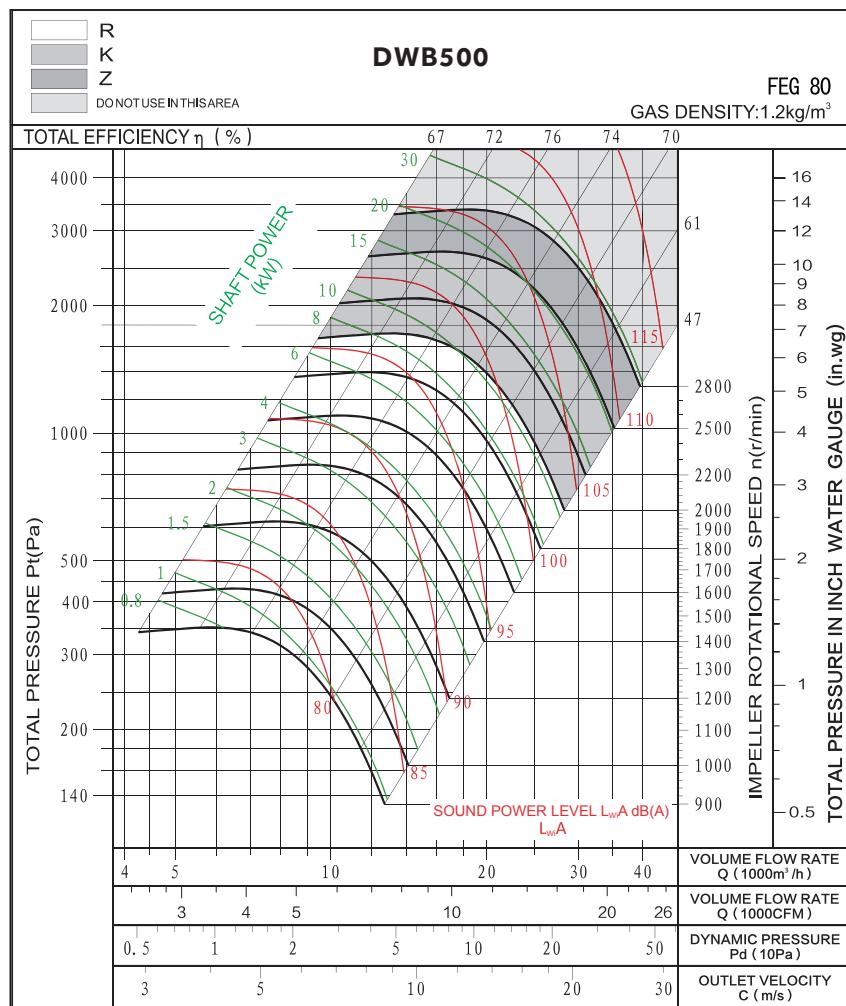
► DWB500 FEG80

TECHNICAL DATA

WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 500 mm	J = 0.88 kg.m ²	m = 104.2 kg	n _{max} = 2800 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



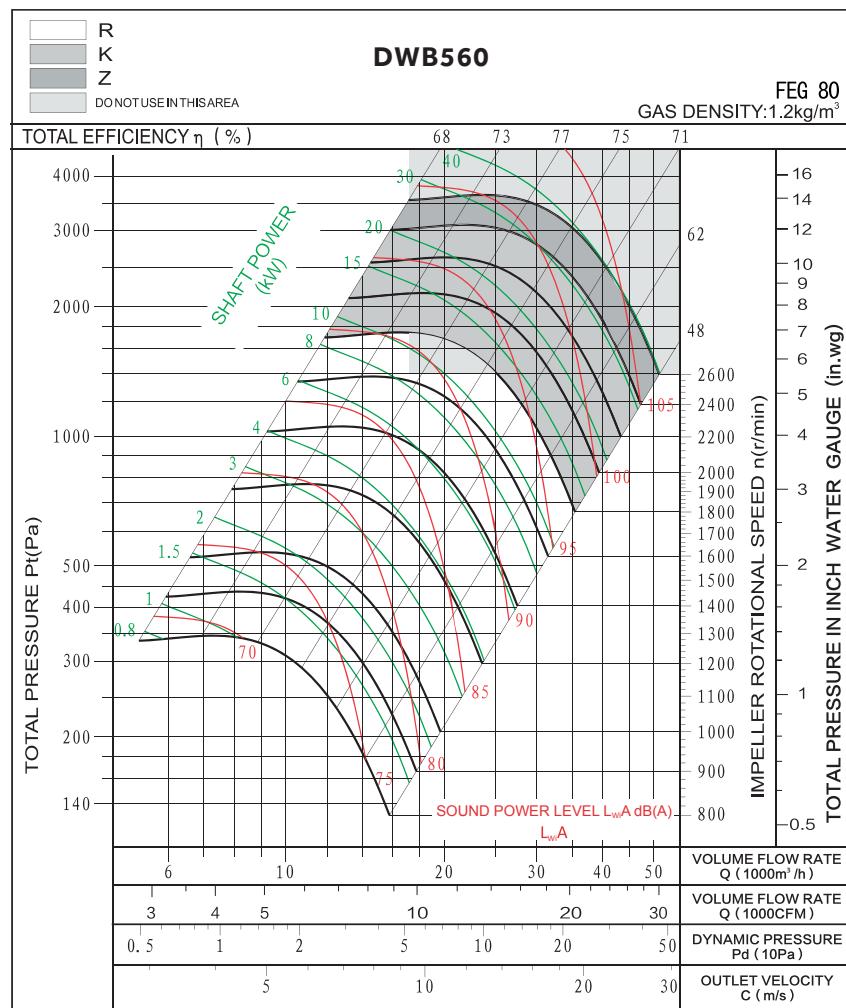
► DWB560 FEG80

TECHNICAL DATA

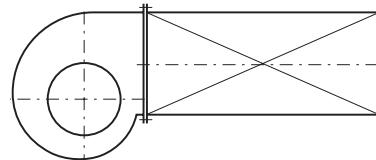
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 560 mm	J = 1.42 kg.m ²	m = 171 kg	n _{max} = 2600 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



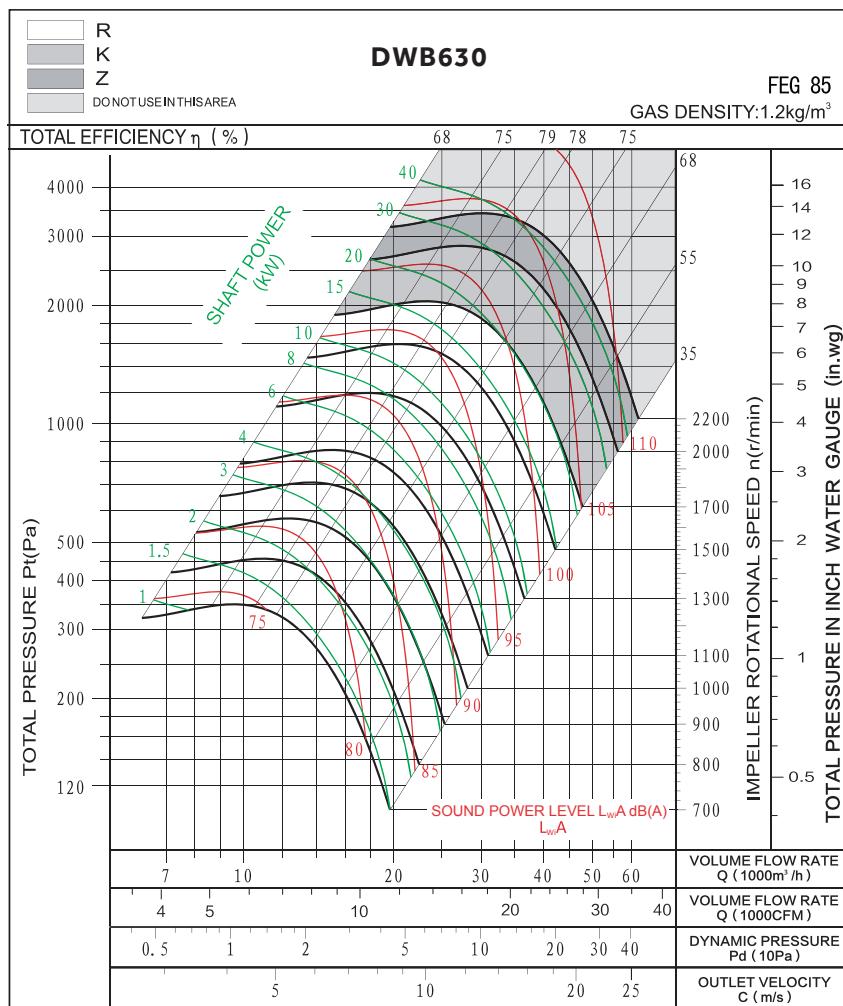
► DWB630 FEG85

TECHNICAL DATA

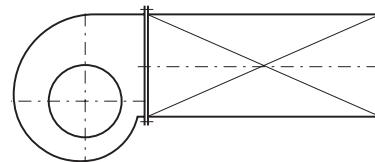
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 630 mm	J = 2.32kg.m ²	m = 197 kg	n _{max} = 2200 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



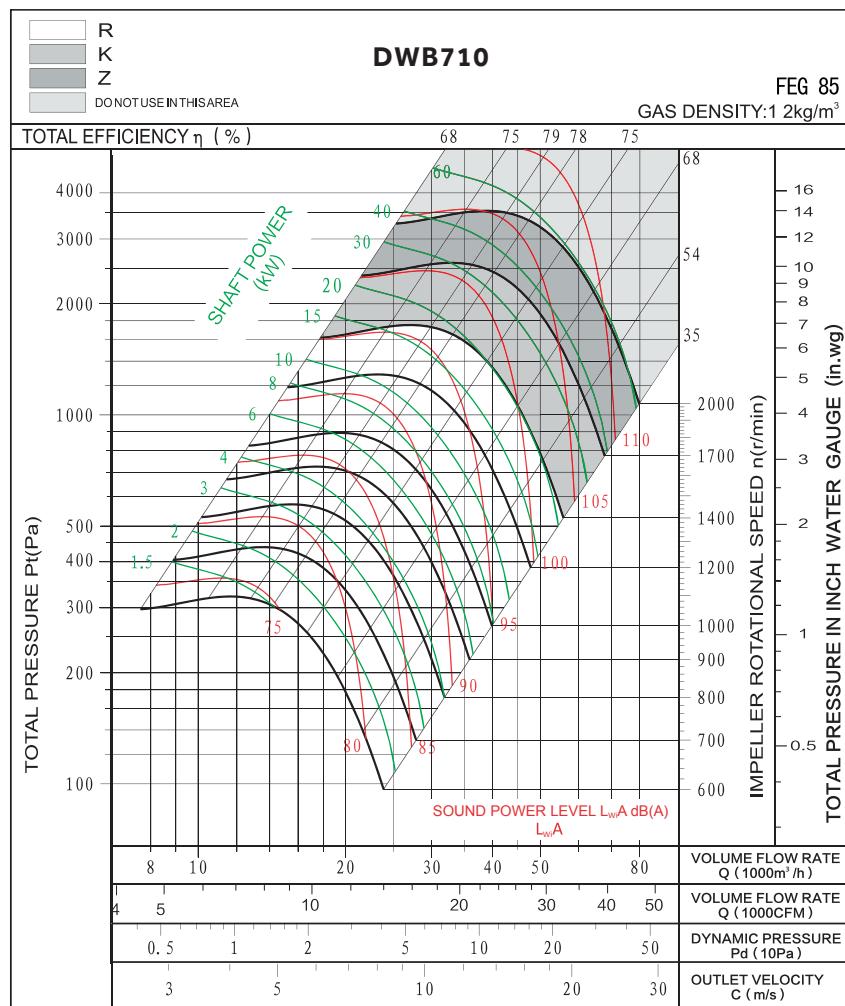
➤ DWB710 FEG85

TECHNICAL DATA

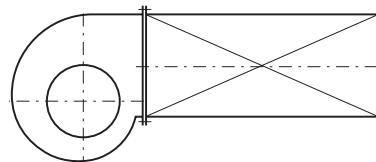
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 710mm	J = 4.75kg.m ²	m = 271 kg	n _{max} = 2000 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



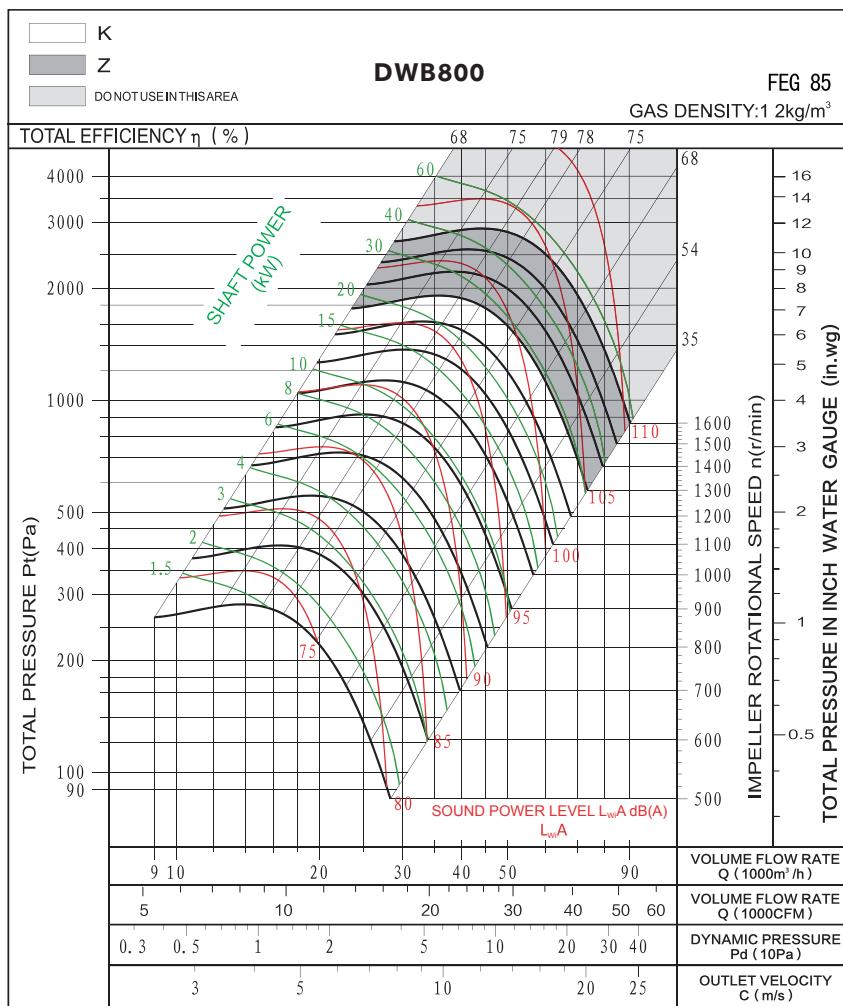
► DWB800 FEG85

TECHNICAL DATA

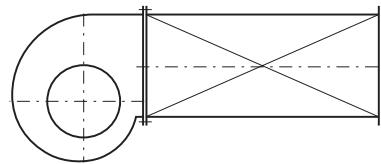
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 800mm	J = 9.25kg.m ²	m = 300 kg	n _{max} = 1600 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



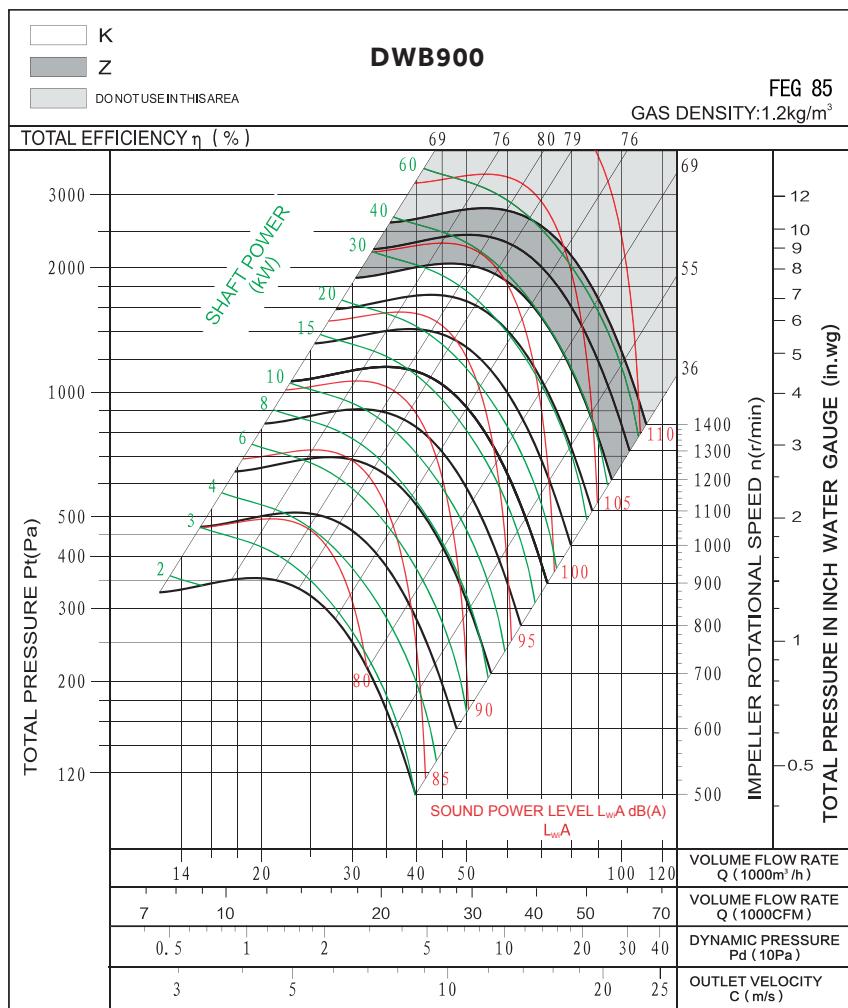
► DWB900 FEG85

TECHNICAL DATA

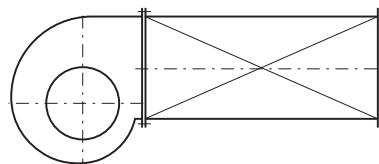
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 900mm	J = 13.8kg.m ²	m = 530 kg	n _{max} = 1300 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



Measured in installation B according to AMCA Standard 210:



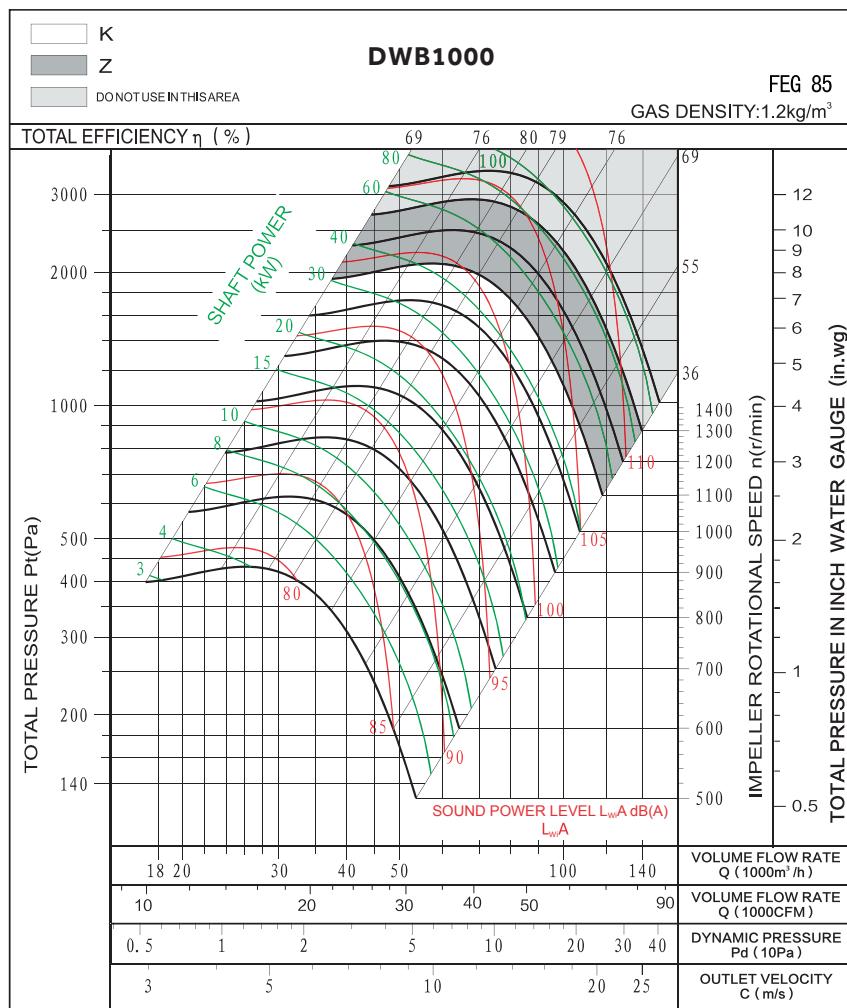
► DWB1000 FEG85

TECHNICAL DATA

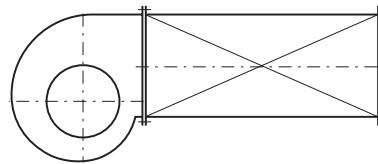
WHEEL DIAMETER	MOMENT OF INERTIA	FAN WEIGHT	SPEED LIMIT
D = 1000 mm	J = 24.8kg.m ²	m = 530kg	n _{max} = 1300 r/min

PERFORMANCE CURVE

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet L_{WA} sound power levels for installation type B: free inlet, ducted outlet.



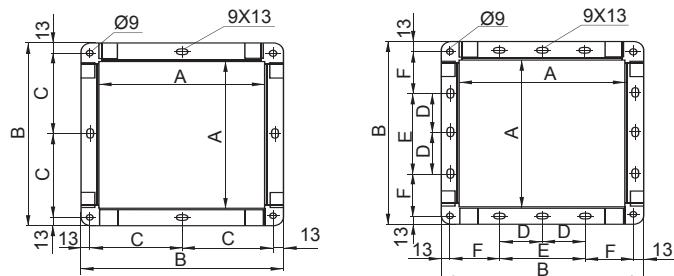
Measured in installation B according to AMCA Standard 210:



DWB SERIES

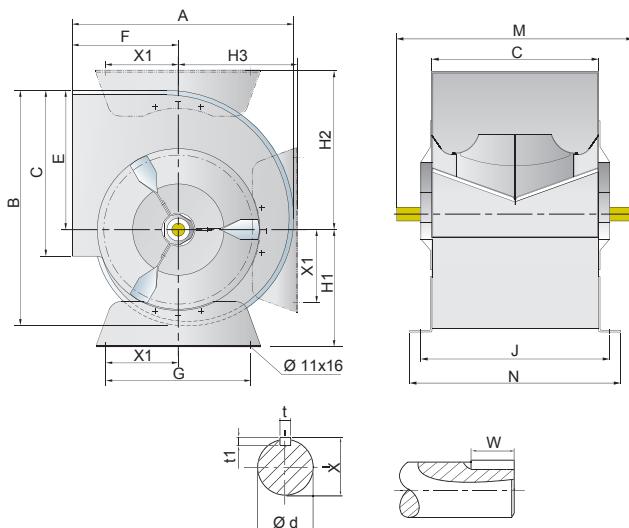
THE DWB SERIES CENTRIFUGAL FAN

OUTLET FLANGE



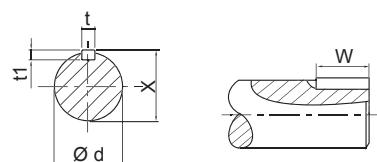
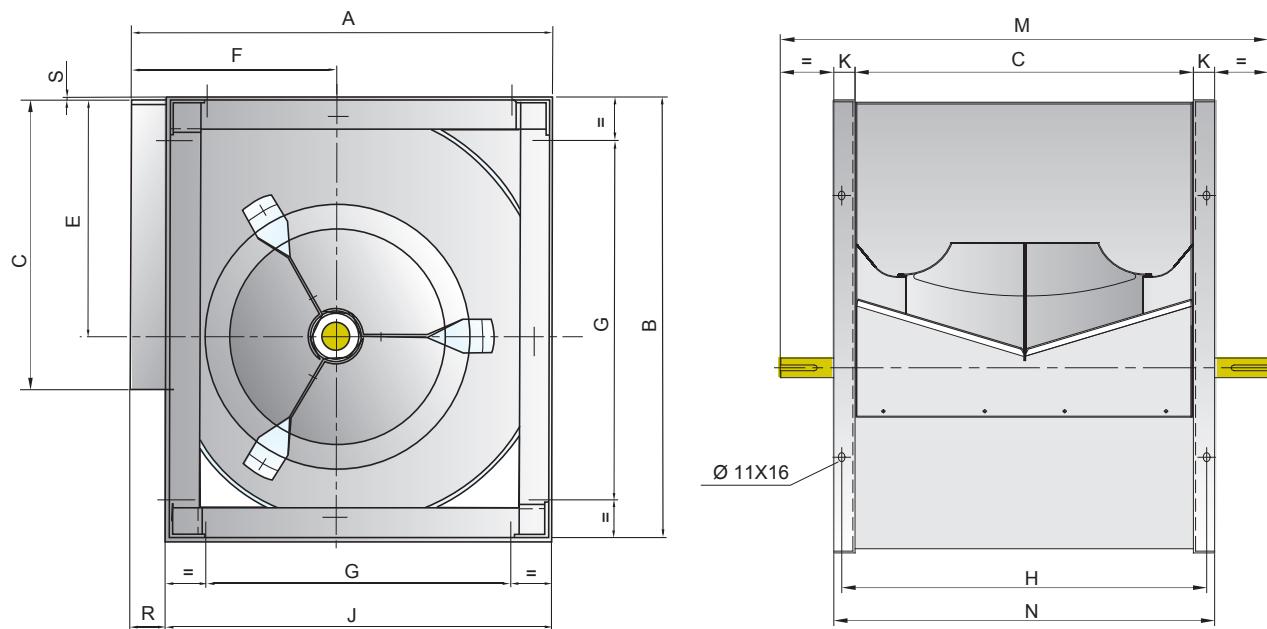
Dim	Model	200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
A		256	288	322	361	404	453	507	569	638	715	801	898	1007	1130	1267
B		296	328	362	417	460	509	563	625	694	771	857	954	1063	1186	1323
C		138	154	171	196	217	242	-	-	-	-	-	-	-	-	-
D		-	-	-	-	-	-	-	-	-	-	-	200	250	300	350
E		-	-	-	-	-	-	200	200	250	250	300	400	500	600	700
F		-	-	-	-	-	-	169	200	209	248	266	264	269	280	299

DWB-L



Dim	Model	A	B	C	E	F	G	J	M	N	X1	H1	H2	H3	t	t1	X	W	φd
	200	342	364	256	215	164	224	281	420	306	112	181	245	184	6	6	22.5	40	20
	225	380	408	288	243	180	224	313	460	338	112	197	274	204	6	6	22.5	50	20
	250	417	454	322	270	195	224	347	490	372	112	212	299	227	6	6	22.5	55	20

➤ DWB-R

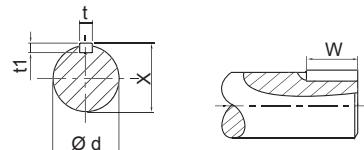
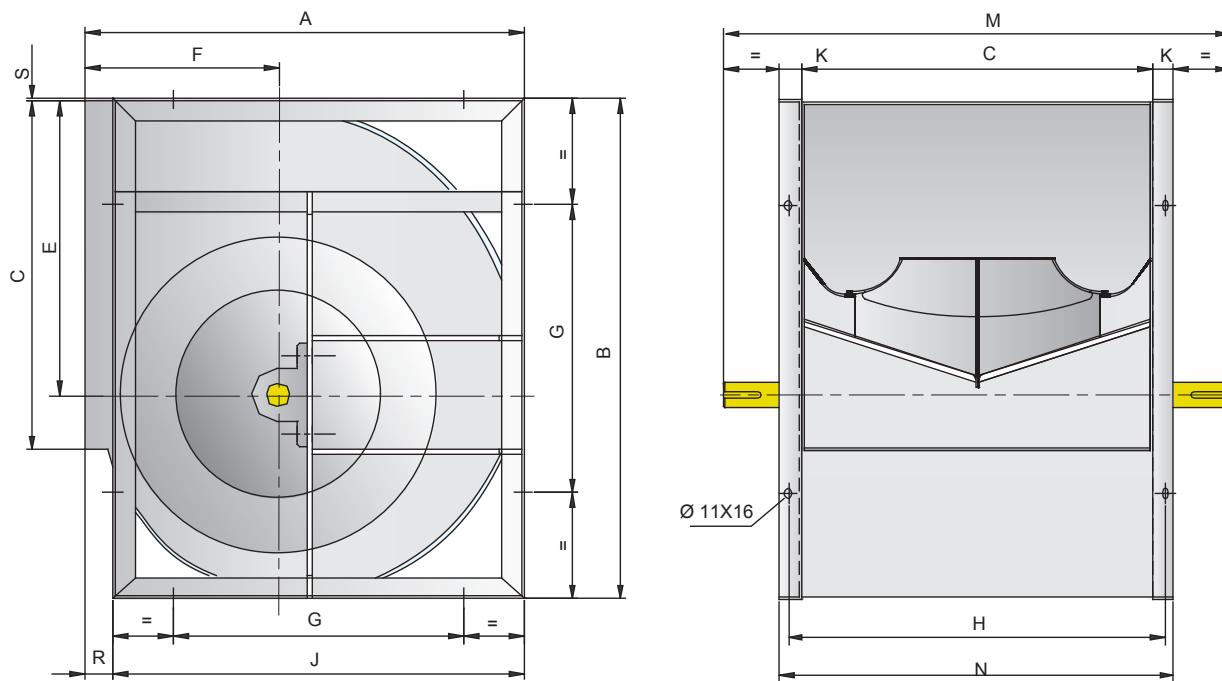


Model Dim	A	B	C	E	F	G	J	M	N	X1	H1	H2	H3	t	t1	X	W	φd	mm
200	343	370	256	215	164	224	281	306	25	420	306	37	4	6	6	22.5	40	20	
225	383	415	288	243	180	224	313	348	25	460	338	35	3	6	6	22.5	50	20	
250	419	461	322	270	195	224	347	384	25	490	372	35	4	6	6	22.5	55	20	

DWB SERIES

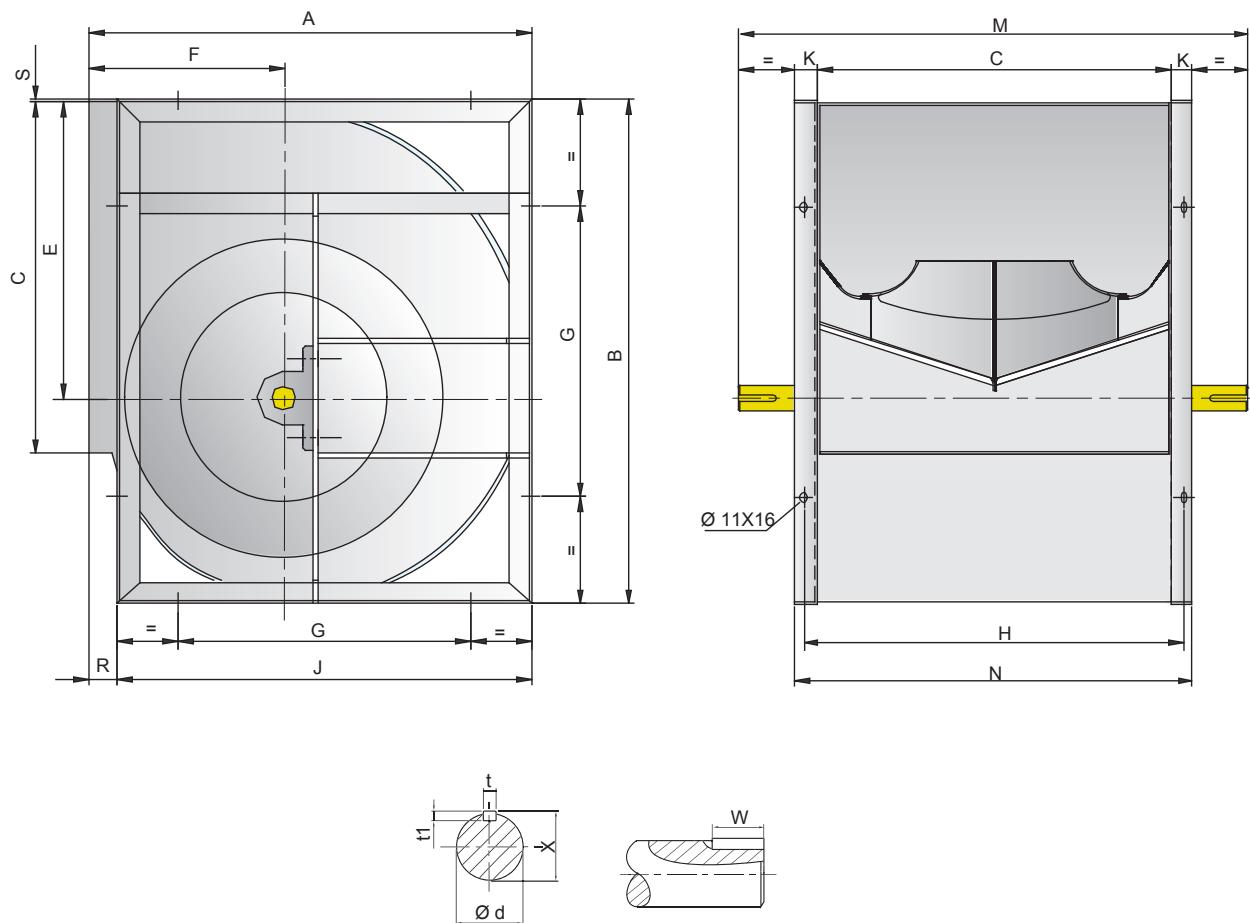
DWB SERIES CENTRIFUGAL FAN

➤ DWB-R



Model	A	B	C	E	F	G	H	J	K	M	N	R	S	t	t1	W	X	φd	LxV
Dim	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
280	466	518	361	302	215	280	391	432	30	575	421	34	5	8	7	50	28	25	13x18
315	518	578	404	340	236	280	434	480	30	640	464	38	3	8	7	60	28	25	13x18
355	578	655	453	383	261	355	493	548	40	700	533	30	6	8	7	60	33	30	13x18
400	651	736	507	432	290	355	547	613	40	760	587	38	4.5	8	7	60	33	30	13x18
450	726	827	569	486	322	530	609	681	40	845	649	45	5	10	8	70	38	35	13x18
500	800	918	638	538	352	530	678	750	40	915	718	50	5	10	8	70	38	35	13x18
560	893	1030	715	602	390	530	765	845	50	1000	815	48	8	12	8	70	43	40	13x18
630	999	1157	801	679	434	530	851	946	50	1090	901	53	7	14	9	70	48.5	45	13x18
710	1121	1303	898	765	485	630	948	1058	50	1255	998	63	7	14	9	90	53.5	50	17x22

➤ DWB-K(Z)

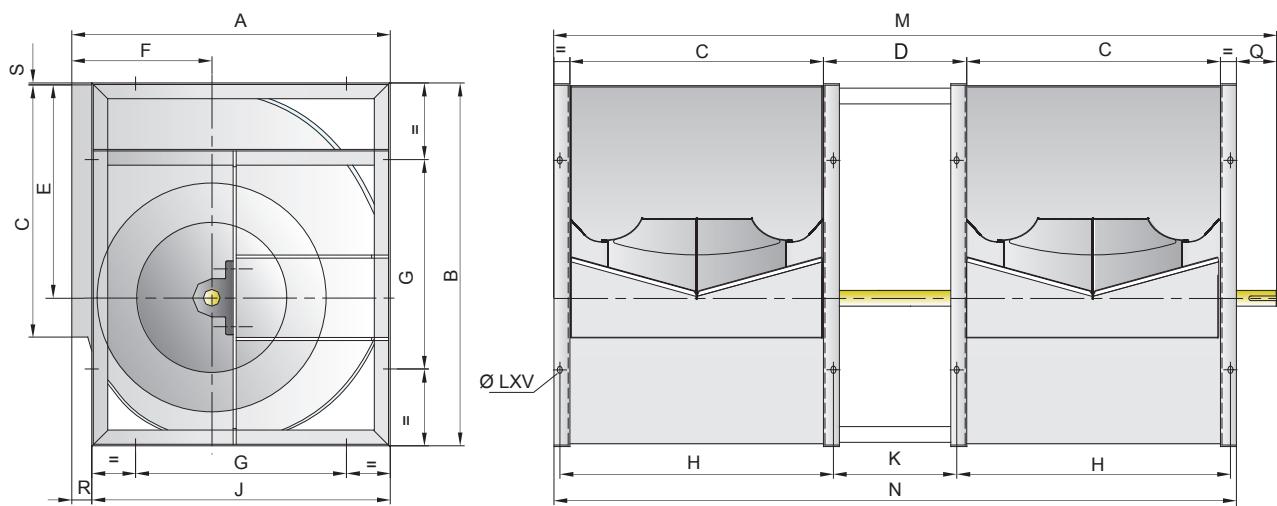


Model	A	B	C	E	F	G	H	J	K	M	N	R	S	t	t1	W	X	φd	LxV
Dim																			
280	466	518	361	302	215	280	391	432	30	600	421	34	5	8	7	60	33	30	13x18
315	518	578	404	340	236	280	434	480	30	665	464	38	3	8	7	70	33	30	13x18
355	578	655	453	383	261	355	493	548	40	725	533	30	6	10	8	70	38	35	13x18
400	651	736	507	432	290	355	547	613	40	790	587	38	4.5	10	8	70	38	35	13x18
450	726	827	569	486	322	530	609	681	40	890	649	45	4.5	12	8	90	43	40	13x18
500	800	918	638	538	352	530	678	750	40	960	718	50	5	12	8	90	43	40	13x18
560	893	1030	715	603	390	530	765	845	50	1070	815	48	8	14	9	90	53.5	50	13x18
630	899	1157	801	679	434	530	851	946	50	1155	901	53	7	14	9	90	53.5	50	13x18
710	1121	1303	898	765	485	630	948	1058	50	1293	998	63	7	18	11	90	64	60	17x22
800	1250	1468	1007	862	535	710	1057	1181	50	1450	1107	69	7	18	11	90	64	60	17x22
900	1408	1648	1130	971	604	800	1180	1319	60	1570	1250	89	7	18	11	100	69	65	17x22
1000	1541	1810	1267	1066	657	900	1317	1462	60	1700	1387	79	9	18	11	100	69	65	17x22

DWB SERIES

DWB SERIES CENTRIFUGAL FAN

➤ DWB-R(K)2



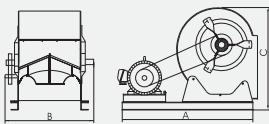
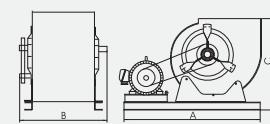
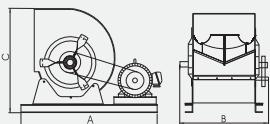
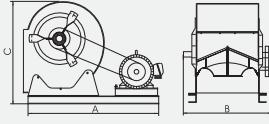
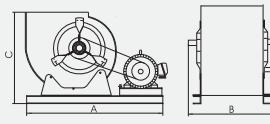
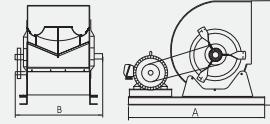
➤ DWB-R2

Model	A	B	C	D	E	F	G	H	J	K	M	N	Q	R	S	t	t1	W	X	φd	LxV
Dim																					mm
280	466	518	361	280	302	214	280	391	432	250	1165	1062	103	34	5	8	7	60	28	25	13x18
315	518	578	404	315	340	236	280	434	480	285	1286	1183	103	38	3	8	7	60	33	30	13x18
355	578	654	453	355	383	260	355	493	548	315	1442	1340	101	30	6	10	8	60	38	35	13x18
400	65	736	507	400	432	290	355	547	612	360	1610	1494	116	38	4.5	12	8	60	43	40	13x18
450	726	827	569	450	486	322	530	609	681	410	1782	1668	114	45	5	12	8	70	43	40	13x18
500	800	918	638	500	538	352	530	678	750	460	1165	1062	103	50	5	14	9	70	48.5	45	13x18

➤ DWB-K2

Model	A	B	C	D	E	F	G	H	J	K	M	N	Q	R	S	t	t1	W	X	φd	LxV
Dim																					mm
355	578	654	453	355	383	260	355	493	548	315	1442	1341	101	30	6	12	8	70	43	40	13x18
400	650	736	507	400	432	290	355	547	612	360	1610	1494	116	38	4.5	14	9	70	48.5	45	13x18
450	726	827	569	450	486	322	530	609	681	410	1795	1668	127	45	5	14	9	90	48.5	45	13x18
500	800	918	638	500	538	352	530	678	750	460	1977	1856	121	50	5	14	9	90	53.5	50	13x18
560	893	1030	715	560	602	390	530	765	845	510	2218	2090	128	48	8	14	9	90	53.5	50	13x18

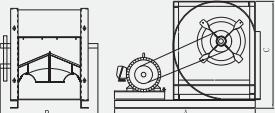
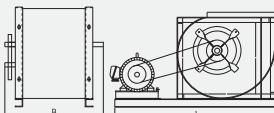
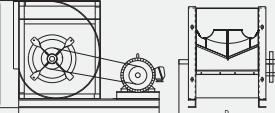
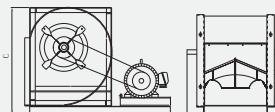
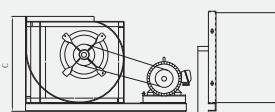
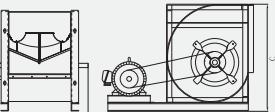
➤ DWB-L

	0°	90°	180°				
LG Left Hand							
RD Right Hand							
Model	Motor Frame Size	A	B	A	B	A	B
200	56	730	420	730	348	730	396
	63	730	420	730	348	730	396
	71	730	420	730	348	730	396
	80	730	420	730	348	730	396
225	63	760	460	760	384	760	440
	71	760	460	760	384	760	440
	80	760	460	760	384	760	440
	90	760	460	760	384	760	440
250	63	820	490	820	422	820	482
	71	820	490	820	422	820	482
	80	820	490	820	422	820	482
	90	820	490	820	422	820	482

DWB SERIES

DWB SERIES CENTRIFUGAL FAN

➤ DWB-R

	0°	90°	180°				
LG Left Hand							
RD Right Hand							
Model	Motor Frame Size	A	B	A	B	A	B
200	56	730	420	730	348	730	396
	63	730	420	730	348	730	396
	71	730	420	730	348	730	396
	80	730	420	730	348	730	396
225	63	760	460	760	384	760	440
	71	760	460	760	384	760	440
	80	760	460	760	384	760	440
	90	760	460	760	384	760	440
250	63	820	490	820	422	820	482
	71	820	490	820	422	820	482
	80	820	490	820	422	820	482
	90	820	490	820	422	820	482

➤ DWB-R(K)

		0°		90°		180°					
Model	Motor Frame Size	A	B	C	A	B	C	A	B	C	
		R	K		R	K		R	K		
280	71	940	575	600	568	940	575	600	516	940	575
	80	940	575	600	568	940	575	600	516	940	575
	90	940	575	600	568	940	575	600	516	940	575
	100	940	575	600	568	940	575	600	516	940	575
	112	940	575	600	568	940	575	600	516	940	575
	132	940	575	600	568	940	575	600	516	940	575
	160	940	575	600	568	940	575	600	516	940	575
315	71	1040	640	665	628	1040	640	665	568	1040	640
	80	1040	640	665	628	1040	640	665	568	1040	640
	90	1040	640	665	628	1040	640	665	568	1040	640
	100	1040	640	665	628	1040	640	665	568	1040	640
	112	1040	640	665	628	1040	640	665	568	1040	640
	132	1040	640	665	628	1040	640	665	568	1040	640
	160	1040	640	665	628	1040	640	665	568	1040	640
355	80	1110	700	725	705	1110	700	725	628	1110	700
	90	1110	700	725	705	1110	700	725	628	1110	700
	100	1110	700	725	705	1110	700	725	628	1110	700
	112	1110	700	725	705	1110	700	725	628	1110	700
	132	1110	700	725	705	1110	700	725	628	1110	700
	160	1110	700	725	705	1110	700	725	628	1110	700
	180	1250	700	725	705	1250	700	725	628	1250	700
400	90	1250	760	790	786	1250	760	790	701	1250	760
	100	1250	760	790	786	1250	760	790	701	1250	760
	112	1250	760	790	786	1250	760	790	701	1250	760
	132	1250	760	790	786	1250	760	790	701	1250	760
	160	1250	760	790	786	1250	760	790	701	1250	760
	180	1250	760	790	786	1250	760	790	701	1250	760
	200	1250	845	890	877	1340	845	890	776	1340	845
450	90	1340	845	890	877	1340	845	890	776	1340	845
	100	1340	845	890	877	1340	845	890	776	1340	845
	112	1340	845	890	877	1340	845	890	776	1340	845
	132	1340	845	890	877	1340	845	890	776	1340	845
	160	1340	845	890	877	1340	845	890	776	1340	845
	180	1340	845	890	877	1340	845	890	776	1340	845
	200	1340	845	890	877	1340	845	890	776	1340	845
500	90	1420	915	960	981	1420	915	960	863	1420	915
	100	1420	915	960	981	1420	915	960	863	1420	915
	112	1420	915	960	981	1420	915	960	863	1420	915
	132	1420	915	960	981	1420	915	960	863	1420	915
	160	1420	915	960	981	1420	915	960	863	1420	915
	180	1420	915	960	981	1420	915	960	863	1420	915
	200	1420	915	960	981	1420	915	960	863	1420	915

DWB SERIES

DWB SERIES CENTRIFUGAL FAN

➤ DWB-R(K)

		0°			90°			180°					
LG Left Hand													
Model	Motor Frame Size	A	B		C	A	B		C	A	B		C
560	90	1580	1000	1070	1093	1580	1000	1070	956	1580	1000	1070	1093
	100	1580	1000	1070	1093	1580	1000	1070	956	1580	1000	1070	1093
	112	1580	1000	1070	1093	1580	1000	1070	956	1580	1000	1070	1093
	132	1580	1000	1070	1093	1580	1000	1070	956	1580	1000	1070	1093
	160	1580	1000	1070	1093	1580	1000	1070	956	1580	1000	1070	1093
	180	1580	1000	1070	1093	1580	1000	1070	956	1580	1000	1070	1093
	200	1580	1000	1070	1093	1580	1000	1070	956	1580	1000	1070	1093
630	100	1770	1090	1155	1220	1770	1090	1155	1062	1770	1090	1155	1220
	112	1770	1090	1155	1220	1770	1090	1155	1062	1770	1090	1155	1220
	132	1770	1090	1155	1220	1770	1090	1155	1062	1770	1090	1155	1220
	160	1770	1090	1155	1220	1770	1090	1155	1062	1770	1090	1155	1220
	180	1770	1090	1155	1220	1770	1090	1155	1062	1770	1090	1155	1220
	200	1770	1090	1155	1220	1770	1090	1155	1062	1770	1090	1155	1220
710	112	1950	1255	1290	1366	1950	1255	1290	1184	1950	1255	1290	1366
	132	1950	1255	1290	1366	1950	1255	1290	1184	1950	1255	1290	1366
	160	1950	1255	1290	1366	1950	1255	1290	1184	1950	1255	1290	1366
	180	1950	1255	1290	1366	1950	1255	1290	1184	1950	1255	1290	1366
	200	1950	1255	1290	1366	1950	1255	1290	1184	1950	1255	1290	1366
	225	1950	1255	1290	1366	1950	1255	1290	1184	1950	1255	1290	1366
800	132	2130	\	1450	1548	2130	\	1450	1330	2130	\	1450	1548
	160	2130	\	1450	1548	2130	\	1450	1330	2130	\	1450	1548
	180	2130	\	1450	1548	2130	\	1450	1330	2130	\	1450	1548
	200	2130	\	1450	1548	2130	\	1450	1330	2130	\	1450	1548
	225	2130	\	1450	1548	2130	\	1450	1330	2130	\	1450	1548
	250	2130	\	1450	1548	2130	\	1450	1330	2130	\	1450	1548
900	132	2450	\	1570	1748	2450	\	1570	1508	2450	\	1570	1748
	160	2450	\	1570	1748	2450	\	1570	1508	2450	\	1570	1748
	180	2450	\	1570	1748	2450	\	1570	1508	2450	\	1570	1748
	200	2450	\	1570	1748	2450	\	1570	1508	2450	\	1570	1748
	225	2450	\	1570	1748	2450	\	1570	1508	2450	\	1570	1748
	250	2450	\	1570	1748	2450	\	1570	1508	2450	\	1570	1748
	280	2450	\	1570	1748	2450	\	1570	1508	2450	\	1570	1748
1000	132	2650	\	1700	1910	2650	\	1700	1641	2650	\	1700	1910
	160	2650	\	1700	1910	2650	\	1700	1641	2650	\	1700	1910
	180	2650	\	1700	1910	2650	\	1700	1641	2650	\	1700	1910
	200	2650	\	1700	1910	2650	\	1700	1641	2650	\	1700	1910
	225	2650	\	1700	1910	2650	\	1700	1641	2650	\	1700	1910
	250	2650	\	1700	1910	2650	\	1700	1641	2650	\	1700	1910
	280	2650	\	1700	1910	2650	\	1700	1641	2650	\	1700	1910

➤ DWB-R(K)

		0°	90°	180°						
Model	Motor Frame Size	A	B	C	A	B	C	A	B	C
280	71	840	612	568	840	612	516	840	612	568
	80	840	612	568	840	612	516	840	612	568
	90	840	612	568	840	612	516	840	612	568
	100	840	612	568	840	612	516	840	612	568
	112	840	612	568	840	612	516	840	612	568
	132	840	612	568	840	612	516	840	612	568
	160	840	612	568	840	612	516	840	612	568
315	71	880	617	628	880	617	568	880	617	628
	80	880	617	628	880	617	568	880	617	628
	90	880	617	628	880	617	568	880	617	628
	100	880	617	628	880	617	568	880	617	628
	112	880	617	628	880	617	568	880	617	628
	132	880	617	628	880	617	568	880	617	628
	160	880	617	628	880	617	568	880	617	628
355	71	940	655	705	940	655	628	940	655	705
	80	940	655	705	940	655	628	940	655	705
	90	940	655	705	940	655	628	940	655	705
	100	940	655	705	940	655	628	940	655	705
	112	940	655	705	940	655	628	940	655	705
	132	940	655	705	940	655	628	940	655	705
	160	940	655	705	940	655	628	940	655	705
400	80	1130	736	786	1130	736	613	1130	736	786
	90	1130	736	786	1130	736	613	1130	736	786
	100	1130	736	786	1130	736	613	1130	736	786
	112	1130	736	786	1130	736	613	1130	736	786
	132	1130	736	786	1130	736	613	1130	736	786
	160	1130	736	786	1130	736	613	1130	736	786
	180	1130	736	786	1130	736	613	1130	736	786
450	90	1210	827	877	1210	827	776	1210	827	877
	100	1210	827	877	1210	827	776	1210	827	877
	112	1210	827	877	1210	827	776	1210	827	877
	132	1210	827	877	1210	827	776	1210	827	877
	160	1210	827	877	1210	827	776	1210	827	877
	180	1210	827	877	1210	827	776	1210	827	877
	200	1210	827	877	1210	827	776	1210	827	877
500	90	1290	918	981	1290	918	863	1290	918	981
	100	1290	918	981	1290	918	863	1290	918	981
	112	1290	918	981	1290	918	863	1290	918	981
	132	1290	918	981	1290	918	863	1290	918	981
	160	1290	918	981	1290	918	863	1290	918	981
	180	1290	918	981	1290	918	863	1290	918	981
	200	1290	918	981	1290	918	863	1290	918	981

➤ DWB-R(K)

		0°			90°			180°		
LG Left Hand		B	A	D	B	A	D	B	A	D
RD Right Hand		C	D	B	C	D	B	C	D	B
Model	Motor Frame Size	A	B	C	A	B	C	A	B	C
560	90	1410	1030	1093	1410	1030	956	1410	1030	1093
	100	1410	1030	1093	1410	1030	956	1410	1030	1093
	112	1410	1030	1093	1410	1030	956	1410	1030	1093
	132	1410	1030	1093	1410	1030	956	1410	1030	1093
	160	1410	1030	1093	1410	1030	956	1410	1030	1093
	180	1410	1030	1093	1410	1030	956	1410	1030	1093
	200	1410	1030	1093	1410	1030	956	1410	1030	1093
630	90	1510	1157	1220	1510	1157	1062	1510	1157	1220
	100	1510	1157	1220	1510	1157	1062	1510	1157	1220
	112	1510	1157	1220	1510	1157	1062	1510	1157	1220
	132	1510	1157	1220	1510	1157	1062	1510	1157	1220
	160	1510	1157	1220	1510	1157	1062	1510	1157	1220
	180	1510	1157	1220	1510	1157	1062	1510	1157	1220
	200	1510	1157	1220	1510	1157	1062	1510	1157	1220
710	100	1730	1303	1366	1730	1303	1491	1730	1303	1366
	112	1730	1303	1366	1730	1303	1491	1730	1303	1366
	132	1730	1303	1366	1730	1303	1491	1730	1303	1366
	160	1730	1303	1366	1730	1303	1491	1730	1303	1366
	180	1730	1303	1366	1730	1303	1491	1730	1303	1366
	200	1730	1303	1366	1730	1303	1491	1730	1303	1366
	225	1730	1303	1366	1730	1303	1491	1730	1303	1366
800	100	1870	1468	1548	1870	1468	1330	1870	1468	1548
	112	1870	1468	1548	1870	1468	1330	1870	1468	1548
	132	1870	1468	1548	1870	1468	1330	1870	1468	1548
	160	1870	1468	1548	1870	1468	1330	1870	1468	1548
	180	1870	1468	1548	1870	1468	1330	1870	1468	1548
	200	1870	1468	1548	1870	1468	1330	1870	1468	1548
	225	1870	1468	1548	1870	1468	1330	1870	1468	1548
900	132	2170	1648	1748	2170	1648	1748	2170	1648	1748
	160	2170	1648	1748	2170	1648	1748	2170	1648	1748
	180	2170	1648	1748	2170	1648	1748	2170	1648	1748
	200	2170	1648	1748	2170	1648	1748	2170	1648	1748
	225	2170	1648	1748	2170	1648	1748	2170	1648	1748
	250	2170	1648	1748	2170	1648	1748	2170	1648	1748
	280	2170	1648	1748	2170	1648	1748	2170	1648	1748
1000	132	2300	1810	1910	2300	1810	1641	2300	1810	1910
	160	2300	1810	1910	2300	1810	1641	2300	1810	1910
	180	2300	1810	1910	2300	1810	1641	2300	1810	1910
	200	2300	1810	1910	2300	1810	1641	2300	1810	1910
	225	2300	1810	1910	2300	1810	1641	2300	1810	1910
	250	2300	1810	1910	2300	1810	1641	2300	1810	1910
	280	2300	1810	1910	2300	1810	1641	2300	1810	1910

➤ DWB SERIES FAN OPERATIONAL LIMITS

			200	225	250	280	315	355	400	450	500	560	630	710	800	900	1000
Max.absorbed Power	L	KW	1.5	1.5	2	/	/	/	/	/	/	/	/	/	/	/	/
	R	KW	2	3	3	5.5	4.8	5.5	6.0	8.0	12	14	20	20	/	/	/
	K	KW	/	/	/	8	8	15	15	15	22	30	35	40	30	43	55
	Z	KW	/	/	/	/	/	/	/	/	30	38.5	40	60	65	65	80
	R2	KW	/	/	/	5.5	6.5	8.5	8.5	12	13	14	18	18	/	/	/
	K2	KW	/	/	/	/	/	13	13	18.5	22	32	34	45	45	45	65
Max.R.P.M	L	rpm	4500	3700	3500	/	/	/	/	/	/	/	/	/	/	/	/
	R	rpm	4900	4500	4100	4000	3200	2800	2400	2200	2000	1800	1700	1400	/	/	/
	K	rpm	/	/	/	4500	4000	3800	3200	2800	2500	2400	2000	1700	1300	1200	1100
	Z	rpm	/	/	/	/	/	/	/	/	2800	2600	2200	2000	1600	1400	1300
	R2	rpm	/	/	/	3200	2800	2600	2100	1800	1600	1400	1200	1000	/	/	/
	K2	rpm	/	/	/	/	/	3000	2400	2200	2000	1800	1600	1400	1200	1000	900
Air Temperature Limits (Min-20°C)	L	Max.	85	85	85	/	/	/	/	/	/	/	/	/	/	/	/
	R/R2	°C	85	85	85	85	85	85	85	85	85	85	85	85			
	K/K2	Max.	/	/	/	85	85	85	85	85	85	85	85	85	85	85	85
	Z	°C	/	/	/	/	/	/	/	/	85	85	85	85	85	85	85
Fan Weight	L	Kg	8	10	16	/	/	/	/	/	/	/	/	/	/	/	/
	R	Kg	10	12	18	22	32.6	42.7	50.6	67.5	84.2	142	168	223	/	/	/
	K	Kg	/	/	/	32	42.6	54.7	63.6	82.5	104.2	171	197	271	300	481.5	530
	Z	Kg	/	/	/	/	/	/	/	/	107	174	200	274	304	485	535
	R2	Kg	/	/	/	46	67	91	107	143	176	300	352	462	/	/	/
	K2	Kg	/	/	/	/	/	111	127	173	217	358	410	558	616	989	1086

This fan features described in the sample, such as size, performance parameters, the Company reserves the right to change without notice; if unknown place, please call us.

**THE RECOGNIZED LEADER IN
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