



Research
Design and
High Technology

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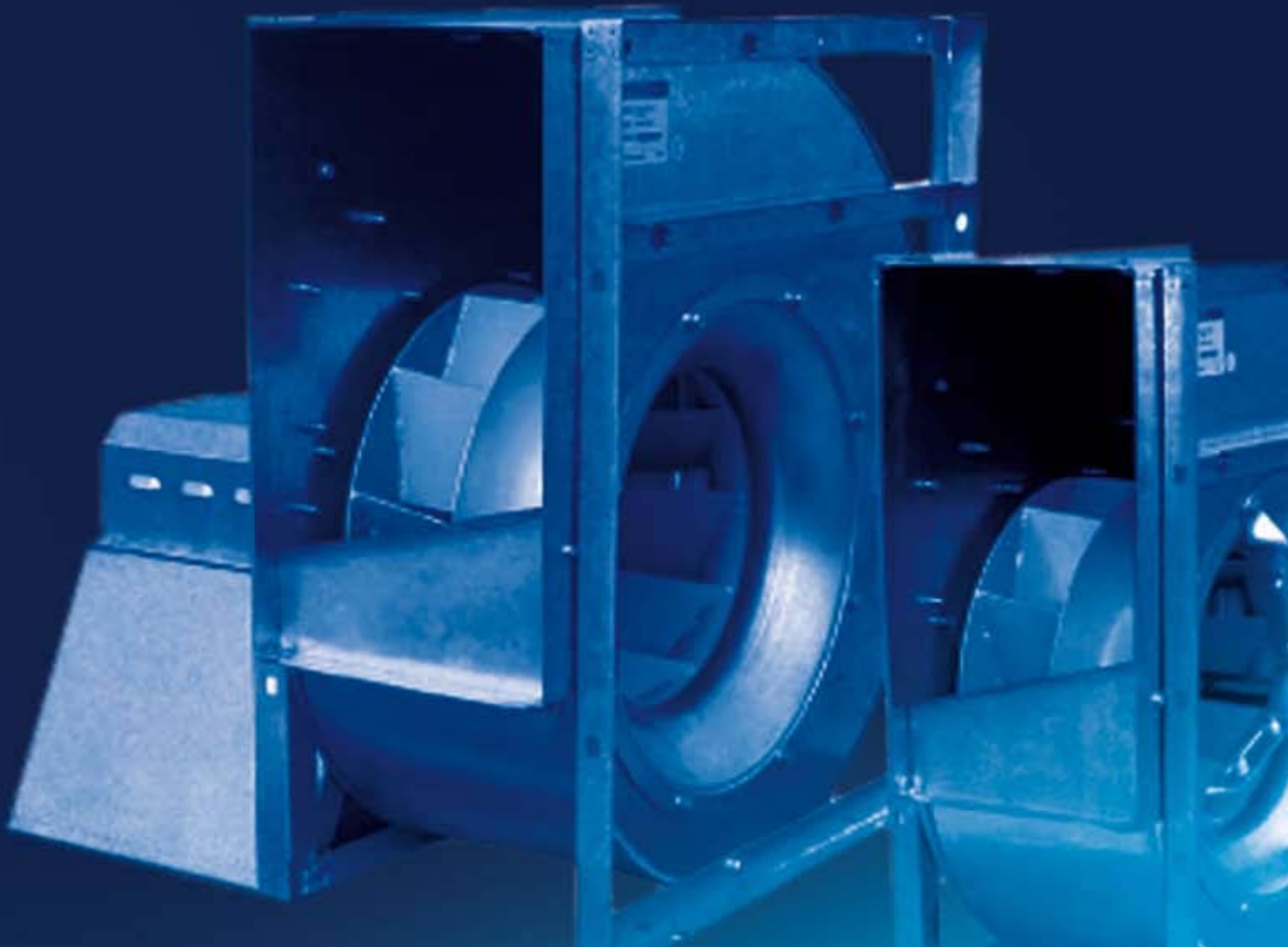
Web: <http://www.solerpalau.com>





BSB

Single Inlet
Centrifugal Fan
with Backward Wheels

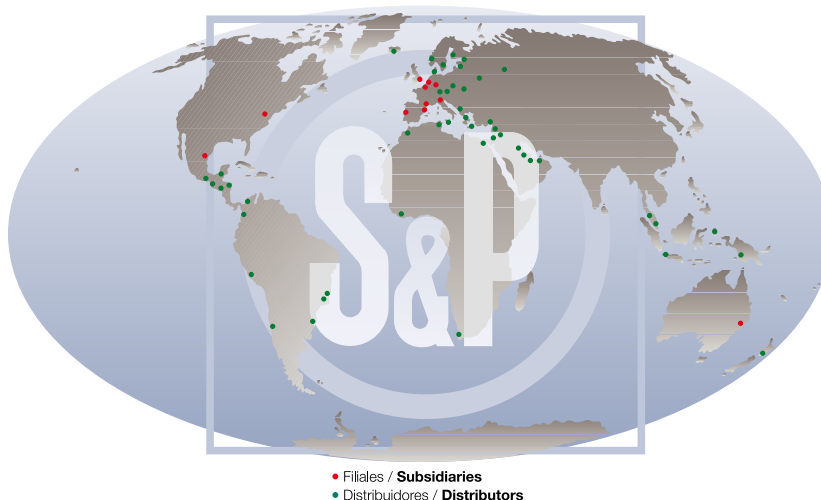


Introducción Introduction

S&P - LA EMPRESA

Desde su fundación en el año 1951, en la localidad de Ripoll (España), Soler & Palau, S.A. se ha convertido, desde hace ya bastantes años, en uno de los líderes mundiales en la fabricación y venta de todo tipo de equipos de ventilación y de extracción de aire.

Ocho plantas productivas y once empresas filiales propias de comercialización, ubicadas en diversos países y continentes constituyen el actual Grupo S&P que, con un cualificado equipo de más de 1300 personas, ejerce su actividad en todos los países del mundo.



S&P - LA ESTRATEGIA

Investigación y Desarrollo de productos y tecnología propios; Calidad de producción por encima de la media de su campo de actividad y Vocación de Expansión sostenible son, y han sido entre otros, tres de los pilares fundamentales sobre los que descansa la trayectoria de Soler & Palau, S.A. Contar hoy con más de 60 Ingenieros titulados en las áreas de Investigación, Desarrollo, Innovación y Producción; Certificaciones ISO 9001:2000 y 14001:1996 acreditadas por AENOR (Soler & Palau fue la primera empresa registrada BSB en España). Laboratorios propios de ensayo con certificación oficial EN-45001-89 y crecimientos anuales, sostenidos en las últimas décadas, muy superiores a los de su mercado son algunos de los logros de la correcta aplicación de la mencionada estrategia de empresa.

Nuevos y apasionantes proyectos que verán la luz muy en breve, están hoy en marcha en el Grupo S&P.



S&P - THE COMPANY

Soler & Palau was founded in 1951 in Ripoll (Spain) and since this date has become one of the world's leading companies engaged in the manufacture, sales and distribution of all types of ventilating and air moving products. Today Soler & Palau has eight production plants and eleven wholly owned commercial subsidiary companies located across the globe. Supporting the design, development production and commercial facilities are a professional team of more than 1300 employees who ensure that Soler & Palau continue to have an active presence in all global market sectors.

S&P - THE STRATEGY

At the heart of Soler & Palau's company strategy is the continued substantial investment in product and manufacturing research, development and quality control. Since 1951 the sustained investment in these critical areas has enabled Soler & Palau to offer to its customers products with unparalleled quality and reliability. These critical elements of success today form the fundamental cornerstones of the company's strategy for growth within increasingly competitive global markets.

Today Soler & Palau has more than 60 highly qualified engineers working in areas such as product and manufacturing technology research, development, innovation and production. The engineers work closely with international safety standards agencies to ensure that all of Soler & Palau's products are manufactured and supplied in accordance with only the very latest mechanical and electrical safety standards. All products are extensively tested with the company's comprehensive in-house airflow, acoustic and environmental test laboratories which have been officially certified by AENOR to EN-45001-89 standards. Currently Soler & Palau hold both ISO 9001:2000 and ISO 14001:1996 certifications and were also the first company in Spain to be registered to the original ISO 9000 standards.

Through operating a continual rigorous program of new and existing product development and improvement means that Soler & Palau's customers are assured that they will continue to receive products of only the very highest quality and reliability both now and in the future.

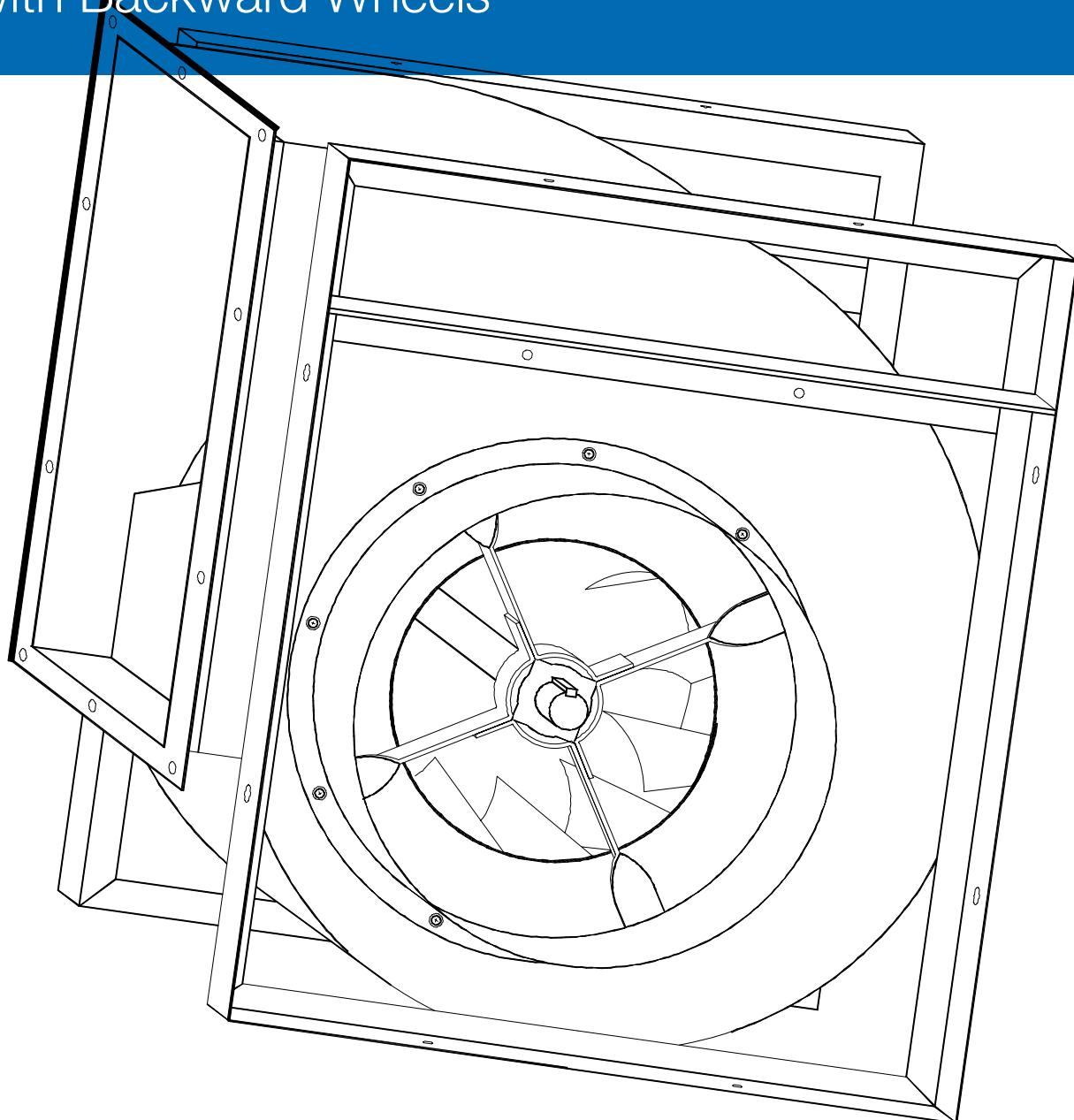


Soler & Palau S.A. certifies that the **BSB series** shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and AMCA publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



BSB Series

SINGLE INLET CENTRIFUGAL FAN
with Backward Wheels



BSB Series

Single Inlet Centrifugal Fans – Backward wheels

The BSB series is SISW centrifugal fans with high efficiency non-overloading backward curved impellers.

The fans are suitable for supply or exhaust applications in commercial and industrial buildings.

Sizes of this series are in accordance with AMCA standard 99-0098-76 and DIN 323 R20.

Type / Operating Limit

Each fan type has its maximum operating speed and power due to its mechanical design.

The operating limit of BSB series - fan type is design to meet the requirement of class I, II and III limit as defined in AMCA standard 99-2408-69.

The BSB series is available in type C, T, X, Z or U.

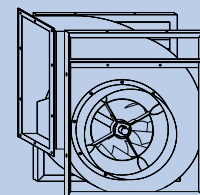
	Model 315 to 630	Model 710 to 1.000
Type C-U	I	
Type T-U	II	I
Type X-U	III	II
Type Z-U		III

Type C

This type has a frame fitted on both sides of the fan which gives better strength and rigidity.

It allows mounting in four different orientations.

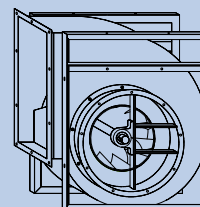
Fan size	315 to 630
Volume	1.500 to 20.000 m³/h
Total Pressure	up to 2.000 Pa



Type T

This type has a welded frame giving increased stiffness and rigidity required for higher operating performance.

Fan size	315 to 1.400
Volume	1.500 to 100.000 m³/h
Total Pressure	up to 3.000 Pa

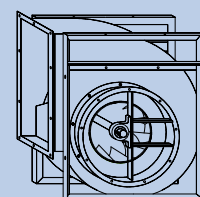


Type X/Z

This structure is similar to Type T but utilizes enhanced bearings to support higher dynamic load necessary for the increased performance.

Type Z is non-standard, for more information, please consult your nearest Kruger office for detail.

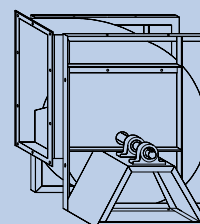
Fan size	315 to 1.400
Volume	1.500 to 100.000 m³/h
Total Pressure	up to 5.000 Pa



Type U

This type is manufactured with a special frame with two bearings fixed externally to the airflow eliminating any obstruction to the inlet and allow operation with air temperature up to max. of 180°C.

Fan size	315 to 1.400
Volume	1.500 to 100.000 m³/h
Total Pressure	up to 5.000 Pa



Technical Specification

Wheel

The wheel of BSB series has backward curved blades manufactured in cold rolled sheet steel with polyester powder coating finish.

Housing

For all sizes except 1250 and above, the housing is manufactured in galvanized sheet steel with the housing fixed to the side plates in "pittsburg lock" form system.

Housing for 1250 and 1400 are manufactured in mild steel finished with polyester powder coating.

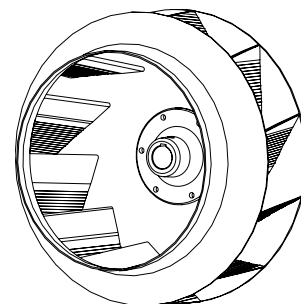
Fully welded steel plate housings with painted finish are available for all sizes upon request.

Frame

The frame is manufactured with galvanized angular bars for type "C". For type "T", "X" and "U", they are manufactured with sections of steel and finished with polyester powder coating.

Shaft

Shafts are manufactured from C45 carbon steel using an automatic process for positioning and cutting of the keyways. All dimensional tolerances of the shaft are fully checked to ensure a precision fit and then coated with an anticorrosion varnish after assembly.



Bearings

Bearings used are either deep groove ball bearing type with an adapter sleeve, or spherical roller bearings type sealed at both sides for different duty application classified as below:

	Mounted in a rubber housing		Mounted on cast iron supports with grease point	
	C	T	X	U
Fan Type				
	CM Medium Duty	TM Medium Duty	XM Medium Duty	UM Medium Duty
Bearing Duty	eg. Model BSB 450 C M	TX Extra Heavy Duty	XX Extra Heavy Duty	UX Extra Heavy Duty
	BSB 450 C M - Fan Bearing Duty (L, M, X) - Fan Type (S, C, T, X, Z) - Fan Size (315, 355, 400,...1400)			

The bearings are lubricated for life and maintenance-free except for TX, XX, UX extra heavy duty bearings. If re-lubrication is necessary, it is recommended to use a lithium base grease suitable for all temperatures within the operational limits.

For type P bearing, please consult your nearest S&P office for detail.

Balancing Quality

All wheels are statically and dynamically balanced to ISO1940 and AMCA 204 – G2.5 standards.

Accessories

Casing Drain

This option is available when using fans exposed to the atmosphere or operating in high humidity conditions.

Outlet Flanges

Outlet flanges are available upon request.

Inlet Flanges

This option are set against the fan to facilitate installation. It is available in 2 types-“L” flange or “U” flange.

Inspection Doors

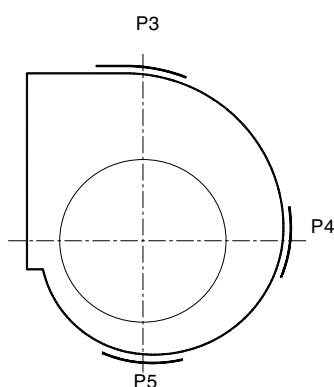
The inspection door can be supplied upon request. It can be supplied in one of the three positions (P3, P4 & P5).

Guards

Inlet guard, discharge guards and non-drive end shaft guards are available on request.

Paintings

Special powder-paint coatings of various thicknesses can be supplied on request.



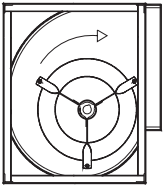
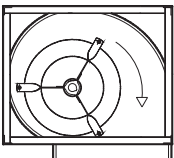
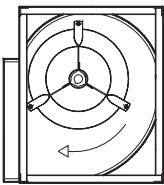
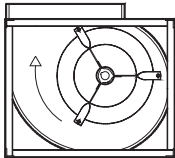
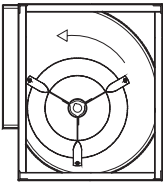
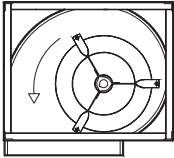
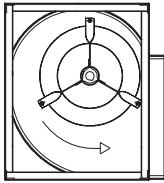
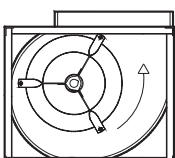
Fan Rotation and Discharge

The rotation and discharge of the fan is in accordance with AMCA standard 99-2406-83.

The direction of rotation is determined from the drive side of the fan:

CW - clockwise rotation

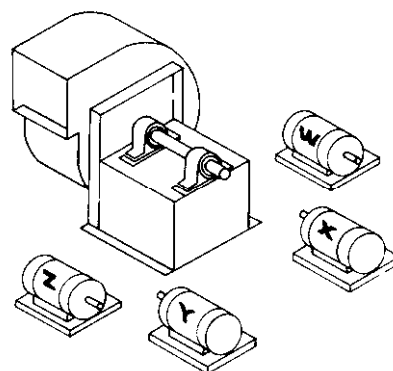
CCW - counter-clockwise rotation

	90°	180°	270°	360°
CW				
CCW				

Motor Position

The position of the motor for belt drive centrifugal fan is in accordance with AMCA standard 99-2407-66.

Location of motor is determined by facing the drive side of fan and designating the positions by letters W, X, Y, or Z.

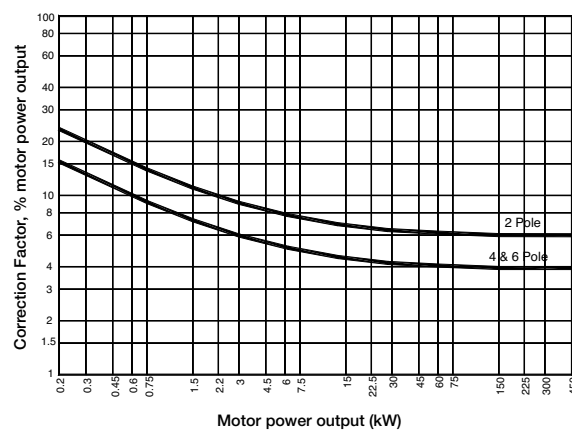


Reprinted from AMCA Standard 99-2407-03, Motor Positions for Belt Chain Drive Centrifugal Fans, with the express written permission from the Air Movement and Control Association International, Inc., 30 West 4 University Drive, Arlington Heights, IL 60004-1983.

Motor Selection

The power curve shown on each performance curve represents the absorbed power at the shaft of the fan measured in kW.

To determine the power of the motor to be installed, a correction factors should be applied to compensate for transmission losses.



Dynamic Pressure

The dynamic pressure and outlet air velocity shown on each curve are both calculated on the full air discharge area, i.e. ducted outlet conditions.

With free outlet conditions the velocity pressure is higher. To determine this new value, multiply the velocity pressure of the ducted outlet obtained from the fan curve by the following correction factor "K".

[K = 1.67]

Fan Performances calculated with this correction factors are not licensed by AMCA.

Performance

The performance data shown on each diagram has been tested and measured in accordance to AMCA Standard 210 [Fig 12] installation type B (free inlet and ducted outlet condition).

Rating are referred to the standard air density with the total pressure as a function of the air volume, using logarithmic scales.

It is essential that, the same installation type and test standards are used at all times, when comparing fan performances.

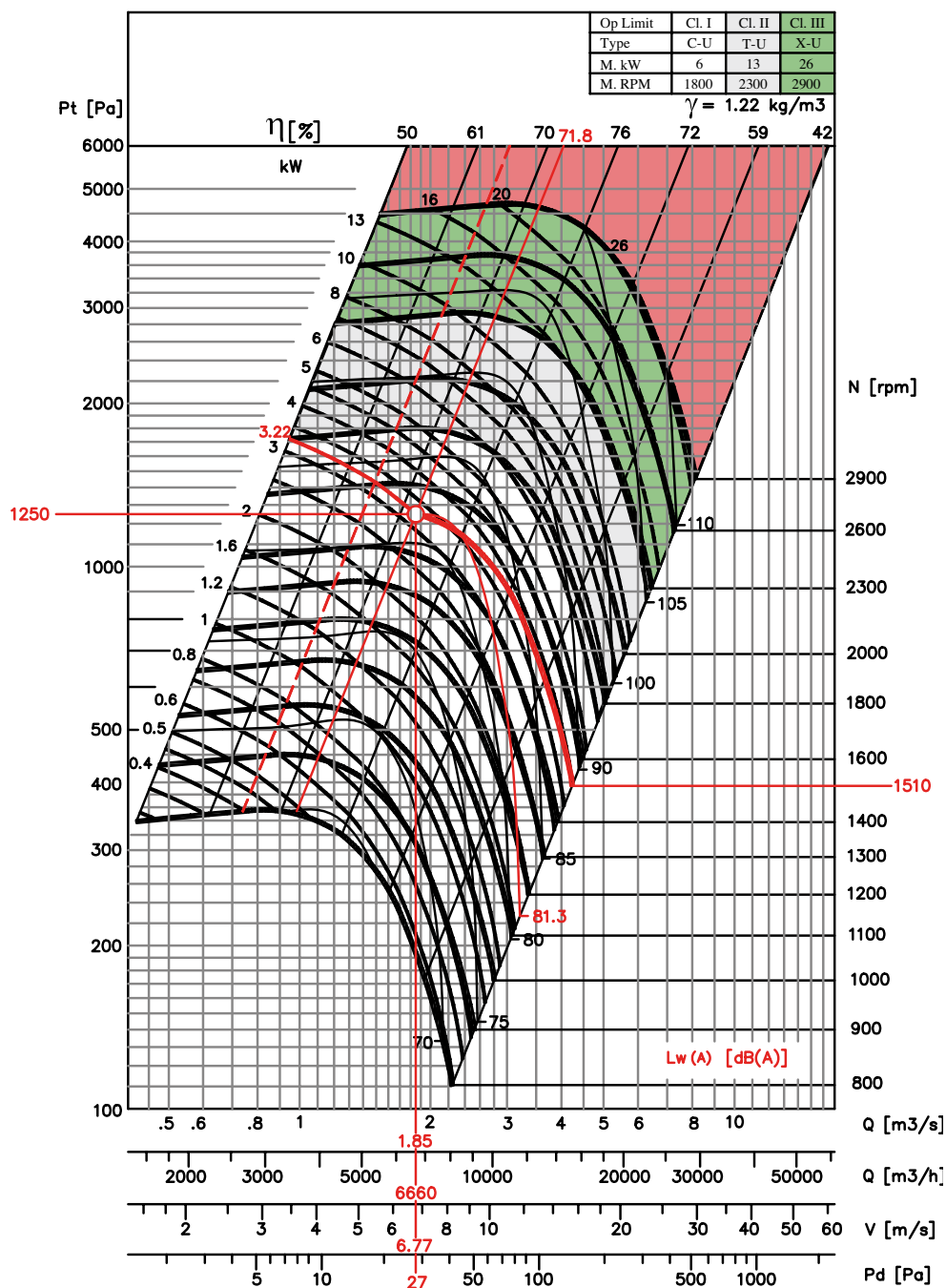
Noise

The noise level shown on each diagram refer to the sound power "A-weighted" and the data on the inlet side has been tested and measured in accordance with AMCA Standard 300 diag. 2 - configuration "B". The noise levels of the fans are determined as follows:

- Sound power level - ("A" scale): $L_w(A)$ as catalogue.
- Octave band spectrum: $L_w = L_w(A) + L_w \text{ rel. dB}$ [refer to Soler & Palau for more details].
- Sound pressure level:
 - a) free field
$$L_p(A) = L_w(A) - (20 \log_{10} d) - 11$$
 - b) room conditions
$$L_p(A) = L_w(A) - (20 \log_{10} d) - 7$$where d = distance of fan (m)

Example of Selection

BSB 560



Air Volume $Q = 6660 \text{ m}^3/\text{h}$

Outlet Velocity $V = 6.77 \text{ m/s}$

Dynamic Pressure $P_d = 27 \text{ Pa}$

Total Pressure $P_t = 1250 \text{ Pa}$

Fan Speed $N = 1510 \text{ rpm}$

Absorbed Power $W = 3.22 \text{ kW}$

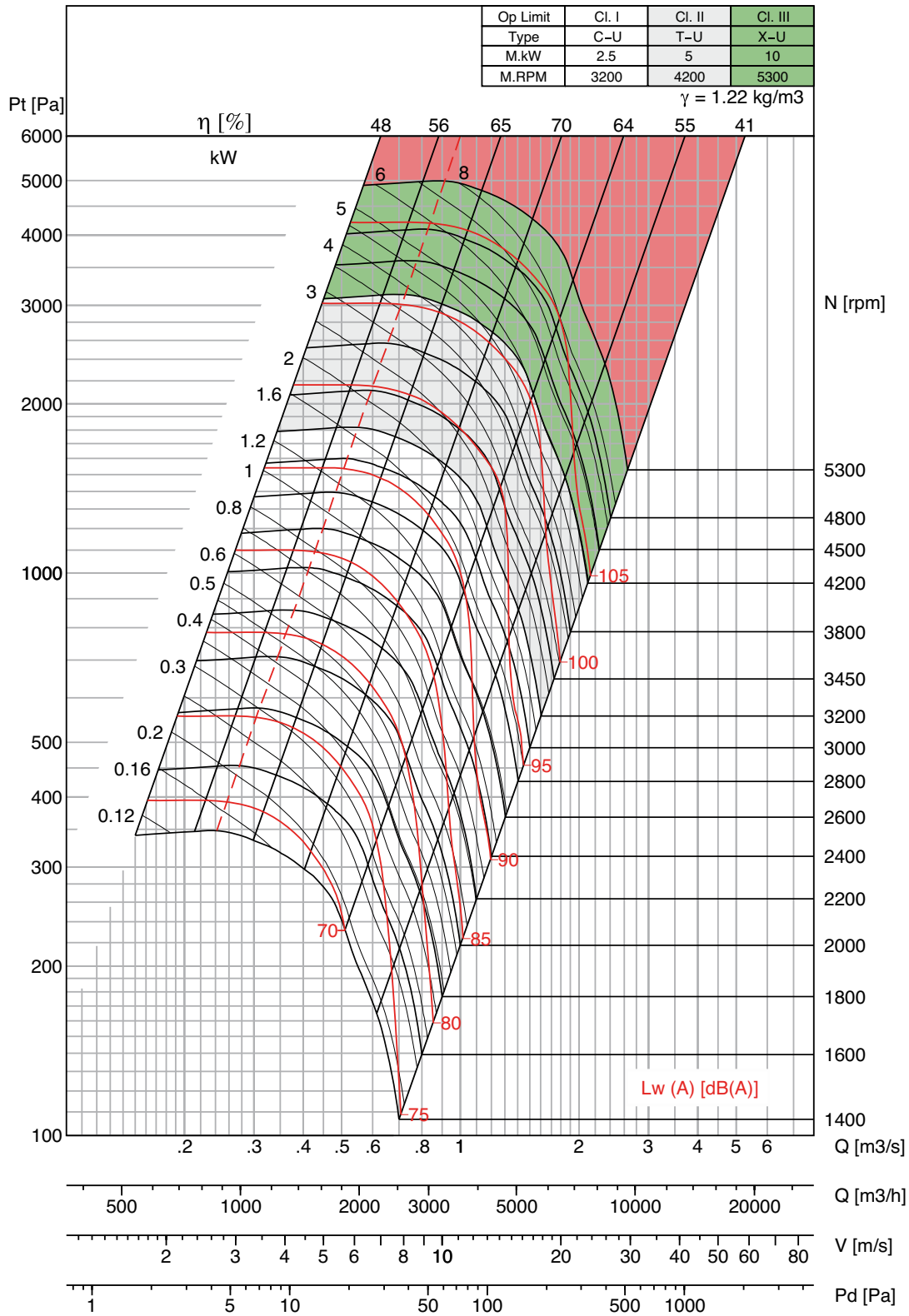
Total Efficiency $\eta = 71.8 \%$

Sound Power Level $L_w(A) = 81.3 \text{ dB(A)}$

- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

BSB 315

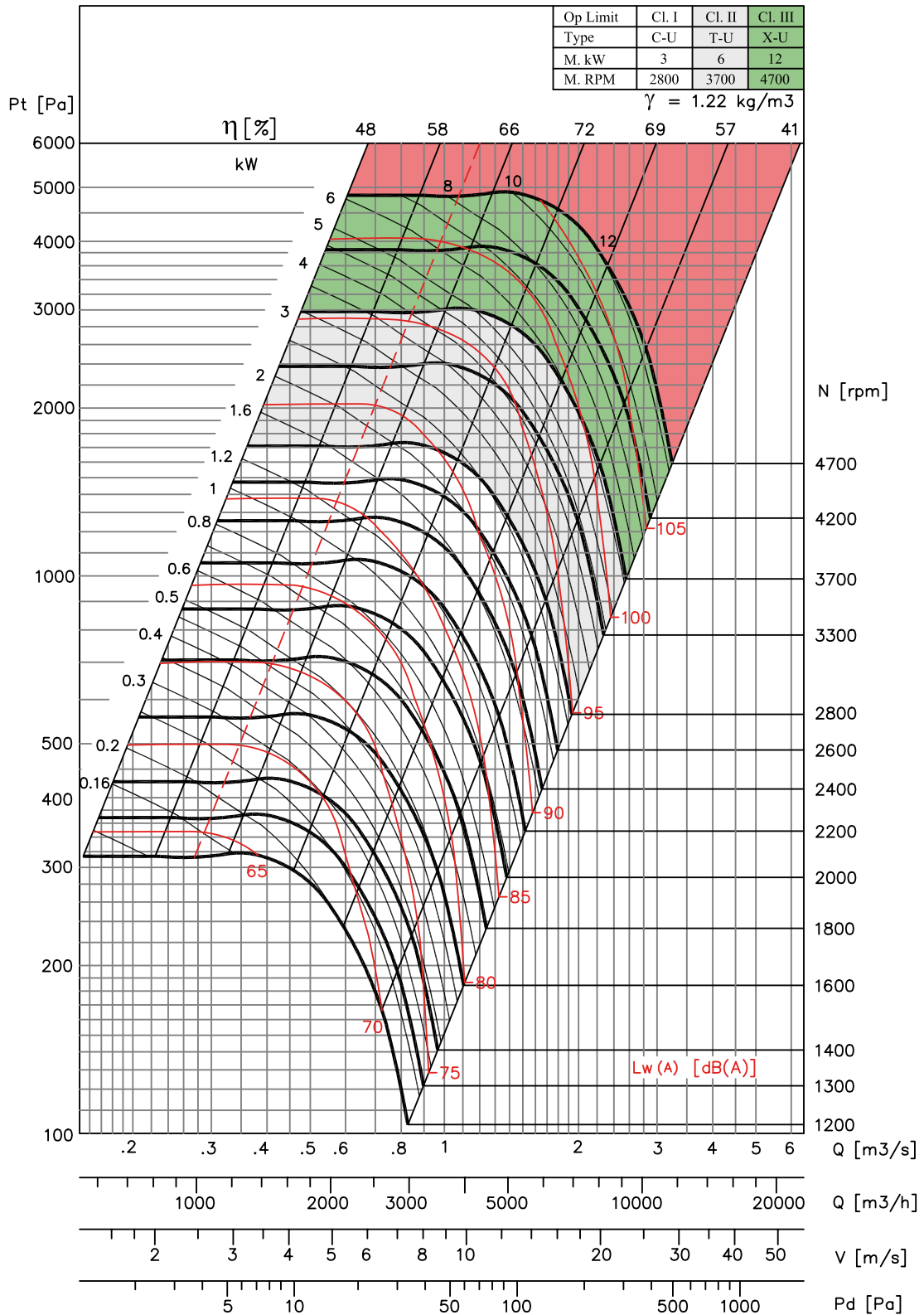


- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lwi(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.



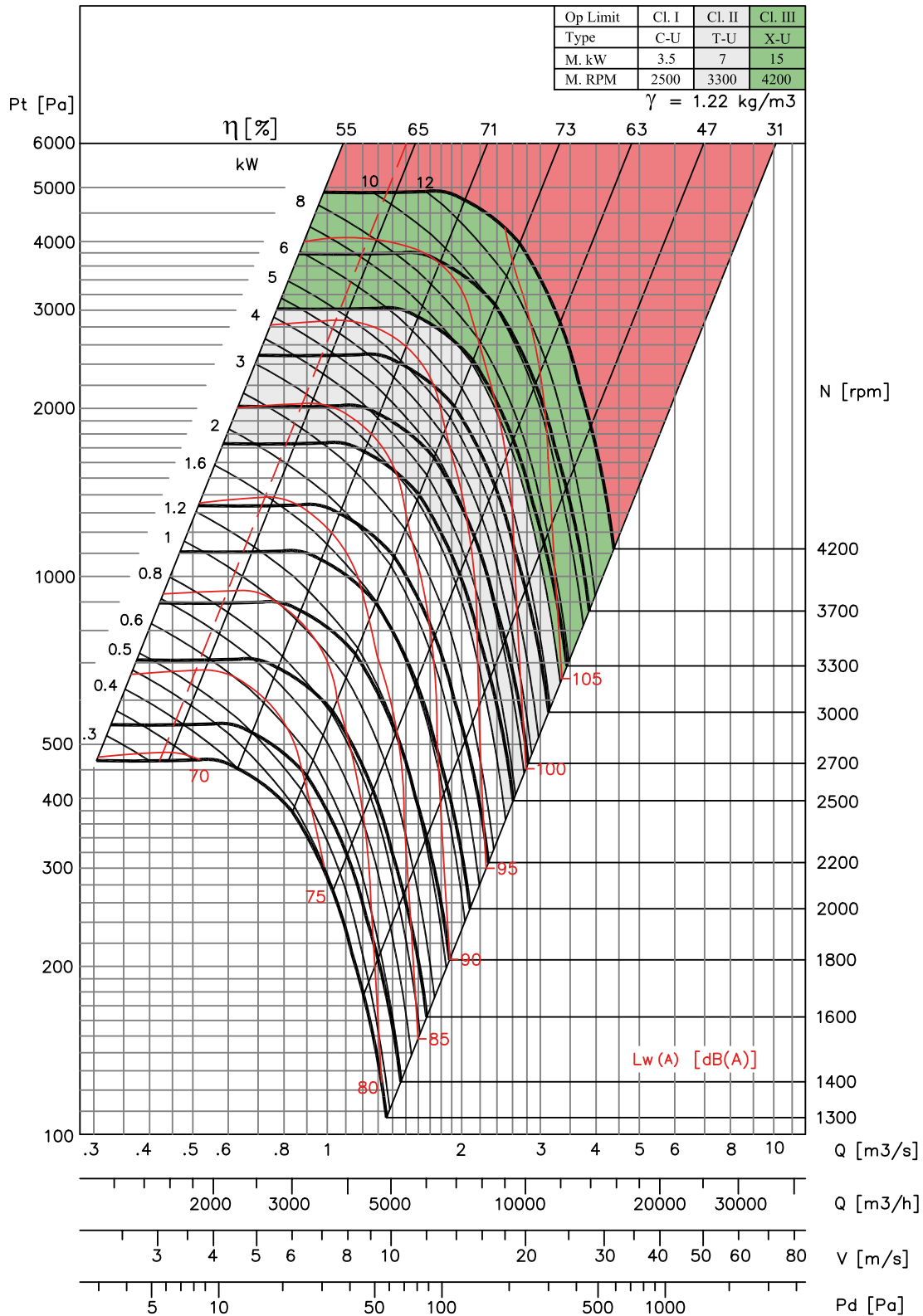
BSB 355



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lw(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

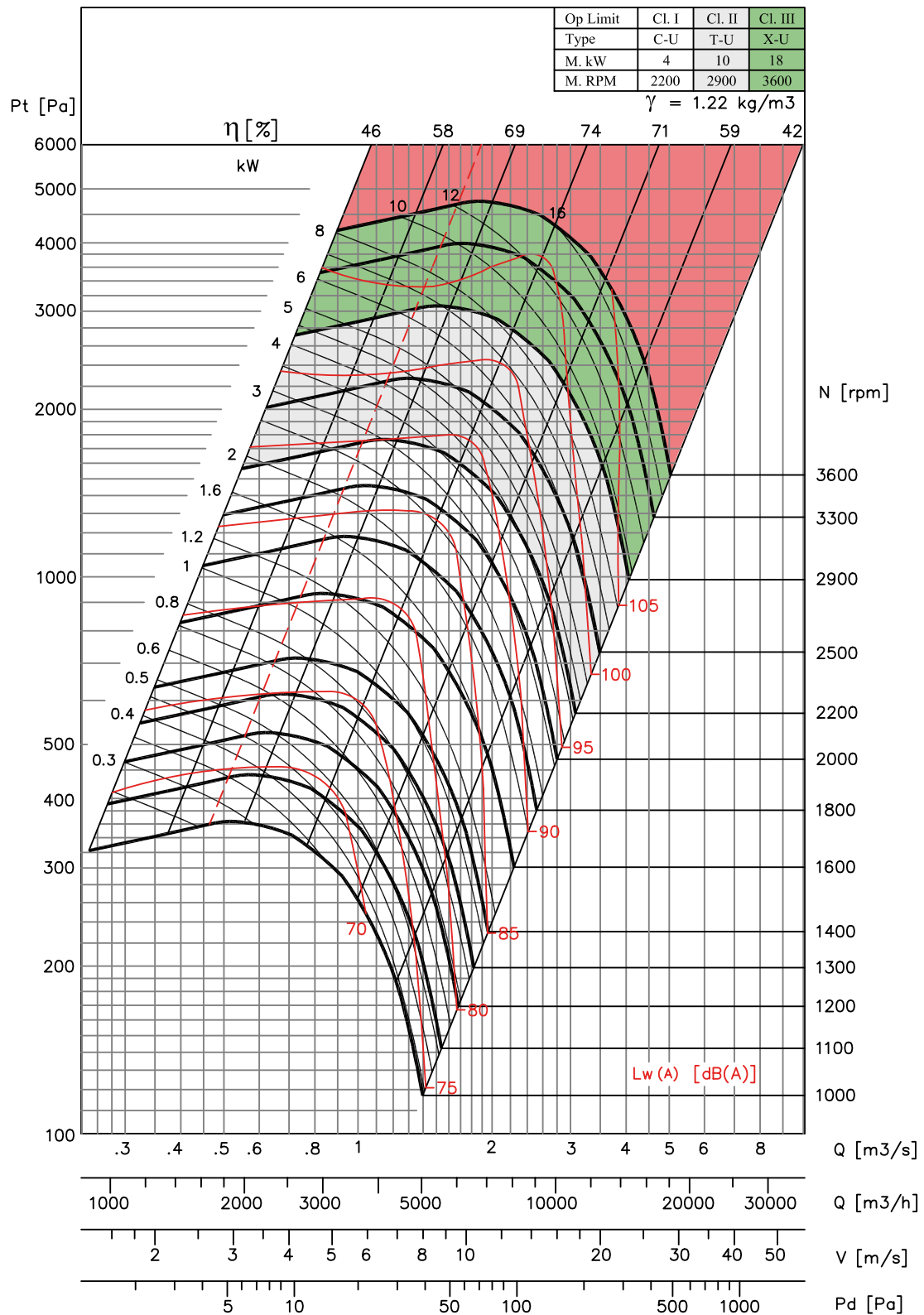
BSB 400



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lwi(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

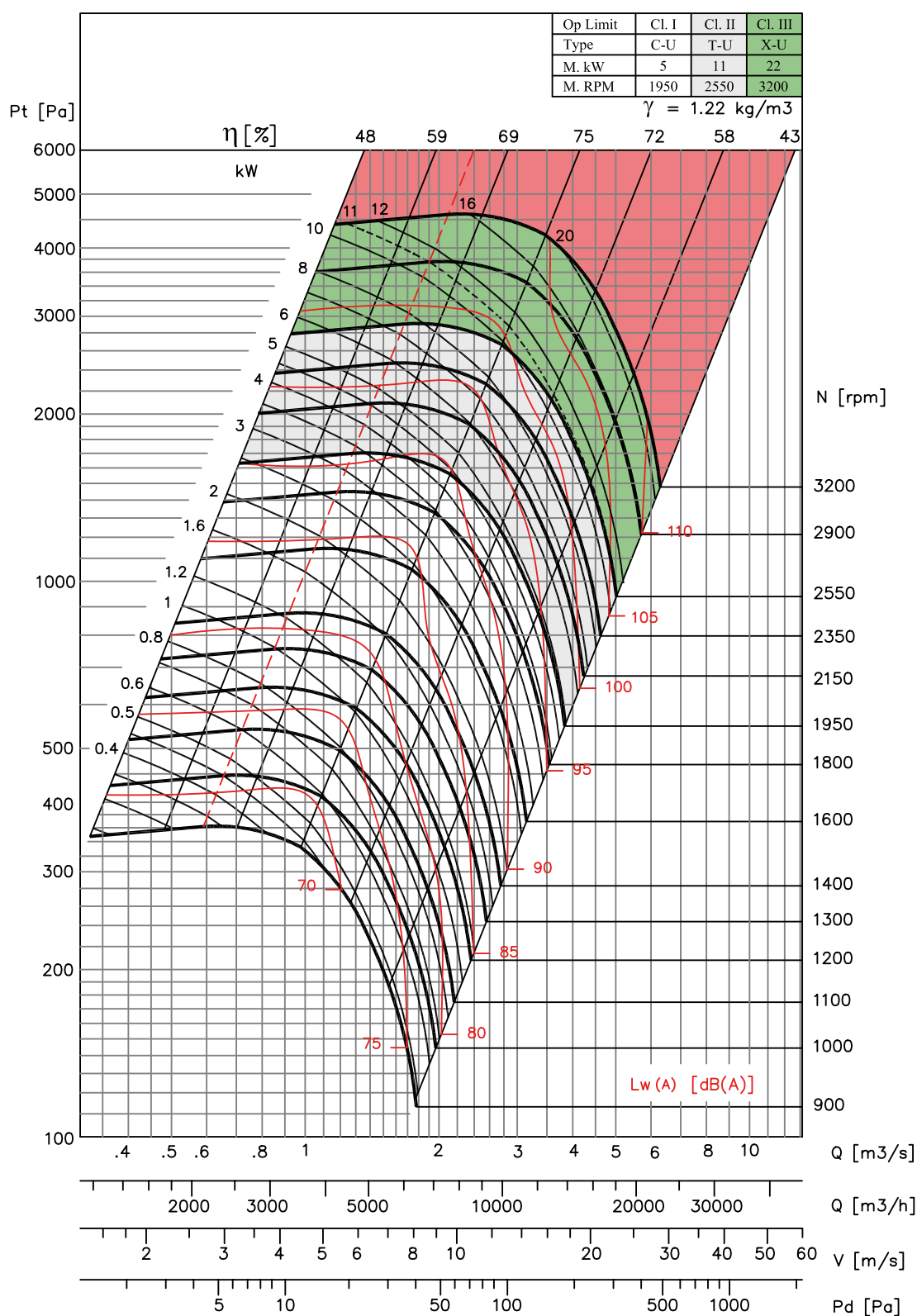
BSB 450



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

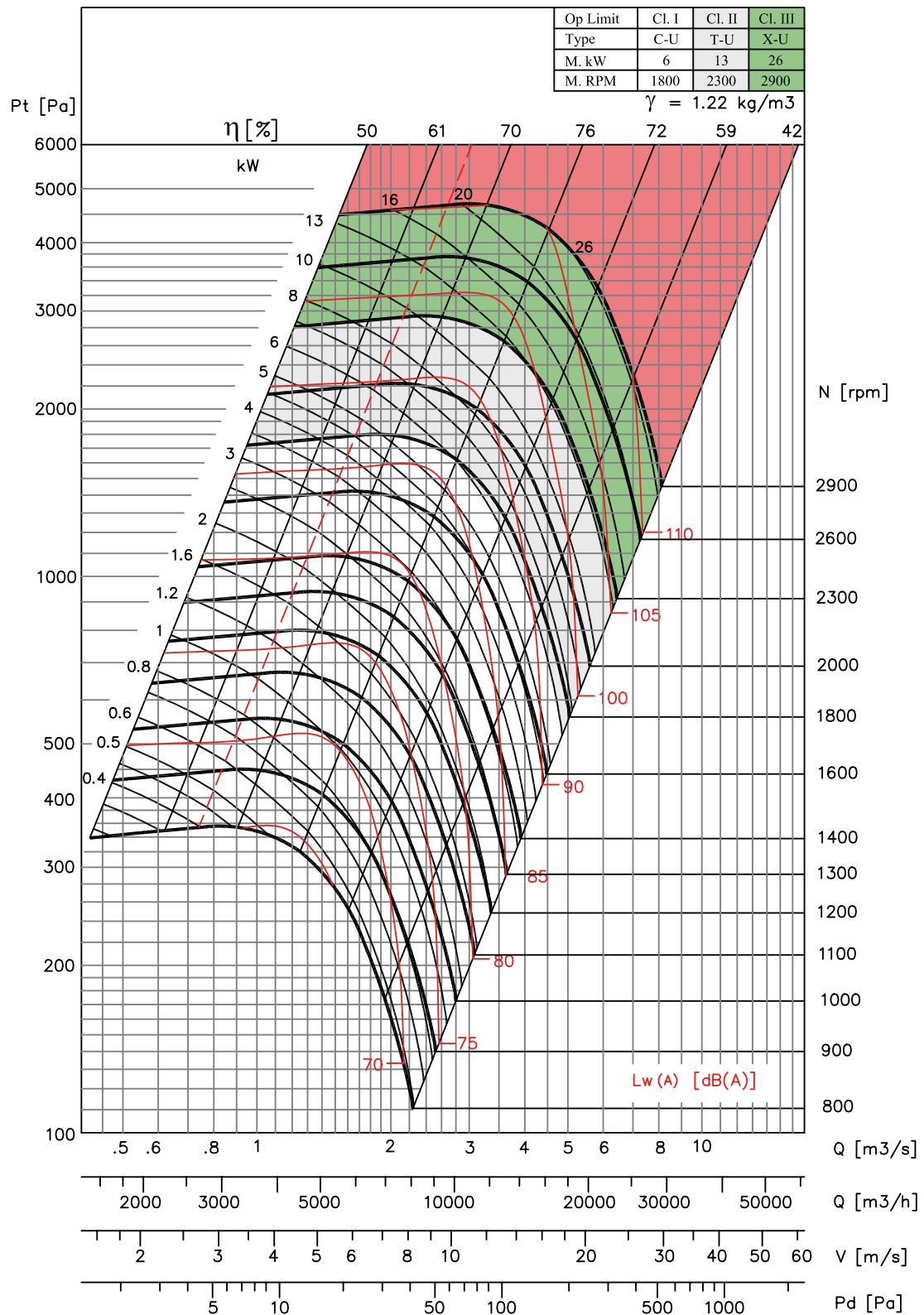
BSB 500



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lwi(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

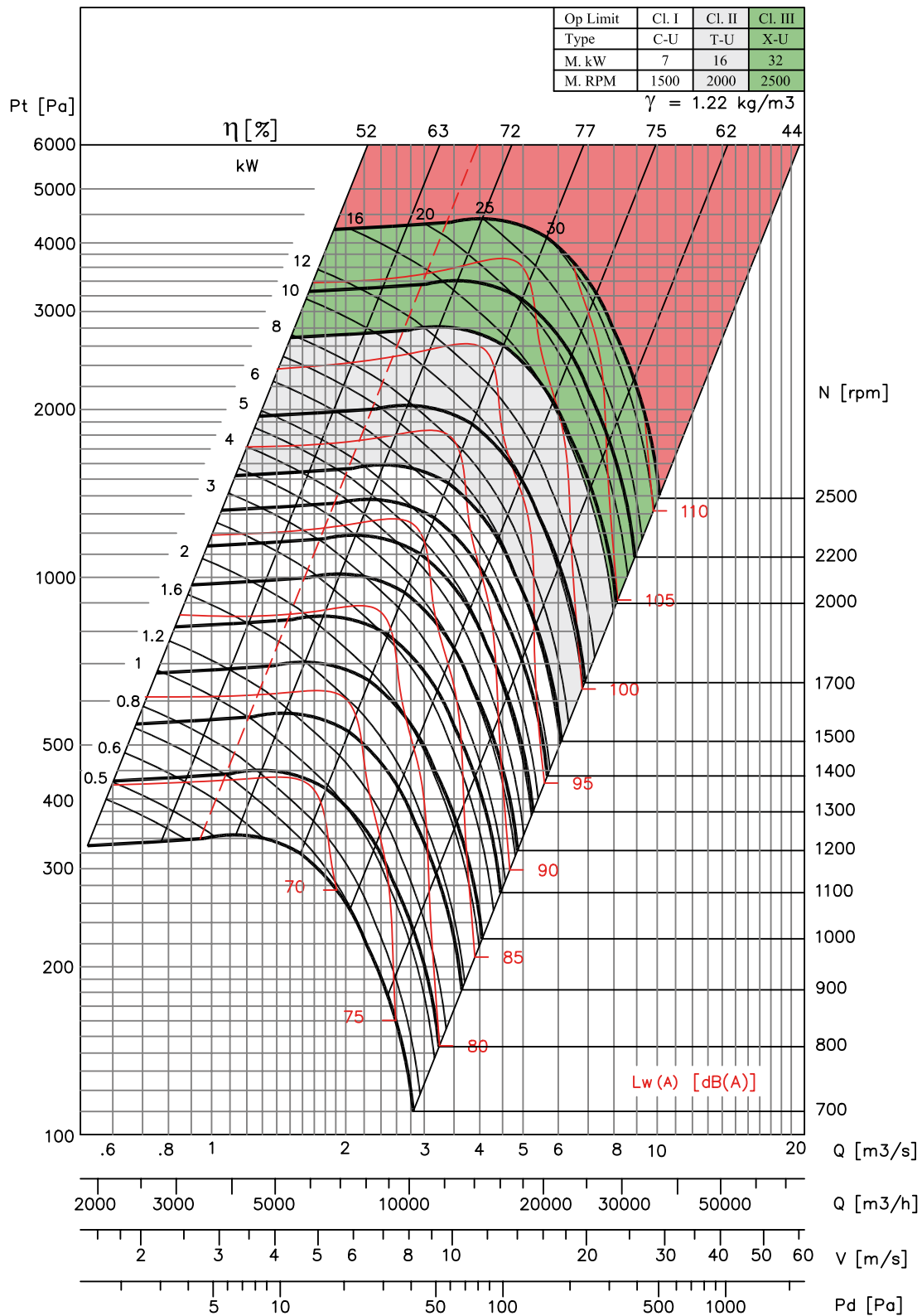
BSB 560



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lw(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

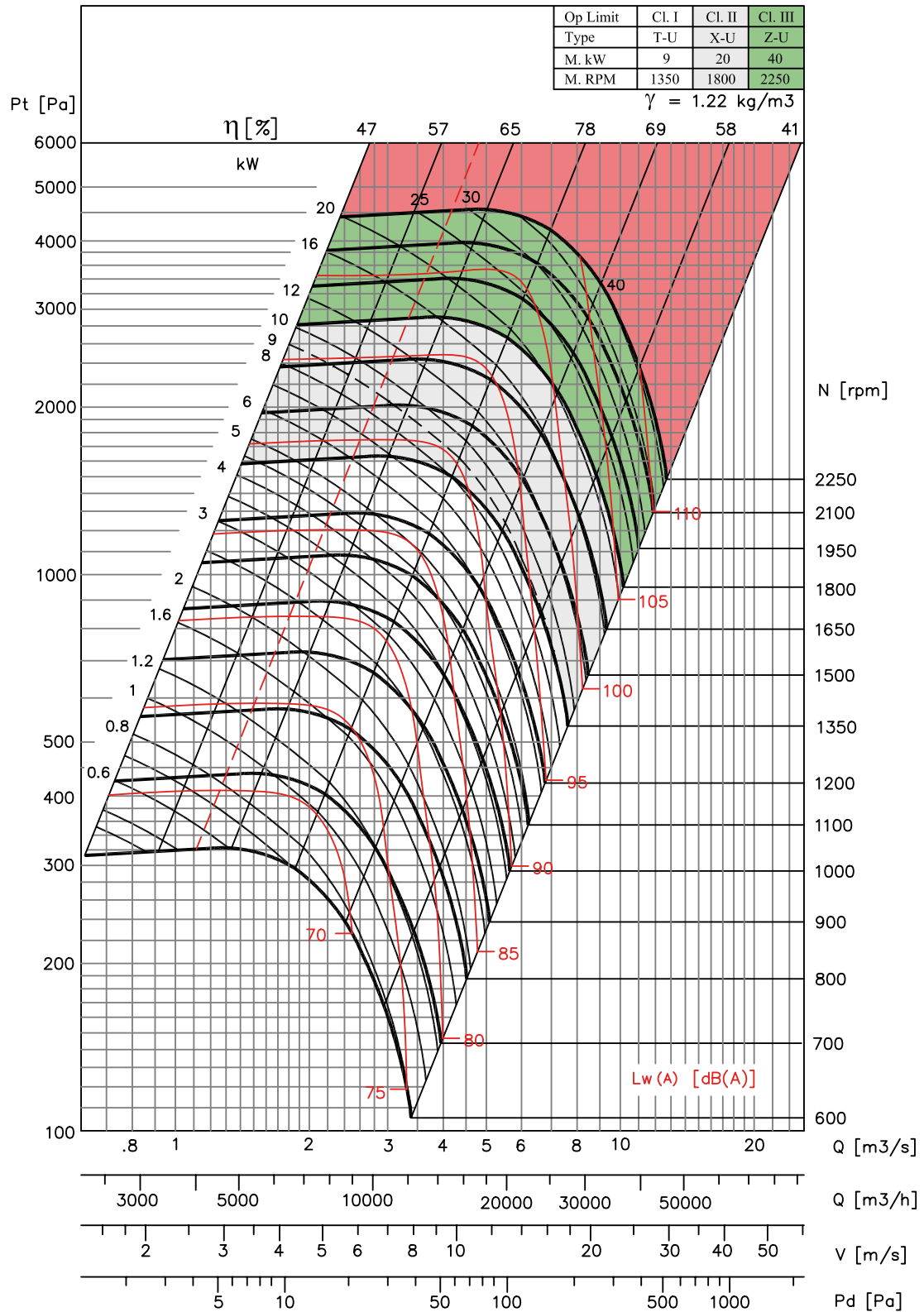
BSB 630



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

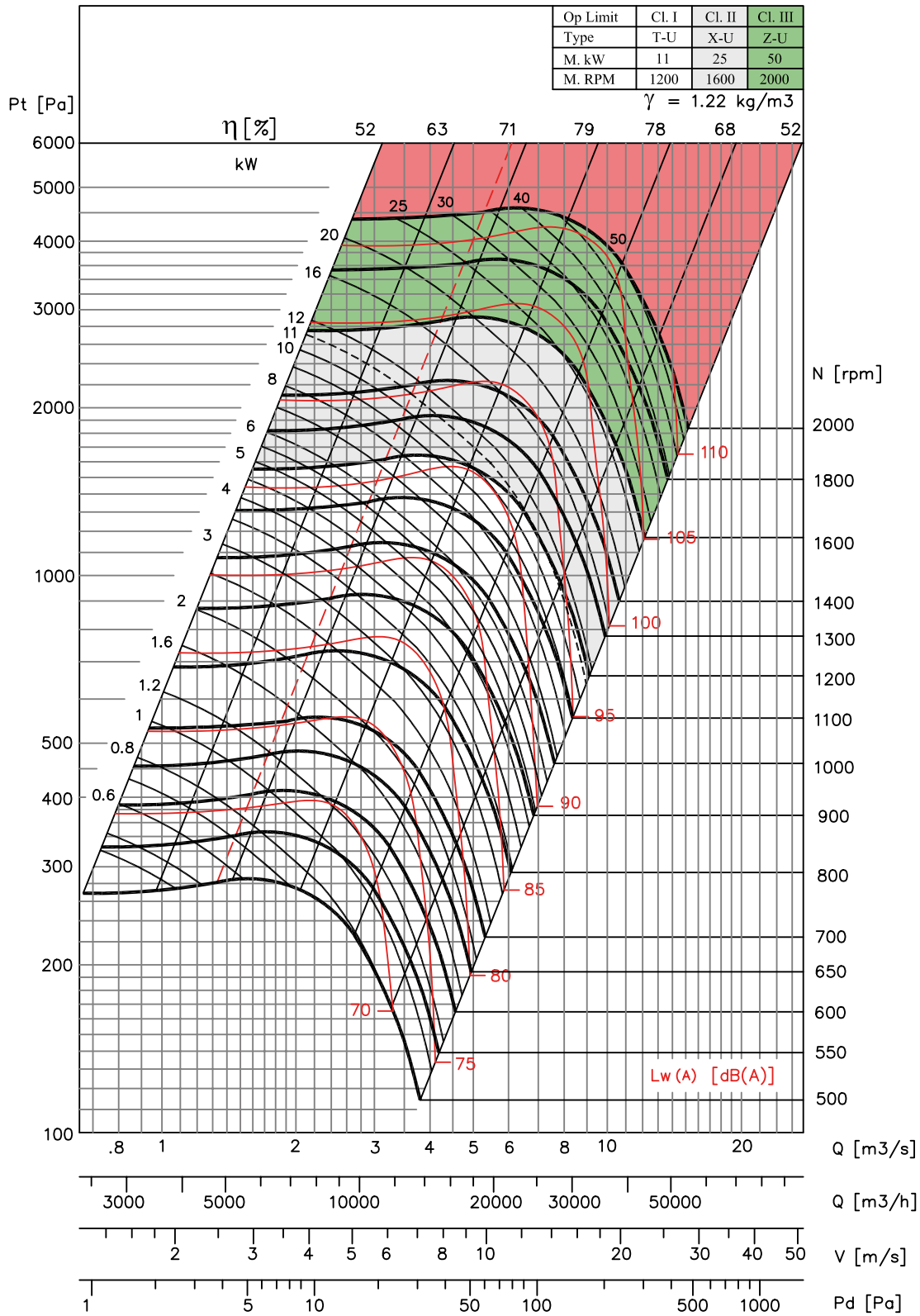
BSB 710



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lwi(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

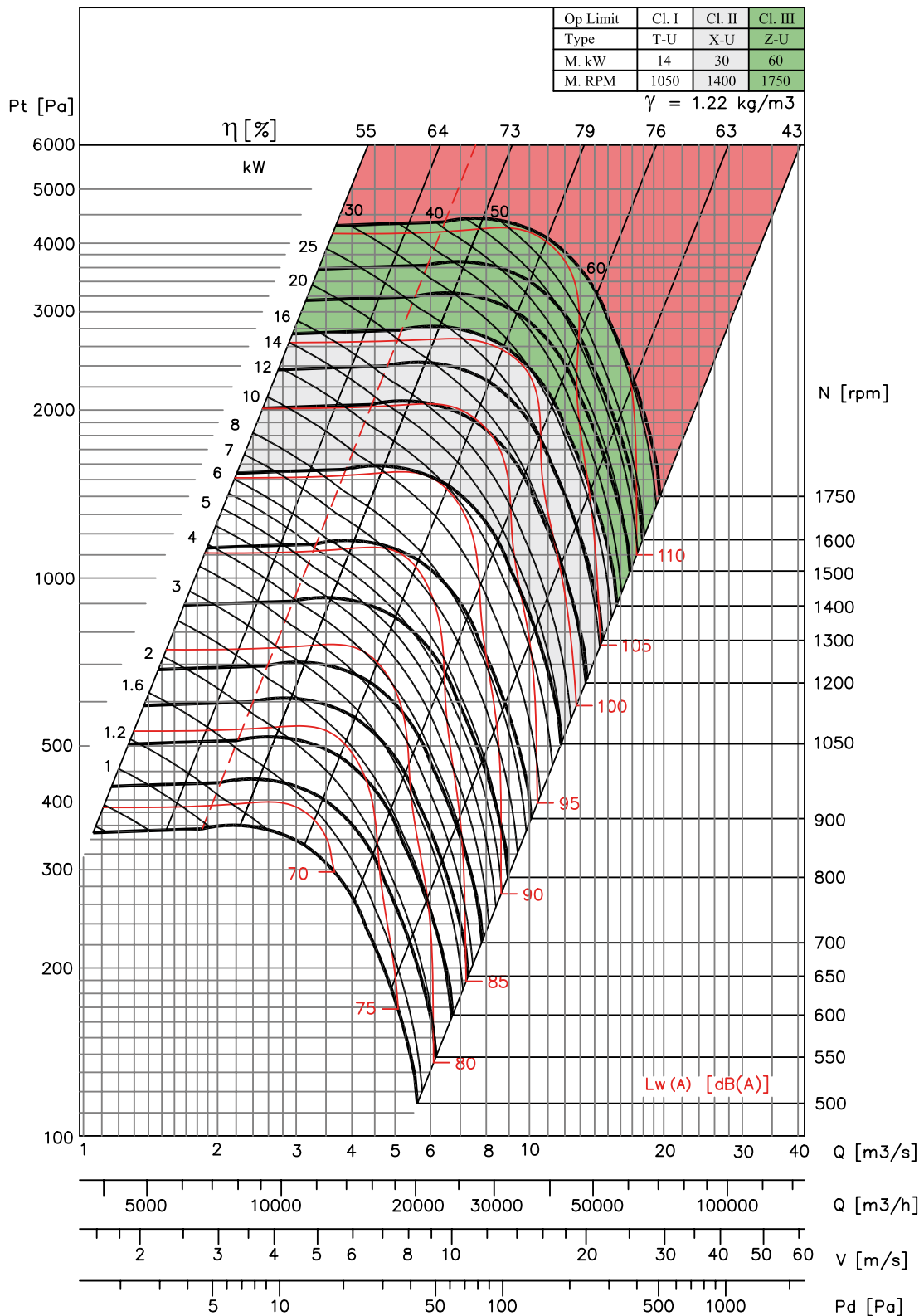
BSB 800



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lwi(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

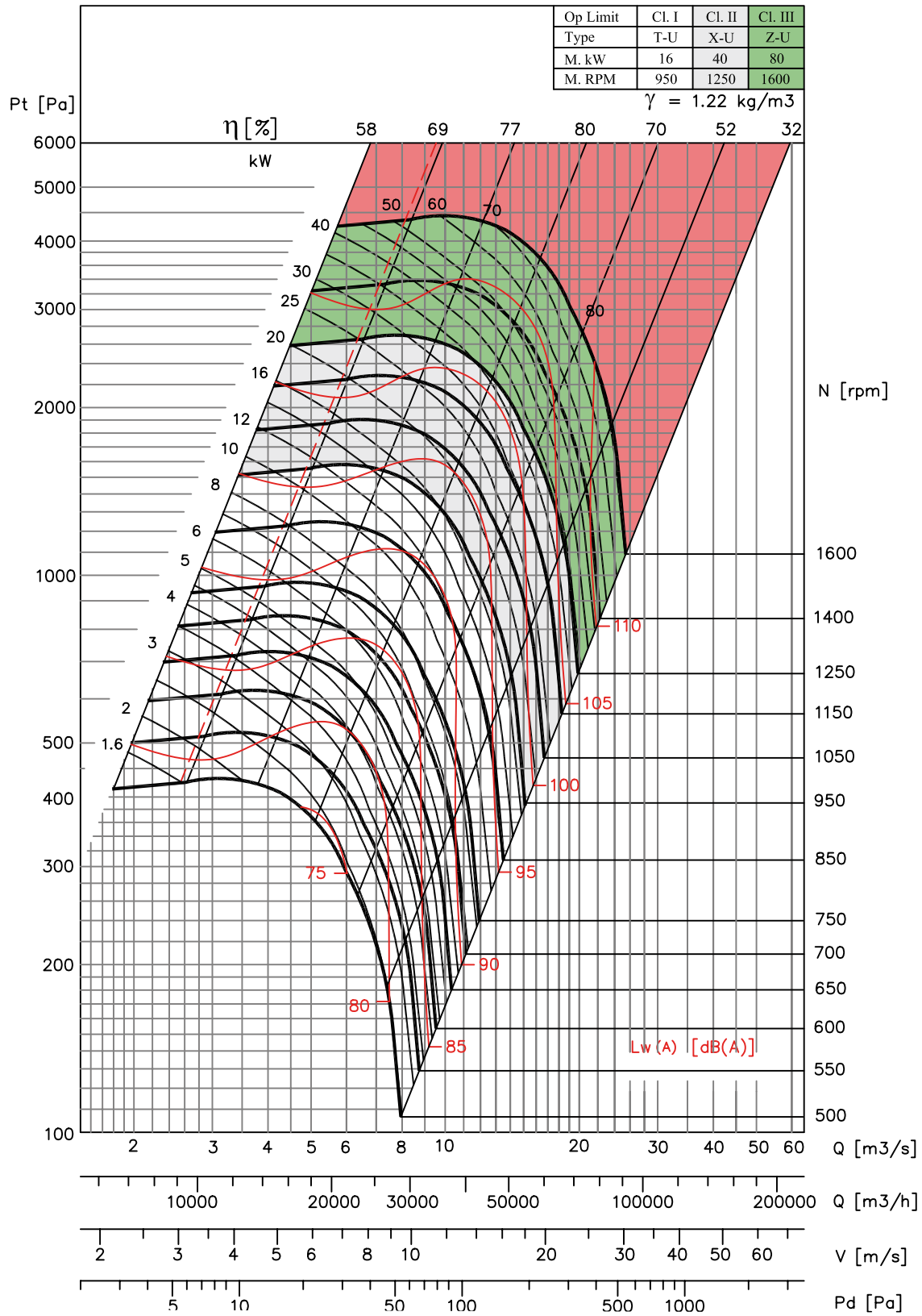
BSB 900



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lw(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

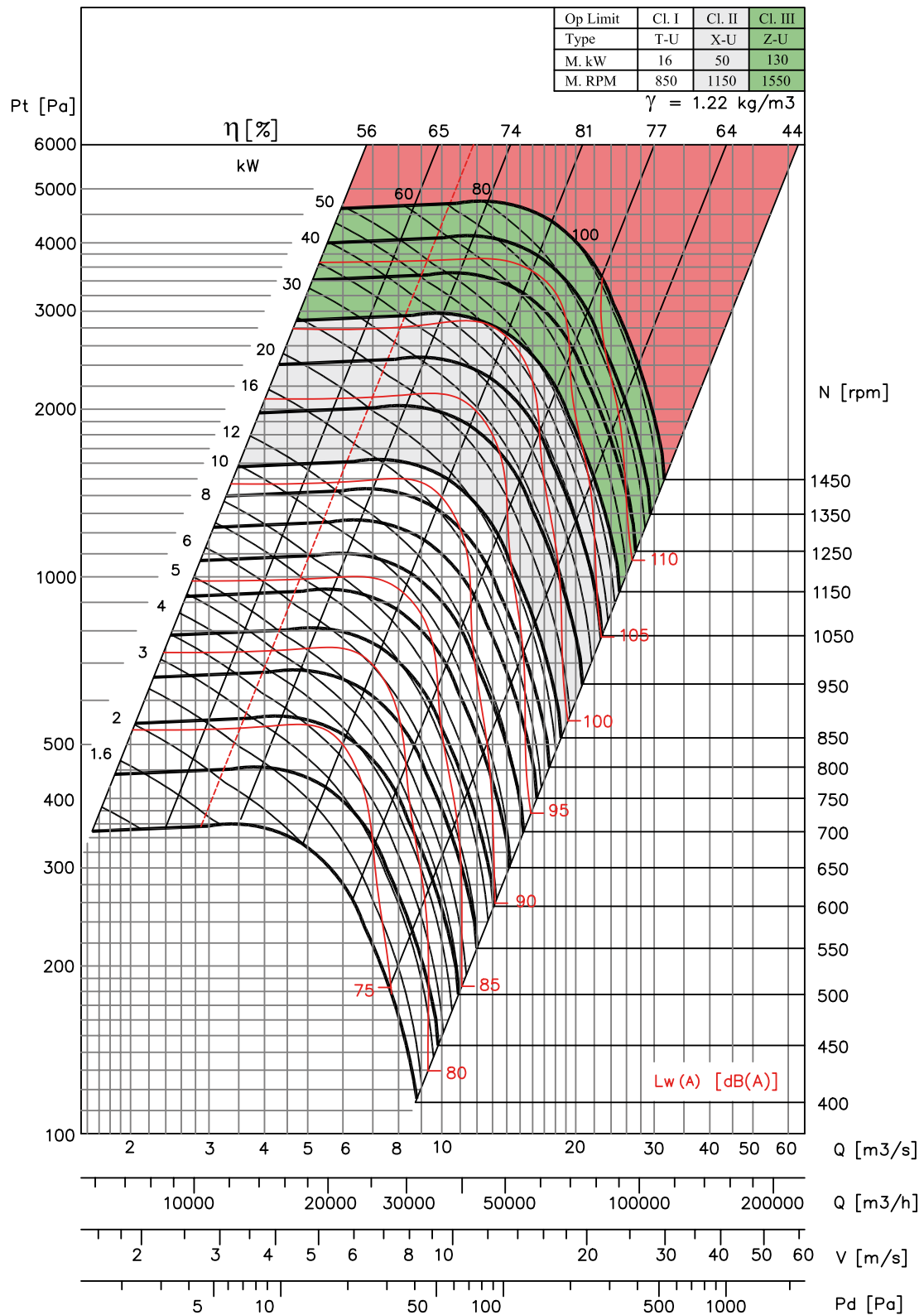
BSB 1000



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

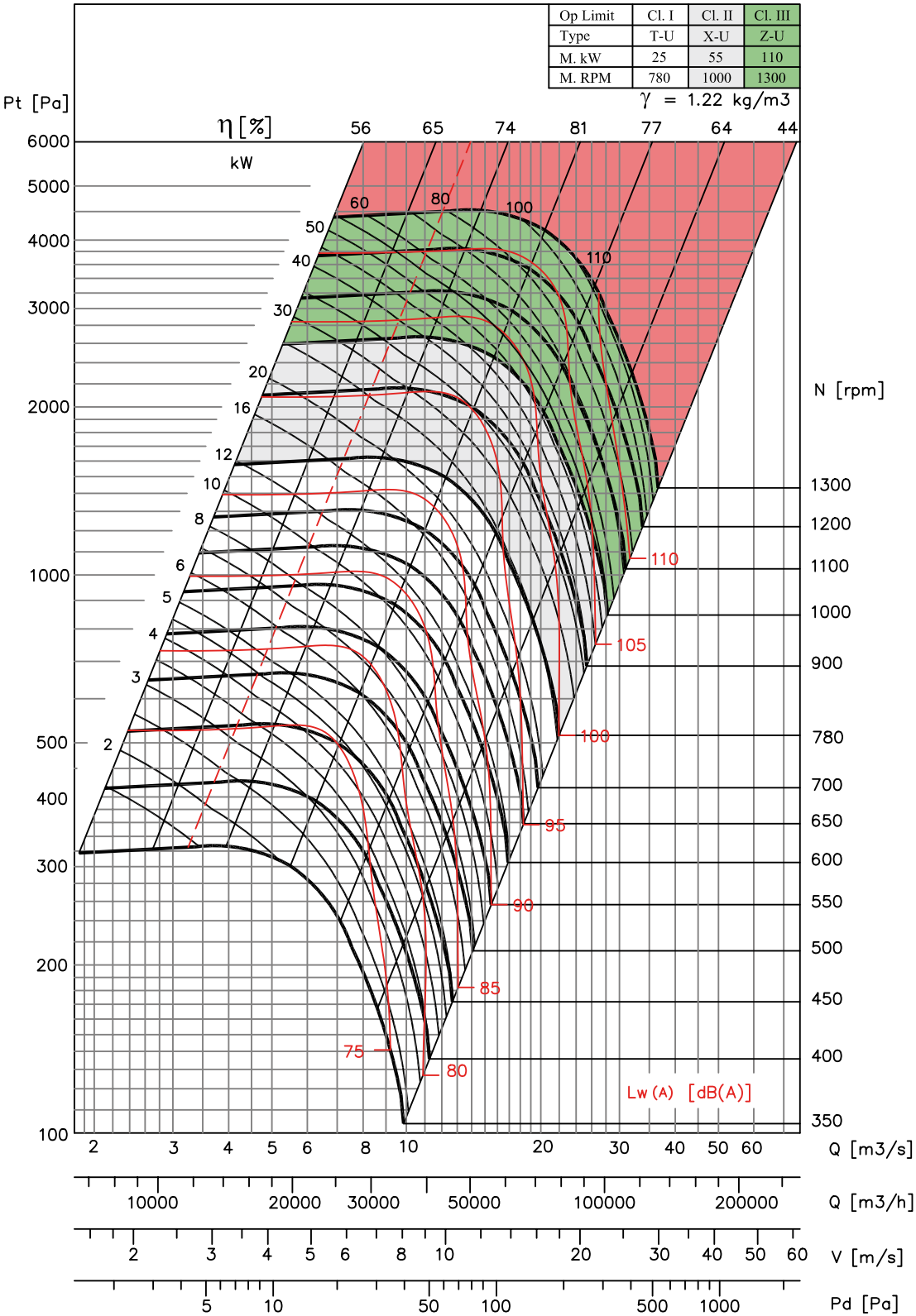
BSB 1120



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet Lw(A) sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

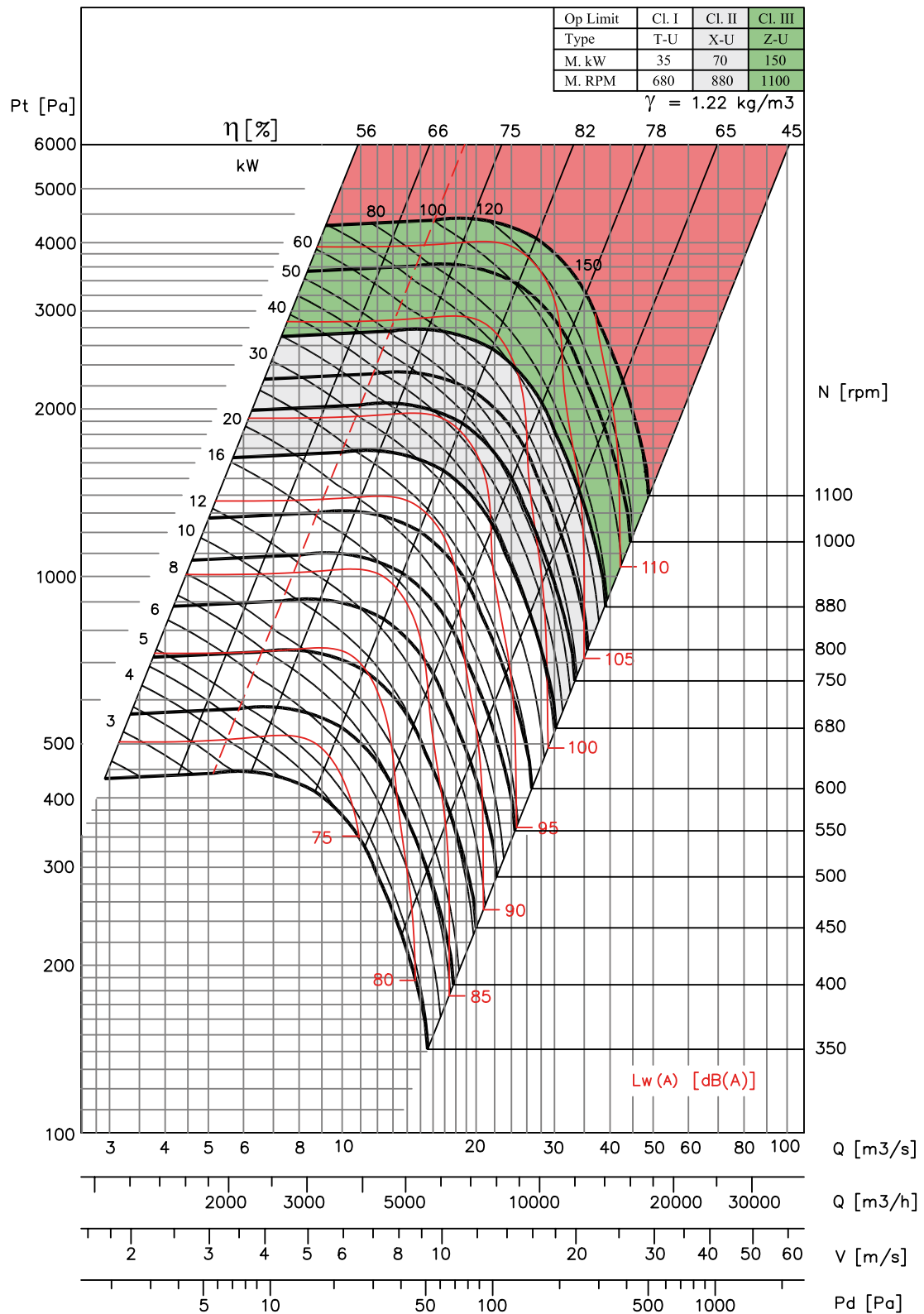
BSB 1250



- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

BSB 1400

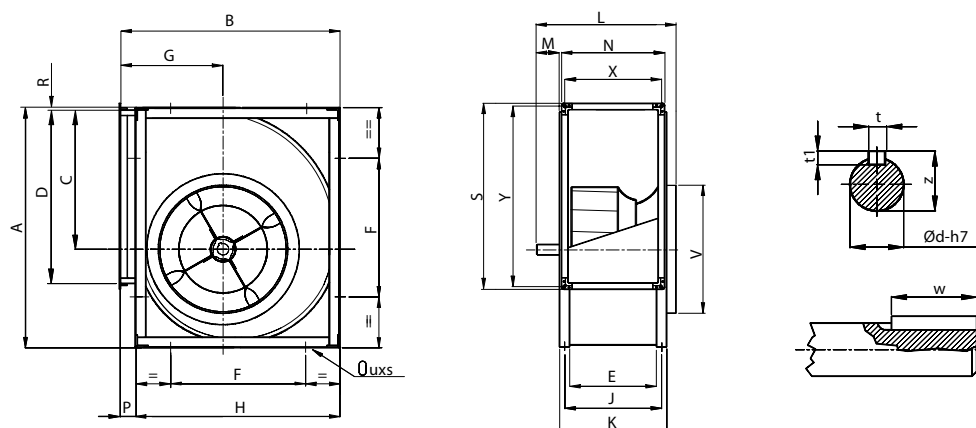


- Performance shown is for Installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances in the airstream. Power rating kW does not include drive losses.

- The A-weighted sound ratings shown have been calculated per AMCA standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet. Ratings do not include the effect of duct end corrections.

BSB 'C'

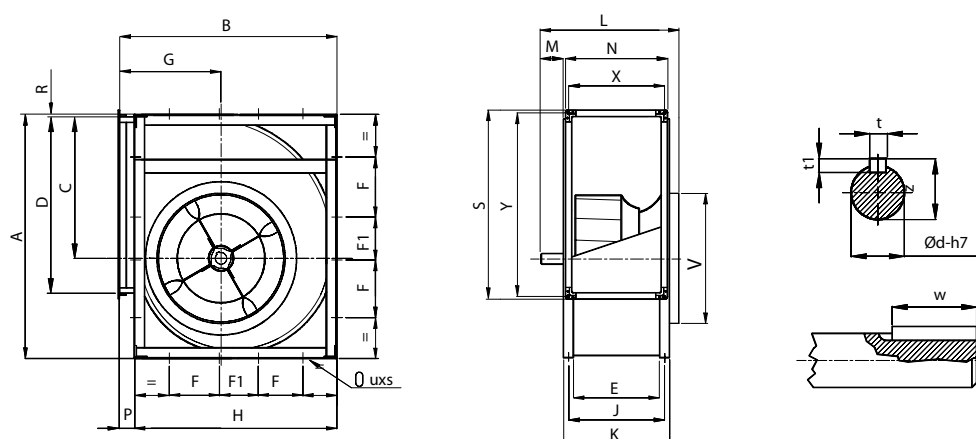
BSB 315-400 'C'



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	X	Y	t	t1	w	z	ød	uxs
315	578	518	340	404	223	330	236	480	253	283	451	78	279	38	3	460	319	251	432	8	7	40	28	25	13x18
355	654	578	383	452	247	368	260	548	287	327	479	72	303	30	6	508	359	275	480	8	7	40	33	30	13x18
400	736	650	432	506	274	402	290	612	314	354	506	72	330	38	5	562	404	302	534	8	7	40	33	30	13x18

All Dimensions in mm.

BSB 450-630 'C'

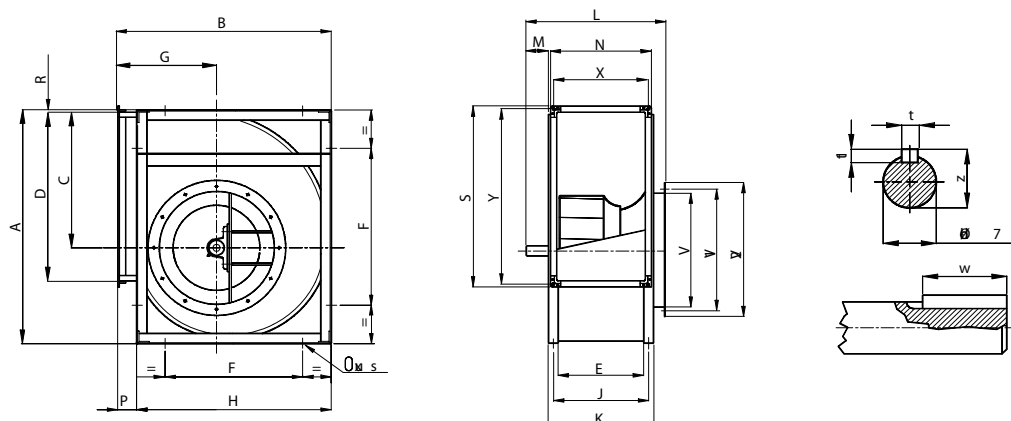


Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	N	P	R	S	V	X	Y	t	t1	w	z	ød	uxs
450	827	726	486	568	308	200	111	322	681	348	388	556	88	364	45	5	624	454	336	596	10	8	50	38	35	13x18
500	918	800	538	638	345	245	120	352	750	385	425	593	88	401	50	5	694	504	373	666	10	8	50	38	35	13x18
560	1030	892	603	714	383	280	125	390	844	433	483	653	100	439	48	7	770	564	411	742	12	8	70	43	40	13x18
630	1157	998	679	800	433	328	110	434	945	483	533	703	100	489	53	6	856	634	461	828	12	8	70	43	40	13x18

All Dimensions in mm.

BSB 'T'

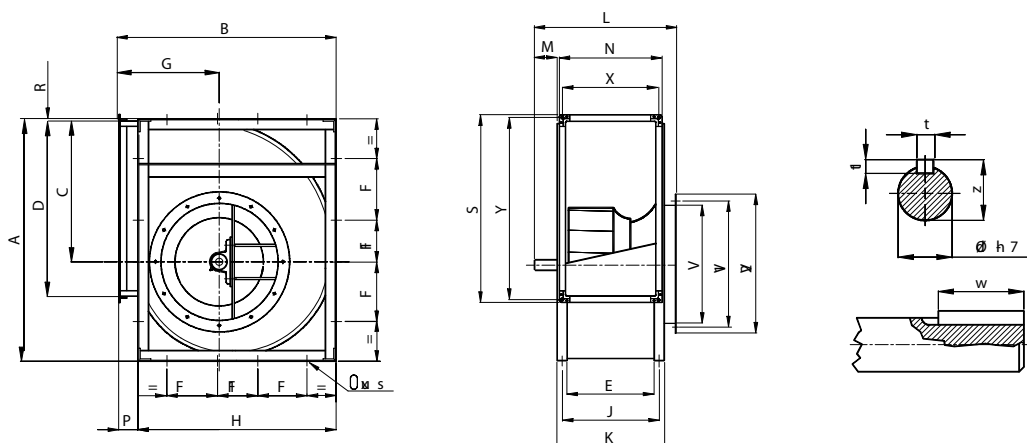
BSB 315-400 'T'



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
315	578	518	340	404	223	330	236	480	253	283	451	78	279	38	3	460	315	356	395	251	432	8	7	40	28	25	13x18
355	654	578	383	452	247	368	260	548	287	327	481	74	303	30	6	508	355	395	435	275	480	8	7	40	33	30	13x18
400	736	650	432	506	274	402	290	612	314	354	508	74	330	38	5	562	400	438	480	302	534	8	7	40	33	30	13x18

All Dimensions in mm.

BSB 450-1000 'T'

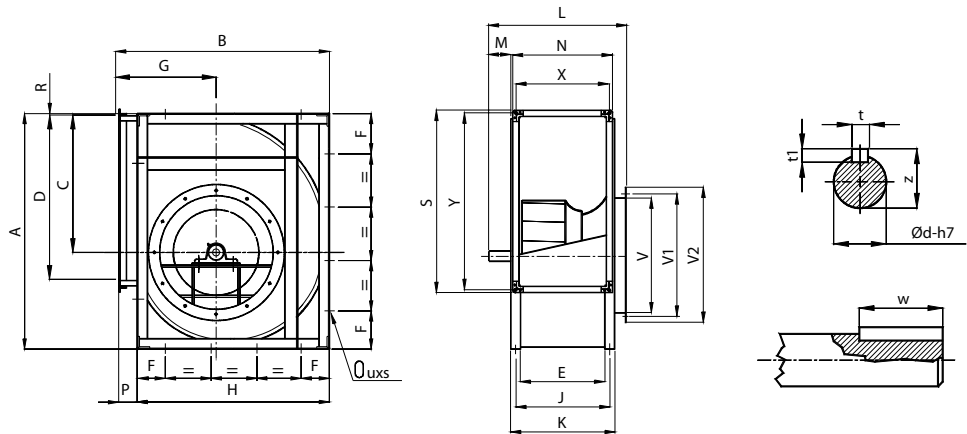


Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
450	827	726	486	568	308	200	111	322	681	348	388	564	96	364	45	5	624	450	487	530	336	596	10	8	50	38	35	13x18
500	918	800	538	638	345	245	120	352	750	385	425	601	96	401	50	5	694	500	541	580	373	666	10	8	50	38	35	13x18
560	1030	892	603	714	383	280	125	390	844	433	483	661	108	439	48	7	770	560	605	646	411	742	12	8	70	43	40	13x18
630	1157	998	679	800	433	328	110	434	945	483	533	711	108	489	53	6	856	630	674	716	461	828	12	8	70	43	40	13x18
710	1302	1120	765	898	479	360	150	484	1057	529	579	763	114	535	63	7	954	710	751	796	507	926	14	9	70	48.5	45	17x22
800	1468	1254	862	1006	533	405	171	540	1180	583	633	817	114	589	74	7	1062	800	837	886	561	1034	14	9	70	48.5	45	17x22
900	1648	1408	971	1130	595	455	189	604	1319	645	695	906	141	651	89	7	1186	900	934	986	623	1158	16	10	90	59	55	17x22
1000	1810	1540	1066	1266	663	500	200	656	1450	713	763	974	141	719	90	9	1322	1000	1043	1086	691	1294	16	10	90	59	55	17x22

All Dimensions in mm.

BSB 'T'

BSB 1120-1400 'T'

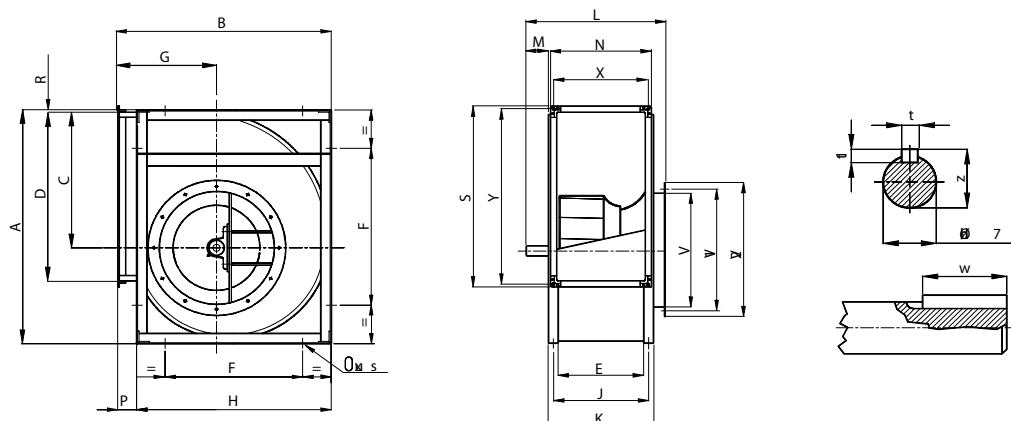


Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
1120	2033	1725	1200	1422	744	290	748	1630	804	870	1146	133	800	95	9	1478	1120	1180	1226	772	1450	18	11	90	64	60	17x22
1250	2285	1930	1353	1524	803	300	830	1831	878	953	1232	148	859	99	9	1580	1250	1303	1358	831	1552	18	11	110	69	65	17x22
1400	2568	2170	1515	1794	934	310	963	2057	1009	1084	1381	166	990	113	13	1850	1400	1480	1506	962	1822	20	12	110	74.5	70	17x22

All Dimensions in mm.

BSB 'X'

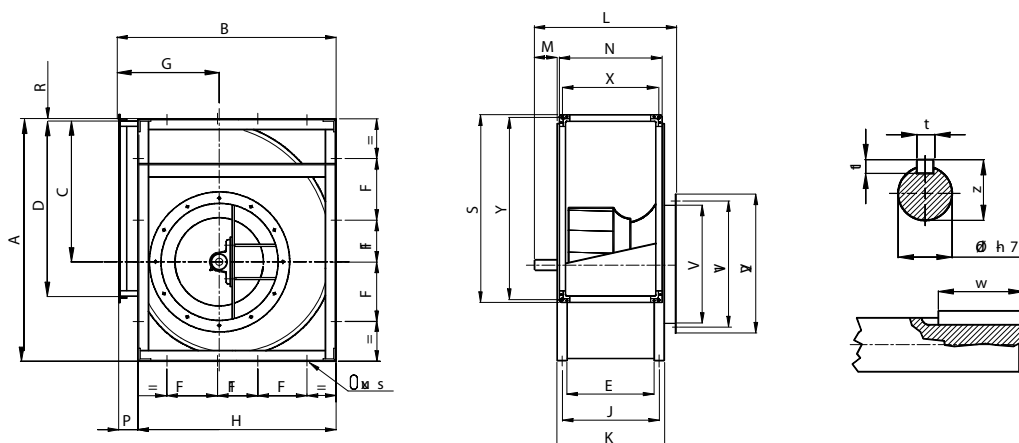
BSB 315-400 'X'



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
315	578	518	340	404	223	330	236	480	253	283	457	84	279	38	3	460	315	356	395	251	432	8	7	40	33	30	13x18
355	654	578	383	452	247	368	260	548	287	327	503	96	303	30	6	508	355	395	435	275	480	10	8	50	38	35	13x18
400	736	650	432	506	274	402	290	612	314	354	530	96	330	38	5	562	400	438	480	302	534	10	8	50	38	35	13x18

All Dimensions in mm.

BSB 450-1000 'X'



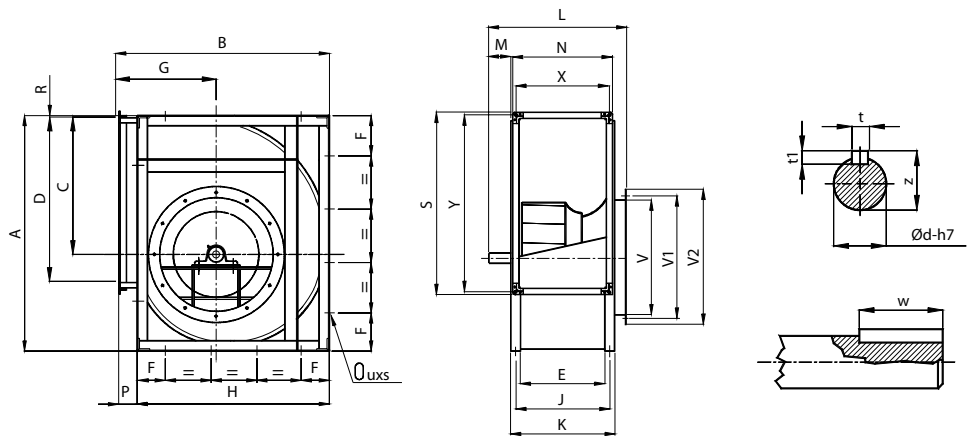
Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
450	827	726	486	568	308	200	111	322	681	348	388	586	118	364	45	5	624	450	487	530	336	596	12	8	70	43	40	13x18
500	918	800	538	638	345	245	120	352	750	385	425	623	118	401	50	5	694	500	541	580	373	666	12	8	70	43	40	13x18
560	1030	892	603	714	383	280	125	390	844	433	483	667	114	439	48	7	770	560	605	646	411	742	14	9	70	48.5	45	13x18
630	1157	998	679	800	433	328	110	434	945	483	533	717	114	489	53	6	856	630	674	716	461	828	14	9	70	48.5	45	13x18
710	1302	1120	765	898	479	360	150	484	1057	529	579	787	138	535	63	7	954	710	751	796	507	926	14	9	90	53.5	50	17x22
800	1468	1254	862	1006	533	405	171	540	1180	583	633	841	138	589	74	7	1062	800	837	886	561	1034	14	9	90	53.5	50	17x22
900	1648	1408	971	1130	595	455	189	604	1319	645	695	911	146	651	89	7	1186	900	934	986	623	1158	18	11	90	64	60	17x22
1000	1810	1540	1066	1266	663	500	200	656	1450	713	763	979	146	719	90	9	1322	1000	1043	1086	691	1294	18	11	90	64	60	17x22

All Dimensions in mm.



BSB 'X'

BSB 1120-1400 'X'

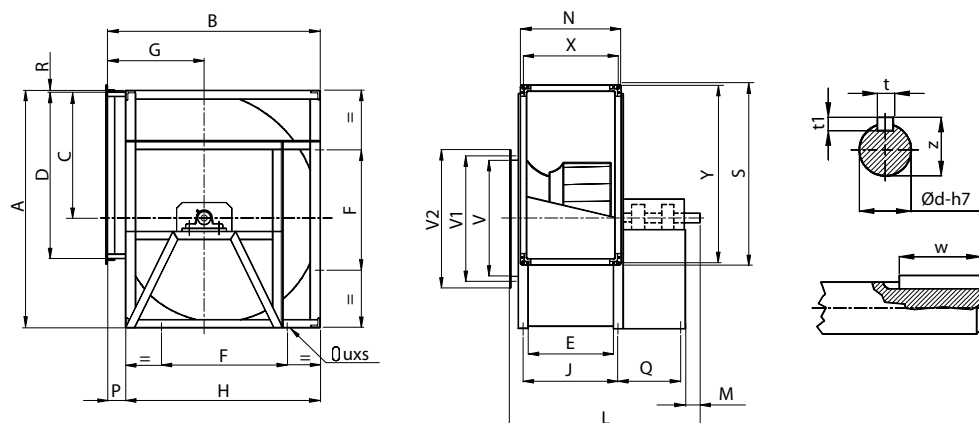


Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
1120	2033	1725	1200	1422	744	290	748	1630	804	870	1173	160	800	95	9	1478	1120	1180	1226	772	1450	18	11	110	69	65	17x22
1250	2285	1930	1353	1524	803	300	830	1831	878	953	1250	166	859	99	9	1580	1250	1303	1356	831	1552	20	12	110	74.5	70	17x22
1400	2568	2170	1515	1794	934	310	963	2057	1009	1084	1396	181	990	113	13	1850	1400	1480	1506	962	1822	22	14	110	85	80	17x22

All Dimensions in mm.

BSB 'UI'

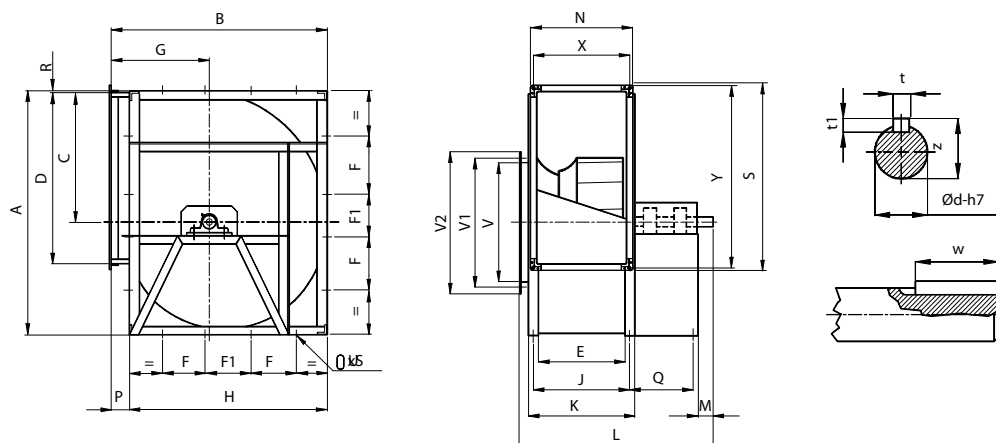
BSB 315-400 'UI'



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
315	578	518	340	404	223	330	236	480	253	705	60	279	38	274	3	460	315	356	395	251	432	8	7	40	28	25	13x18
355	654	578	383	452	247	368	260	548	287	765	60	303	30	300	6	508	355	395	435	275	480	8	7	40	33	30	13x18
400	736	650	432	506	274	402	290	612	314	812	60	330	38	320	5	562	400	438	480	302	534	8	7	40	33	30	13x18

All Dimensions in mm.

BSB 450-1000 'UI'



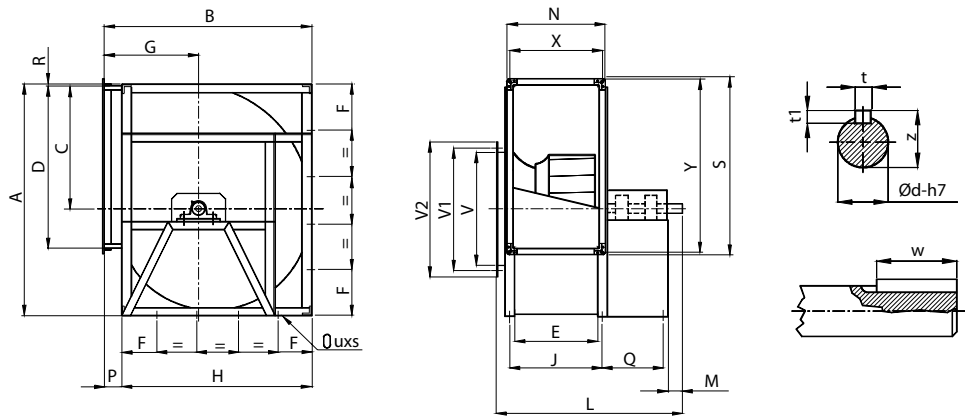
Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
450	827	726	486	568	308	200	111	322	681	348	876	80	364	45	340	5	624	450	487	530	336	596	10	8	50	38	35	13x18
500	918	800	538	638	345	245	120	352	750	385	933	80	401	50	360	5	694	500	541	580	373	666	10	8	50	38	35	13x18
560	1030	892	603	714	383	280	125	390	844	433	1018	90	439	48	378	7	770	560	605	646	411	742	12	8	70	43	40	13x18
630	1157	998	679	800	433	328	110	434	945	483	1090	90	489	53	400	6	856	630	674	716	461	828	12	8	70	43	40	13x18
710	1302	1120	765	898	479	360	150	484	1057	529	1156	90	535	63	420	7	954	710	751	796	507	926	14	9	70	48.5	45	17x22
800	1468	1254	862	1006	533	405	171	540	1180	583	1228	90	589	74	440	7	1062	800	837	886	561	1034	14	9	70	48.5	45	17x22
900	1648	1408	971	1130	595	455	189	604	1319	645	1360	110	651	89	490	7	1186	900	934	986	623	1158	16	10	90	59	55	17x22
1000	1810	1540	1066	1266	663	500	200	656	1450	713	1448	110	719	90	510	9	1322	1000	1043	1086	691	1294	16	10	90	59	55	17x22

All Dimensions in mm.



BSB 'UI'

BSB 1120-1400 'UI'

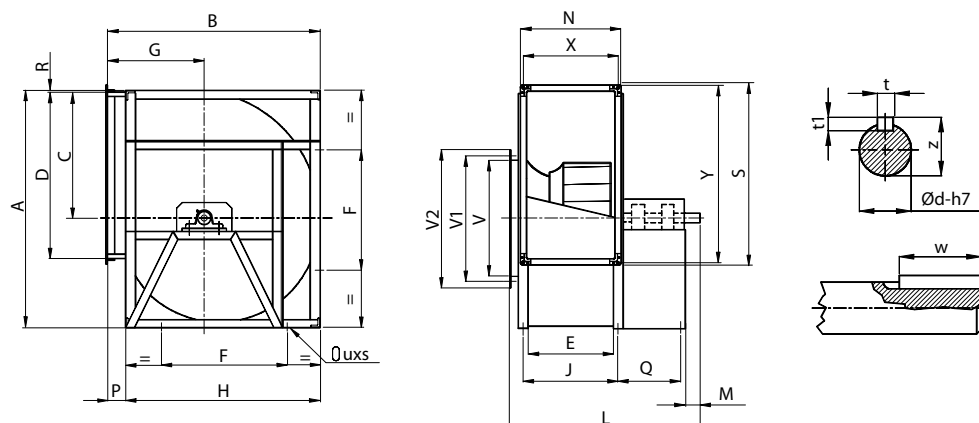


Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
1120	2033	1725	1200	1422	744	290	748	1630	804	1680	110	800	95	572	9	1478	1120	1180	1226	772	1450	18	11	90	64	60	17x22
1250	2285	1930	1353	1524	803	300	830	1831	878	1844	140	859	99	632	9	1580	1250	1303	1356	831	1552	18	11	110	69	65	17x22
1400	2568	2170	1515	1794	934	310	963	2057	1009	2060	140	990	113	717	13	1850	1400	1480	1506	962	1822	20	12	110	74.5	70	17x22

All Dimensions in mm.

BSB 'UII'

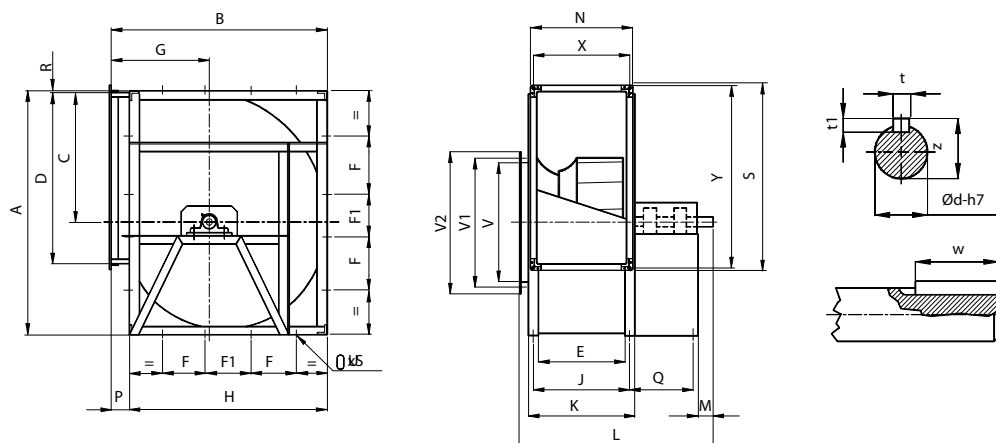
BSB 315-400 'UII'



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
315	578	518	340	404	223	330	236	480	253	705	60	279	38	274	3	460	315	356	395	251	432	8	7	40	28	25	13x18
355	654	578	383	452	247	368	260	548	287	765	60	303	30	300	6	508	355	395	435	275	480	8	7	40	33	30	13x18
400	736	650	432	506	274	402	290	612	314	812	60	330	38	320	5	562	400	438	480	302	534	8	7	40	33	30	13x18

All Dimensions in mm.

BSB 450-1000 'UII'

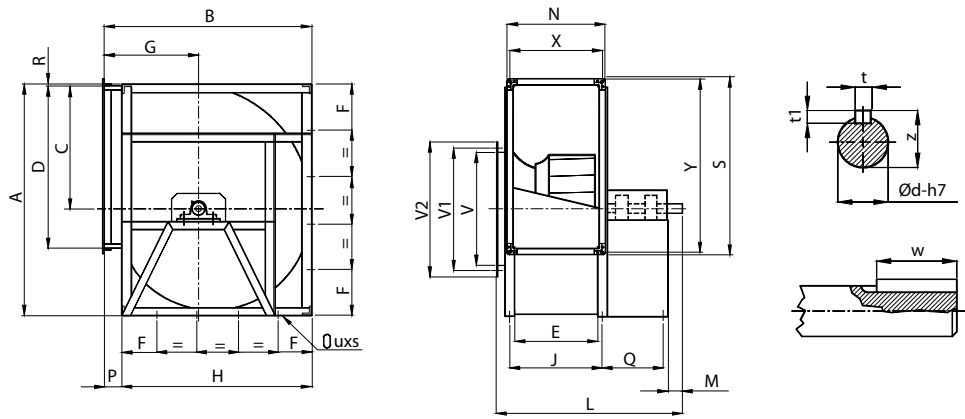


Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	N	P	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
450	827	726	486	568	308	200	111	322	681	348	876	70	364	45	340	5	624	450	487	530	336	596	10	8	50	38	35	13x18
500	918	800	538	638	345	245	120	352	750	385	933	70	401	50	360	5	694	500	541	580	373	666	10	8	50	38	35	13x18
560	1030	892	603	714	383	280	125	390	844	433	1018	90	439	48	378	7	770	560	605	646	411	742	12	8	70	43	40	13x18
630	1157	998	679	800	433	328	110	434	945	483	1090	90	489	53	400	6	856	630	674	716	461	828	12	8	70	43	40	13x18
710	1302	1120	765	898	479	360	150	484	1057	529	1176	110	535	63	420	7	954	710	751	796	507	926	14	9	90	53.5	50	17x22
800	1468	1254	862	1006	533	405	171	540	1180	583	1248	110	589	74	440	7	1062	800	837	886	561	1034	14	9	90	53.5	50	17x22
900	1648	1408	971	1130	595	455	189	604	1319	645	1360	110	651	89	490	7	1186	900	934	986	623	1158	18	11	90	64	60	17x22
1000	1810	1540	1066	1266	663	500	200	656	1450	713	1448	110	719	90	510	9	1322	1000	1043	1086	691	1294	18	11	90	64	60	17x22

All Dimensions in mm.

BSB 'UII'

BSB 1120-1400 'UII'



Model	A	B	C	D	E	F	G	H	J	L	M	N	P	Q	R	S	V	V1	V2	X	Y	t	t1	w	z	ød	uxs
1120	2033	1725	1200	1422	744	290	748	1630	804	1710	140	800	95	572	9	1478	1120	1180	1226	772	1450	18	11	110	69	65	17x22
1250	2285	1930	1353	1524	803	300	830	1831	878	1844	140	859	99	632	9	1580	1250	1303	1356	831	1552	20	12	110	74.5	70	17x22
1400	2568	2170	1515	1794	934	310	963	2057	1009	2060	140	990	113	717	13	1850	1400	1480	1506	962	1822	22	14	110	85	80	17x22

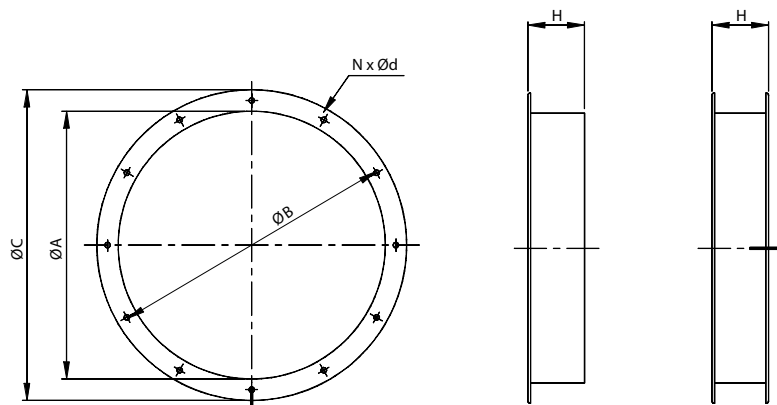
All Dimensions in mm.

Accessories

Inlet Flange

Model	A	B	C	H	n x d
315	315	356	395	120	8 x 10
355	355	395	435	120	8 x 10
400	400	438	480	120	8 x 10
450	450	487	530	120	8 x 10
500	500	541	580	120	8 x 10
560	560	605	646	120	8 x 10
630	630	674	716	120	8 x 10
710	710	751	796	120	8 x 10
800	800	837	886	120	12 x 12
900	900	934	986	120	12 x 12
1000	1000	1043	1086	120	12 x 12
1120	1120	1180	1226	200	14 x 12
1250	1250	1303	1356	200	16 x 14
1400	1400	1480	1506	200	18 x 14

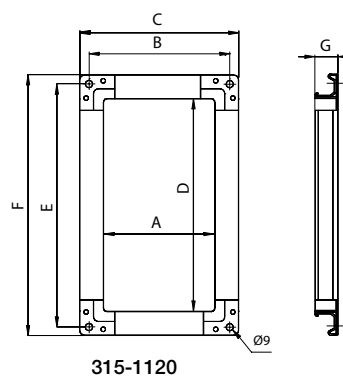
All Dimensions in mm.



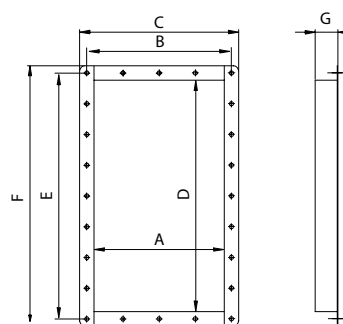
Outlet Flange

Model	A	B	C	D	E	F	G
315	223	251	279	404	432	460	28
355	247	275	303	452	480	508	28
400	274	302	330	506	534	562	28
450	308	336	364	568	596	624	28
500	345	373	401	638	666	694	28
560	383	411	439	714	742	770	28
630	433	461	489	800	828	856	28
710	479	507	535	898	926	954	28
800	533	561	589	1006	1034	1062	28
900	595	623	651	1130	1158	1186	28
1000	663	691	719	1266	1294	1322	28
1120	744	772	800	1422	1450	1478	28
1250	803	831	859	1524	1576	1624	50
1400	934	962	990	1794	1860	1920	63

All Dimensions in mm.



315-1120



1250-1400

Operational Limits - “BSB”

			315	355	400	450	500	560	630	710	800	900	1000	1120	1250	1400
Maximum Absorbed Power	C	kW	2.5	3	3.5	4	5	6	7							
	T	kW	5	6	7	10	11	13	16	9	11	14	16	20	25	35
	X	kW	10	12	15	18	22	26	32	20	25	30	40	50	55	70
	Z	kW								40	50	60	80	100	110	150
	UI	kW	2.5	3	3.5	4	5	6	7	9	11	14	16	20	25	35
	UII	kW	5	6	7	10	11	13	16	20	25	30	40	50	55	70
	UIII	kW	10	12	15	18	22	26	32	40	50	60	80	100	110	150
Maximum Fan Speed	C	rpm	3200	2800	2500	2200	1950	1800	1500							
	T	rpm	4200	3700	3300	2900	2550	2300	2000	1350	1200	1050	950	850	780	680
	X	rpm	5300	4700	4200	3600	3200	2900	2500	1800	1600	1400	1250	1150	1000	880
	Z	rpm								2250	2000	1750	1600	1450	1300	1100
	UI	rpm	3200	2800	2500	2200	1950	1800	1500	1350	1200	1050	950	850	780	680
	UII	rpm	4200	3700	3300	2900	2550	2300	2000	1800	1600	1400	1250	1150	1000	880
	UIII	rpm	5300	4700	4200	3600	3200	2900	2500	2250	2000	1750	1600	1450	1300	1100
Temperature Range Min. -20°C	C	Max.°C	85	85	85	85	85	85	85							
	T-X-Z	Max.°C	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	UI-UII-UIII	Max.°C	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Fan weight	C	kg	19	25	33	42	55	76	101							
	T	kg	33	49	59	71	89	123	152	189	228	285	338	575	769	1048
	X	kg	35	51	60	73	91	126	154	192	232	289	345	586	782	1068
	UI	kg	32	45	55	68	83	112	140	180	250	311	366	601	833	1139
	UII	kg	33	46	55	69	84	113	142	182	252	314	369	606	839	1152

