

BSB

SINGLE INLET
CENTRIFUGAL FAN
with Backward Wheels



BSB Series

SINGLE INLET CENTRIFUGAL FAN with Backward Wheels



Kruger Ventilation Industries 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 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, process and industrial HVAC systems. Sizes of this series are in accordance with AMCA standard 99-0098-76 R20.

Type / Operating Limit

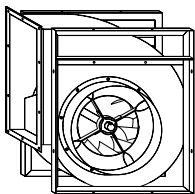
Each fan type has its maximum operating speed and power due to its mechanical design.

The operating limit of different fan types of BSB series is set according to 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, U or P.

Model 315 to 630

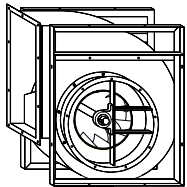
Type C-U-P	I	Model 710 to 1400	
Type T-U-P	II	I	Model 1600 to 2000
Type X-U-P	III	II	II
Type Z-U-P		III	III



Type C

This type has a frame fitted on both sides of the fan, providing better strength and rigidity. It allows mounting in four different orientations.

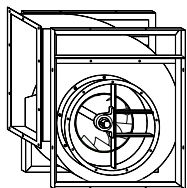
Fan Size : 315 to 630
 Volume : 1500 to 20000 m³/h
 Total Pressure : up to 2000 Pa



Type T

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

Fan Size : 315 to 1400
 Volume : 1500 to 100000 m³/h
 Total Pressure : up to 3000 Pa

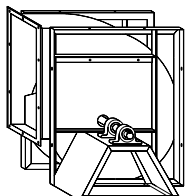


Type X/Z

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

Fan Size : 315 to 1400
 Volume : 1500 to 100 000m³/h
 Total Pressure: up to 5000 Pa

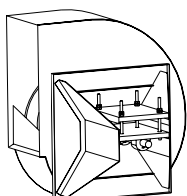
Type Z is non-standard, for more information, please consult your nearest Kruger office for details.



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 2000
 Volume : 1500 to 360 000 m³/h
 Total Pressure : up to 5000 Pa

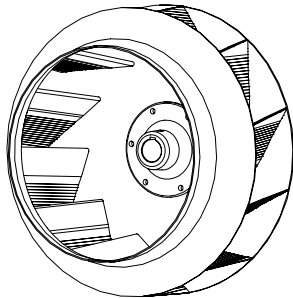


Type P

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 200°C

Fan Size : 315 to 1400
 Volume : 1500 to 100 000 m³/h
 Total Pressure : up to 5000 Pa

TECHNICAL SPECIFICATION



Wheel

The wheel of BSB series is made of cold rolled sheet steel backward curved blades 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 2000 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", "U" and "P", they are manufactured with sections of steel with polyester powder coating finish.

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. All shafts are then coated with an anti-corrosion varnish after assembly.

Bearings

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

	Mounted in a rubber housing	Mounted on cast iron supports with grease point		
Fan Type	C 	T 	X 	U
Bearing Duty	CM Medium Duty 	TM Medium Duty 	XM Medium Duty 	UM Medium Duty
	eg. Model: BSB 450 C M 	TX Extra Heavy Duty 	XX Extra Heavy Duty 	UX Extra Heavy Duty

Except TX, XX, UX extra heavy duty bearings, all bearings are lubricated for life and maintenance-free. 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 Kruger office for details.

Balancing Quality

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

All fans after assembly are trim-balanced to ISO1940 and AMCA 204 - G2.5 standard.

Clean room application fans with balancing grade of G1.0 are available upon request.

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

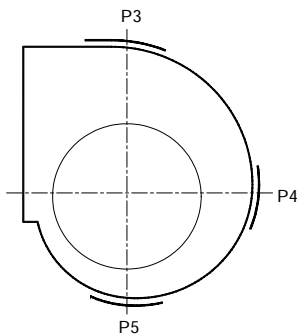
This option are set against the fan to facilitate installation. It is available in 2 types-"L" flange or "U" flange.

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

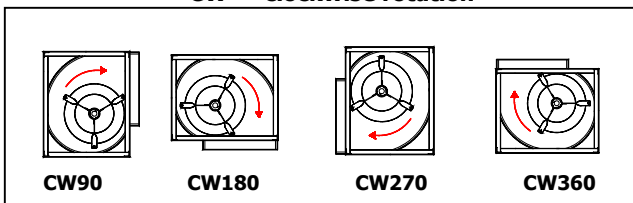


Fan Rotation and Discharge

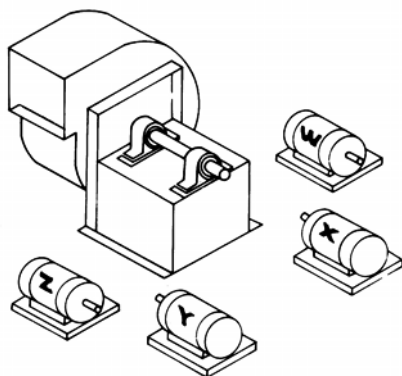
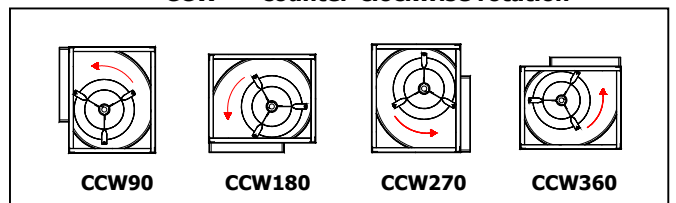
The rotation and discharge of the fan is in accordance with AMCA standard 99-2406-83.

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

CW - clockwise rotation



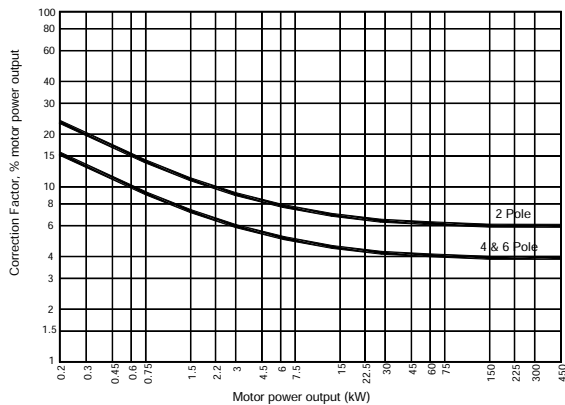
CCW - counter-clockwise rotation



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 designated by letters W, X, Y, or Z.



Motor Selection

The power curves shown on each performance graph represent 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.

For conversion to horsepower (HP), use multiplying factor 1.34.

Dynamic Pressure

Both dynamic pressure and outlet air velocity values shown on each graph are calculated base on the full 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 graph is derived from tests conducted in accordance to AMCA Standard 210 – Fig 12 – installation type B (free inlet and ducted outlet condition).

Ratings refer 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 performance.

Noise

The noise levels shown on each graph refer to the "A-weighted" sound power values and the data on the inlet side has been 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 Kruger for more details]
- Sound pressure level:
 - a) free field
 $L_p(A) = L_w(A) - (20\log_{10}d) - 11$
 - b) room conditions
 $L_p(A) = L_w(A) - (20\log_{10}d) - 8$

where d = distance from fan (m)

Performance

The performance data shown on each diagram is derived from tests conducted in accordance to AMCA Standard 210- Fig 12- Installation type B (free inlet and duct outlet condition).

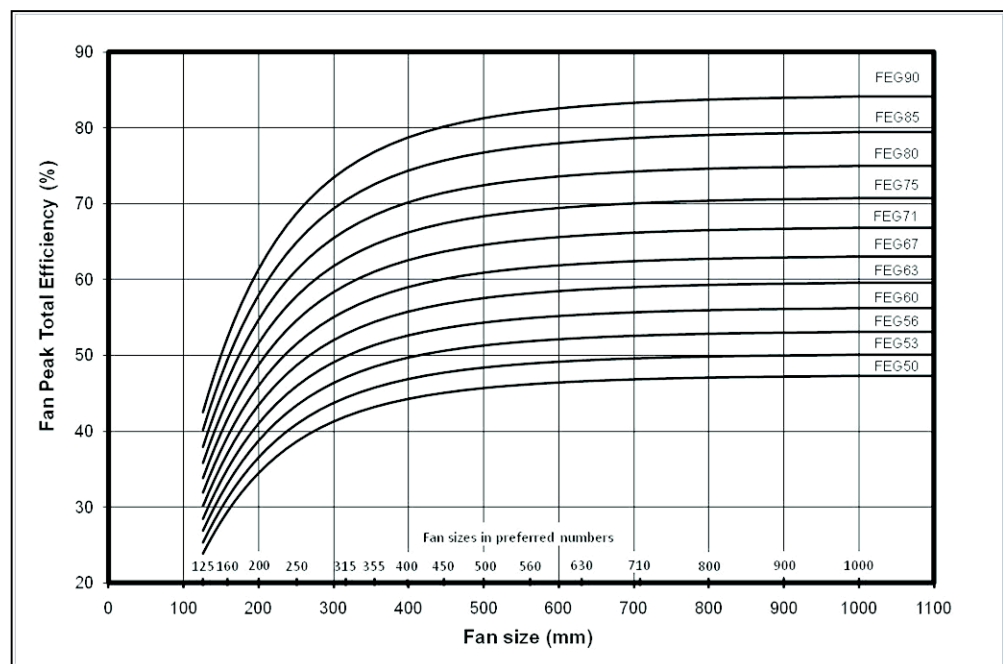
Ratings refer to standard air density with the total pressure as a function of the air volume, using logarithmic scale.

It is essential that the same installation type and test standards are used at all time when comparing fan performance.

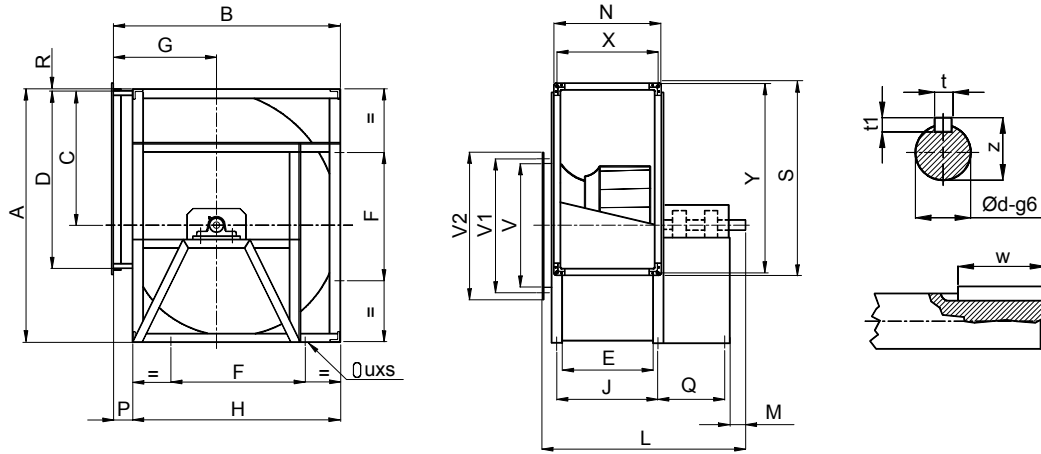
According to AMCA 205, BSB series can be classify as FEG 80–85 based on fan peak efficiency. The following is the explanation of FEG classification:

1. Fan size is the impeller diameter in mm.
2. The fan peak efficiency shall be calculated from the fan (total) pressure.
3. If this method is used for a direct driven fan, the fan efficiency is the impeller efficiency.
4. The FEG label for a given fan size is assigned when the fan peak efficiency is equal to or lower than the efficiency at the grade upper limit, and higher than the efficiency at the grade upper limit of the next lower grade for the fan size.
5. For any fan sizes larger than 1016 mm, the values of the grade upper limits are the same as for a size of 1016 mm.
6. No labels are considered for the fans with the fan peak total efficiency below FEG 50.
7. The values of efficiencies are calculated for fan sizes in the preferred R40 Series.
8. Not all available fan sizes are shown.

Fan Efficiency Grades (FEG) for Fans without Drives (SI) – AMCA 205



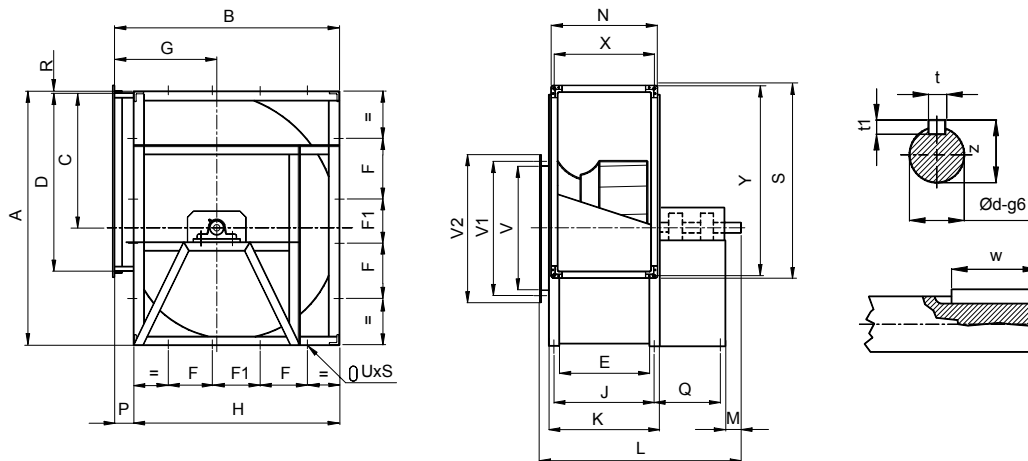
BSB 315-400 'UI'



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
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.

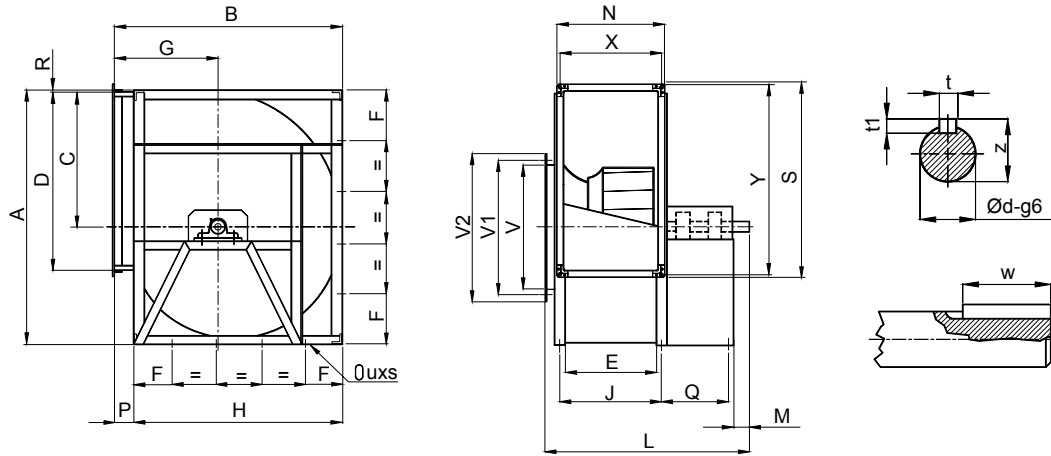
BSB 450-1000 'UI'



Model	A	B	C	D	E	F	F1	G	H	J	L	M	N	P	Q	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.

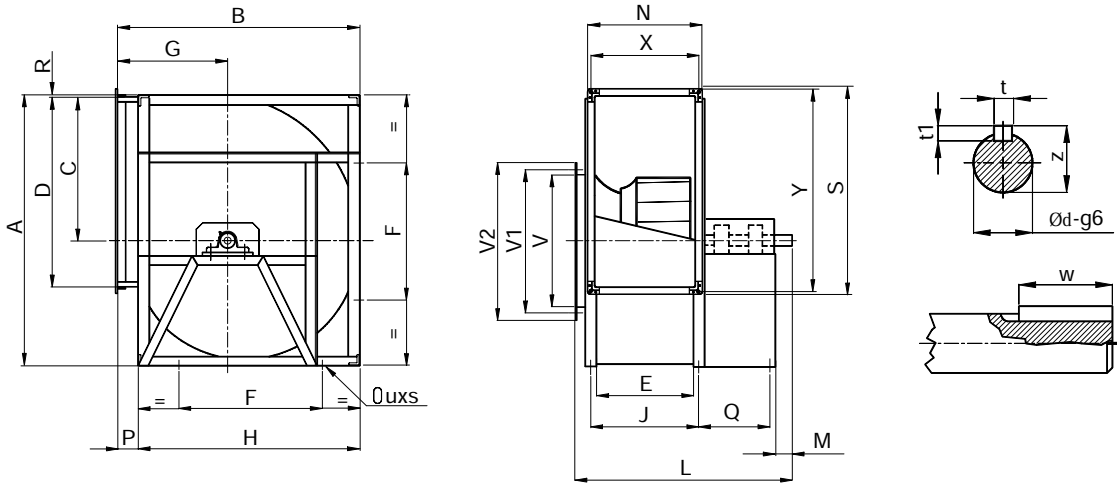
BSB 1120-1400 'UI'



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	1680	110	800	95	572	9	1478	1120	1180	1226	772	1450	18	11	90	64	60	17x22
1250	2285	1930	1353	1524	807	300	830	1831	882	1844	140	859	99	632	9	1580	1250	1303	1356	831	1552	18	11	110	69	65	17x22
1400	2568	2170	1515	1794	938	310	963	2057	1013	2060	140	990	113	717	13	1850	1400	1480	1506	962	1822	20	12	110	74.5	70	17x22

All Dimensions in mm.

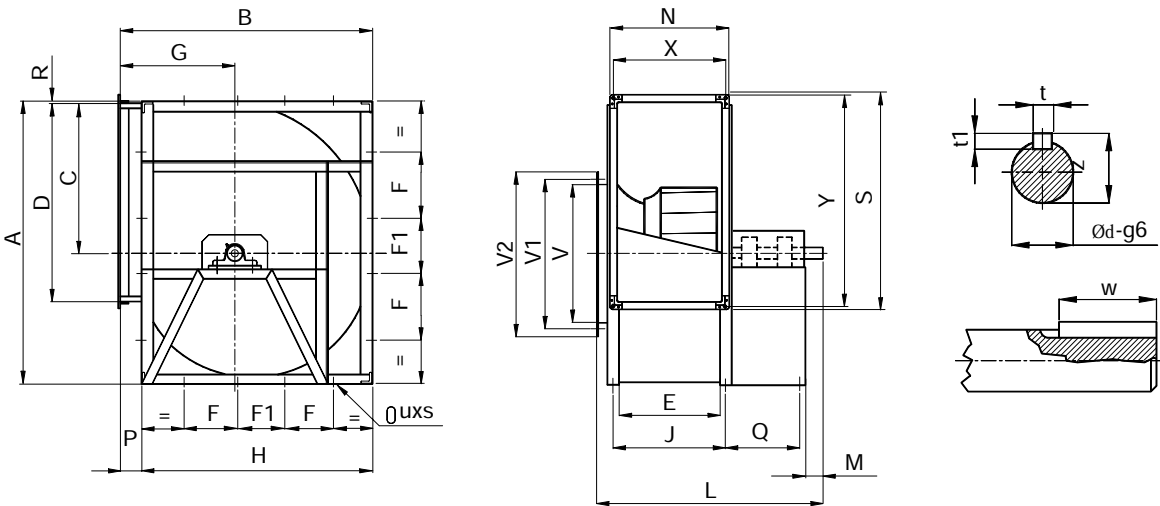
BSB 315-400 'UII'



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
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.

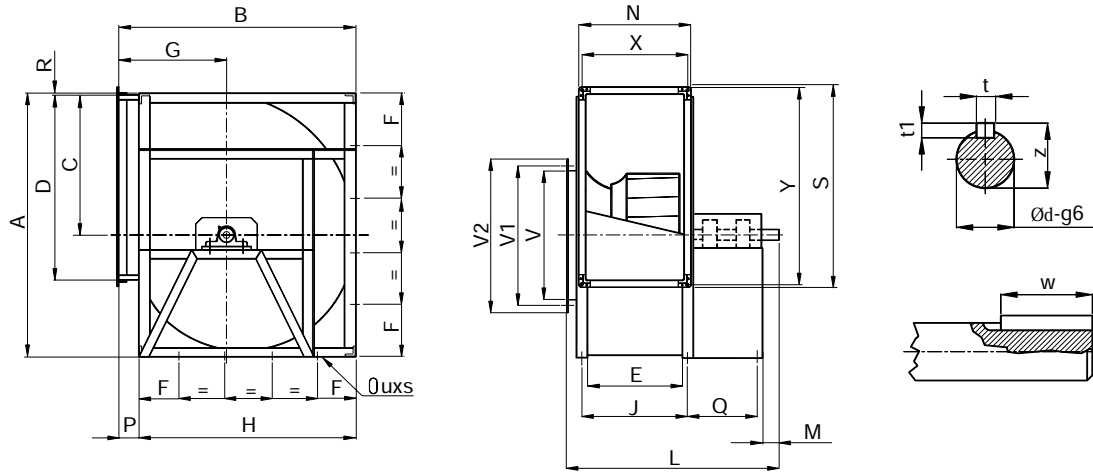
BSB 450-1000 'UII'



Model	A	B	C	D	E	F	F1	G	H	J	L	M	N	P	Q	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.

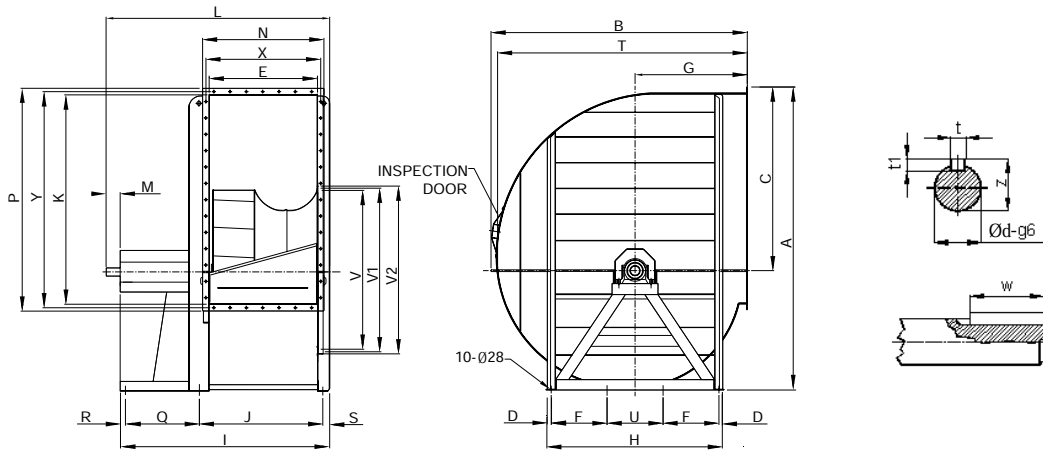
BSB 1120-1400 'UII'



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	807	300	830	1831	882	1844	140	859	99	632	9	1580	1250	1303	1356	831	1552	20	12	110	74.5	70	17x22
1400	2568	2170	1515	1794	938	310	963	2057	1013	2060	140	990	113	717	13	1850	1400	1480	1506	962	1822	22	14	110	85	80	17x22

All Dimensions in mm.

BSB 1600-2000 'UII'



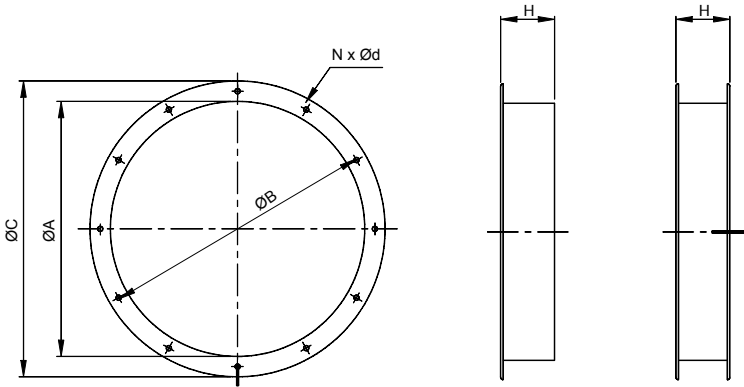
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	V1	V2	X	Y	t	t1	w	z	Ød
1600	2950	2486	1790	70	1064	550	1086	1840	2222	1210	2025	2495	170	1224	2185	905	60	47	2430	600	1600	1690	1760	1154	2115	22	14	110	85	80
1800	3314	2798	2004	66	1196	620	1220	2002	2436	1381	2278	2680	190	1356	2438	905	65	85	2740	630	1800	1920	1990	1286	2358	25	14	140	106	100
2000	3705	3142	2246	60	1320	700	1376	2230	2568	1513	2530	2842	220	1490	2725	905	65	85	3078	710	2000	2130	2230	1410	2655	28	16	160	116	106

All Dimensions in mm.

Inlet Flange

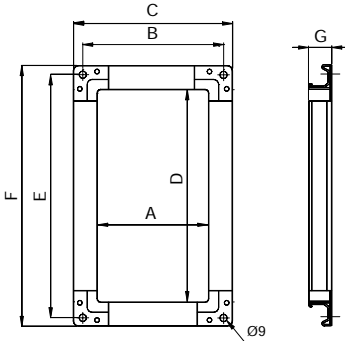
Model	A	B	C	H	n x d
315	315	356	395	120	6 x 10
355	355	395	435	120	8 x 10
400	400	438	480	120	8 x 10
450	450	487	530	120	8 x 10
500	500	541	580	120	8 x 10
560	560	605	646	120	8 x 10
630	630	674	716	120	8 x 10
710	710	751	796	120	8 x 10
800	800	837	886	120	12 x 12
900	900	934	986	120	12 x 12
1000	1000	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 Dimension in mm.

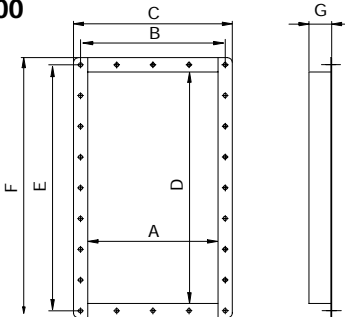


Outlet Flange

315-1120



1250-1400

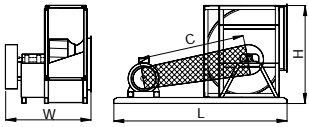


Model	A	B	C	D	E	F	G
315	223	251	279	404	432	460	28
355	247	275	303	452	480	508	28
400	274	302	330	506	534	562	28
450	308	336	364	568	596	624	28
500	345	373	401	638	666	694	28
560	383	411	439	714	742	770	28
630	433	461	489	800	828	856	28
710	479	507	535	898	926	954	28
800	533	561	589	1006	1034	1062	28
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

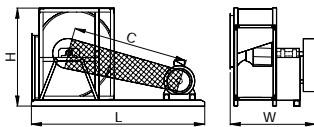
All Dimension in mm.

OVERALL DIMENSION – BSB "UI" SERIES

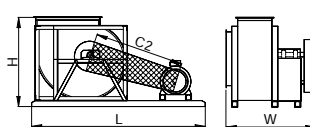
CW 90° (Pos Z)



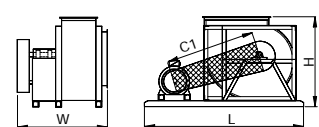
CW 270° (Pos W)



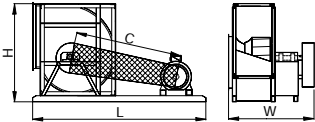
CW 360° (Pos W)



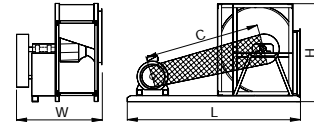
CW 360° (Pos Z)



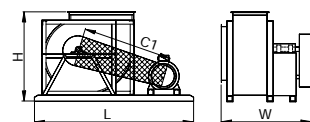
CCW 90° (Pos W)



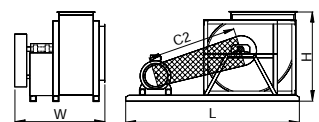
CCW 270° (Pos Z)



CCW 360° (Pos W)



CCW 360° (Pos Z)



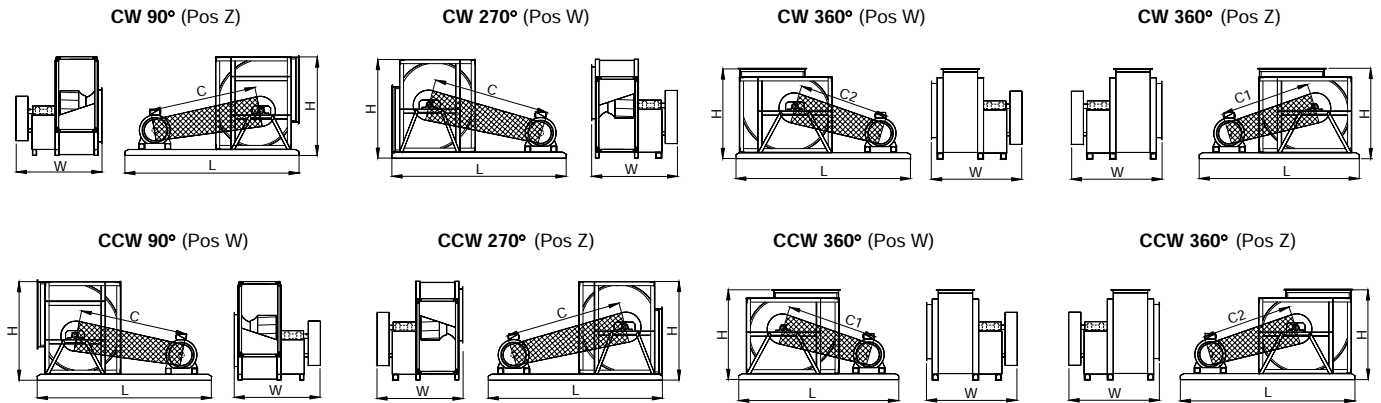
Model	Motor Frame Size	90° / 270°							360°					
		C (90°)	C (270°)	L	W	H	* Wt (kg) 90°	* Wt (kg) 270°	C1	C2	L	W	H	* Wt (kg)
315	63	432	476	740	735	618	40	41	507	407	840	735	558	42
	71	460	500	780	735	618	40	41	534	433	880	735	558	42
	80	488	524	820	735	618	41	42	561	459	920	735	558	42
	90	515	547	860	735	618	41	42	587	484	960	735	558	43
	100	542	571	900	735	618	41	42	614	509	1000	735	558	43
355	112	568	594	940	735	618	42	43	638	533	1040	735	558	43
	71	496	547	840	795	694	52	56	593	479	960	795	618	56
	80	523	570	880	795	694	53	57	601	485	980	795	618	56
	90	549	592	920	795	694	53	57	626	509	1020	795	618	57
	100	576	615	960	795	694	53	57	652	534	1060	795	618	57
400	112	620	654	1020	795	694	54	58	695	575	1120	795	618	57
	71	561	621	920	842	776	63	66	651	527	1040	842	690	66
	80	569	626	940	842	776	63	66	677	550	1080	842	690	66
	90	595	647	980	842	776	64	67	702	573	1120	842	690	67
	100	621	669	1020	842	776	64	67	727	597	1160	842	690	67
	112	664	708	1080	842	776	64	67	750	619	1200	842	690	67
450	132	719	756	1160	842	776	65	68	823	689	1300	842	690	68
	71	607	680	980	906	867	78	80	708	571	1120	906	766	80
	80	633	701	1020	906	867	78	80	733	593	1160	906	766	80
	90	658	722	1060	906	867	78	80	757	615	1200	906	766	80
	100	684	743	1100	906	867	79	81	791	647	1250	906	766	81
	112	707	763	1140	906	867	79	81	824	678	1300	906	766	81
500	132	741	790	1200	906	867	79	81	846	699	1350	906	766	82
	71	654	736	1060	963	968	101	103	791	642	1250	963	850	104
	80	661	740	1080	963	968	101	103	779	629	1250	963	850	104
	90	686	760	1120	963	968	102	104	812	659	1300	963	850	105
	100	711	780	1160	963	968	102	104	845	691	1350	963	850	150
	112	734	799	1200	963	968	103	105	877	720	1400	963	850	106
560	132	805	861	1300	963	968	104	106	899	740	1450	963	850	106
	80	734	827	1180	1048	1080	131	134	897	728	1400	1048	942	135
	90	739	830	1200	1048	1080	131	134	884	714	1400	1048	942	135
	100	773	858	1250	1048	1080	132	135	916	744	1450	1048	942	136
	112	804	884	1300	1048	1080	132	135	947	773	1500	1048	942	137
	132	875	945	1400	1048	1080	133	136	968	792	1550	1048	942	137
630	160	938	998	1500	1048	1080	135	138	1028	848	1650	1048	942	138
	80	829	937	1300	1120	1207	161	164	967	782	1500	1120	1048	165
	90	862	964	1350	1120	1207	161	164	998	811	1550	1120	1048	166
	100	848	950	1350	1120	1207	161	164	1031	840	1600	1120	1048	166
	112	879	975	1400	1120	1207	162	165	1061	868	1650	1120	1048	167
	132	948	1034	1500	1120	1207	163	166	1082	886	1700	1120	1048	168
710	160	1010	1085	1600	1120	1207	164	167	1140	940	1800	1120	1048	169
	90	907	1028	1450	1186	1382	219	221	1080	868	1700	1186	1200	226
	100	941	1055	1500	1186	1382	220	222	1112	897	1750	1186	1200	226
	112	972	1080	1550	1186	1382	221	223	1142	924	1800	1186	1200	227
	132	993	1095	1600	1186	1382	222	224	1162	941	1850	1186	1200	228
710	160	1054	1144	1700	1186	1382	224	226	1220	994	1950	1186	1200	230
	180	1126	1207	1800	1186	1382	225	227	1290	1061	2050	1186	1200	232

* The above weight does not include motor and drive unit as these will vary with supplier.

All Dimensions in mm.



OVERALL DIMENSION – BSB "UI" SERIES



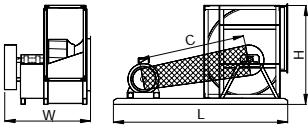
Model	Motor Frame Size	90°/ 270°							360°					
		C (90°)	C (270°)	L	W	H	* Wt (kg) 90°	* Wt (kg) 270°	C1	C2	L	W	H	* Wt (kg)
800	100	1018	1156	1600	1258	1548	287	295	1218	983	1900	1258	1334	297
	112	1048	1180	1650	1258	1548	287	295	1247	1009	1950	1258	1334	298
	132	1115	1235	1750	1258	1548	289	297	1267	1024	2000	1258	1334	299
	160	1174	1283	1850	1258	1548	291	299	1370	1120	2150	1258	1334	302
	180	1197	1300	1900	1258	1548	292	300	1391	1139	2200	1258	1334	303
	200	1269	1362	2000	1258	1548	294	302	1461	1206	2300	1258	1334	304
900	100	1140	1302	1750	1390	1728	350	359	1374	1108	2100	1390	1488	366
	112	1169	1325	1800	1390	1728	351	360	1403	1133	2150	1390	1488	367
	132	1189	1338	1850	1390	1728	352	361	1421	1148	2200	1390	1488	368
	160	1293	1425	2000	1390	1728	355	364	1476	1197	2300	1390	1488	370
	180	1315	1441	2050	1390	1728	355	364	1543	1260	2400	1390	1488	372
	200	1385	1501	2150	1390	1728	357	366	1564	1278	2450	1390	1488	373
1000	112	1286	1463	1950	1478	1890	405	412	1514	1222	2300	1478	1620	426
	132	1305	1475	2000	1478	1890	406	413	1532	1236	2350	1478	1620	427
	160	1361	1518	2100	1478	1890	407	414	1586	1282	2450	1478	1620	429
	180	1429	1575	2200	1478	1890	409	416	1651	1343	2550	1478	1620	431
	200	1451	1591	2250	1478	1890	410	417	1719	1405	2650	1478	1620	433
	225	1515	1644	2350	1478	1890	412	419	1781	1463	2750	1478	1620	434
1120	112	1358	1564	2050	1710	2158	728	728	1631	1300	2450	1710	1850	745
	132	1423	1615	2150	1710	2158	732	732	1695	1356	2550	1710	1850	749
	160	1479	1658	2250	1710	2158	736	736	1749	1403	2650	1710	1850	753
	180	1547	1715	2350	1710	2158	740	740	1815	1464	2750	1710	1850	757
	200	1616	1773	2450	1710	2158	745	745	1836	1482	2800	1710	1850	759
	225	1680	1827	2550	1710	2158	749	749	1945	1585	2950	1710	1850	765
1250	132	1575	1805	2350	1874	2410	1090	1090	1884	1504	2800	1874	2055	1123
	160	1629	1846	2450	1874	2410	1098	1098	1937	1550	2900	1874	2055	1130
	180	1696	1900	2550	1874	2410	1105	1105	2002	1608	3000	1874	2055	1137
	200	1717	1914	2600	1874	2410	1108	1108	2068	1669	3100	1874	2055	1144
	225	1779	1965	2700	1874	2410	1116	1116	2129	1725	3200	1874	2055	1152
	250	1842	2017	2800	1874	2410	1123	1123	2190	1782	3300	1874	2055	1159
1400	132	1744	2011	2600	2090	2693	1425	1425	2096	1675	3100	2090	2295	1461
	160	1796	2050	2700	2090	2693	1432	1432	2148	1720	3200	2090	2295	1468
	180	1815	2062	2750	2090	2693	1436	1436	2212	1778	3300	2090	2295	1475
	200	1881	2115	2850	2090	2693	1443	1443	2232	1794	3350	2090	2295	1479
	225	1942	2164	2950	2090	2693	1450	1450	2291	1848	3450	2090	2295	1486
	250	2004	2214	3050	2090	2693	1457	1457	2352	1903	3550	2090	2295	1493
	280	2060	2259	3150	2090	2693	1464	1464	2408	1954	3650	2090	2295	1500

* The above weight does not include motor and drive unit as these will vary with supplier.

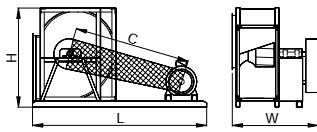
All Dimensions in mm.

OVERALL DIMENSION – BSB "UII" SERIES

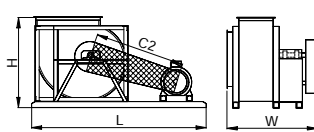
CW 90° (Pos Z)



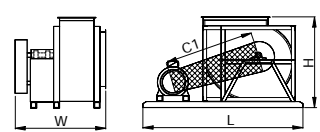
CW 270° (Pos W)



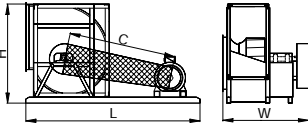
CW 360° (Pos W)



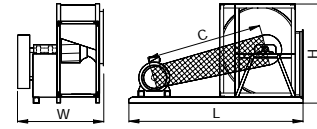
CW 360° (Pos Z)



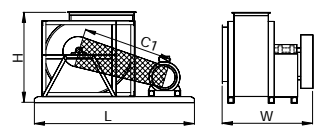
CCW 90° (Pos W)



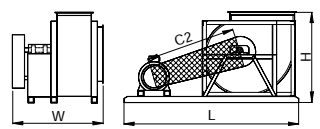
CCW 270° (Pos Z)



CCW 360° (Pos W)



CCW 360° (Pos Z)



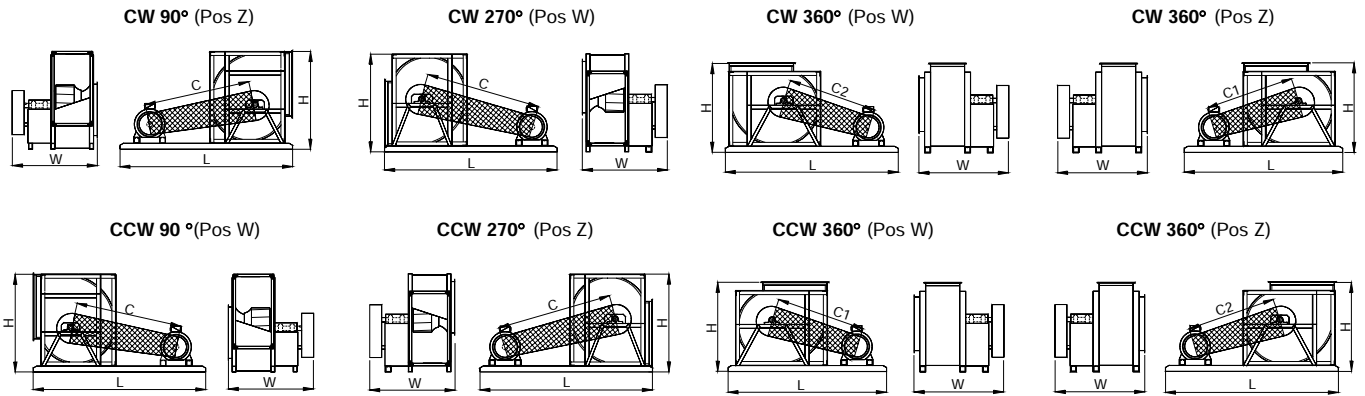
Model	Motor Frame Size	90°/ 270°							360°					
		C (90°)	C (270°)	L	W	H	* Wt (kg) 90°	* Wt (kg) 270°	C1	C2	L	W	H	* Wt (kg)
315	80	488	524	820	735	618	42	43	561	459	920	735	558	43
	90	515	547	860	735	618	42	43	587	484	960	735	558	43
	100	542	571	900	735	618	42	43	614	509	1000	735	558	43
	112	568	594	940	735	618	43	44	638	533	1040	735	558	43
	132	625	645	1020	735	618	43	44	694	587	1120	735	558	44
355	80	523	570	880	795	694	54	57	601	485	980	795	618	57
	90	549	592	920	795	694	54	57	626	509	1020	795	618	58
	100	576	615	960	795	694	54	57	652	534	1060	795	618	58
	112	620	654	1020	795	694	55	58	695	575	1120	795	618	58
	132	676	704	1100	795	694	55	58	749	628	1200	795	618	59
400	90	595	647	980	842	776	65	67	702	573	1120	842	690	68
	100	621	669	1020	842	776	65	67	727	597	1160	842	690	68
	112	664	708	1080	842	776	65	67	750	619	1200	842	690	68
	132	719	756	1160	842	776	66	68	823	689	1300	842	690	69
	160	776	806	1250	842	776	67	69	888	752	1400	842	690	70
450	90	658	722	1060	906	867	79	81	757	615	1200	906	766	82
	100	684	743	1100	906	867	80	82	791	647	1250	906	766	82
	112	707	763	1140	906	867	80	82	824	678	1300	906	766	82
	132	741	790	1200	906	867	81	83	846	699	1350	906	766	83
	160	807	847	1300	906	867	81	83	909	759	1450	906	766	83
500	90	686	760	1120	963	968	103	105	812	659	1300	963	850	106
	100	711	780	1160	963	968	103	105	845	691	1350	963	850	106
	112	734	799	1200	963	968	104	106	877	720	1400	963	850	107
	132	805	861	1300	963	968	105	107	899	740	1450	963	850	108
	160	870	917	1400	963	968	106	108	961	799	1550	963	850	109
560	100	773	858	1250	1048	1080	134	136	916	744	1450	1048	942	137
	112	804	884	1300	1048	1080	134	136	947	773	1500	1048	942	138
	132	875	945	1400	1048	1080	136	138	968	792	1550	1048	942	138
	160	938	998	1500	1048	1080	137	139	1028	848	1650	1048	942	140
	180	1012	1064	1600	1048	1080	138	140	1100	917	1750	1048	942	141
630	100	848	950	1350	1120	1207	163	167	985	797	1550	1120	1048	167
	112	879	975	1400	1120	1207	163	167	1015	824	1600	1120	1048	168
	132	948	1034	1500	1120	1207	164	168	1082	886	1700	1120	1048	169
	160	1010	1085	1600	1120	1207	166	170	1140	940	1800	1120	1048	170
	180	1034	1103	1650	1120	1207	166	170	1211	1008	1900	1120	1048	171
	200	1107	1169	1750	1120	1207	167	171	1235	1030	1950	1120	1048	172
710	100	941	1055	1500	1206	1382	221	223	1112	897	1750	1206	1200	229
	112	972	1080	1550	1206	1382	222	224	1142	924	1800	1206	1200	230
	132	993	1095	1600	1206	1382	223	225	1162	941	1850	1206	1200	231
	160	1054	1144	1700	1206	1382	225	227	1220	994	1950	1206	1200	232
	180	1126	1207	1800	1206	1382	227	229	1290	1061	2050	1206	1200	234
	200	1150	1226	1850	1206	1382	228	230	1313	1082	2100	1206	1200	235
	225	1219	1286	1950	1206	1382	229	231	1379	1146	2200	1206	1200	237
800	112	1048	1180	1650	1278	1548	290	298	1247	1009	1950	1278	1334	300
	132	1115	1235	1750	1278	1548	292	300	1267	1024	2000	1278	1334	301
	160	1174	1283	1850	1278	1548	293	301	1370	1120	2150	1278	1334	304
	180	1197	1300	1900	1278	1548	294	302	1391	1139	2200	1278	1334	305
	200	1269	1362	2000	1278	1548	296	304	1461	1206	2300	1278	1334	307
	225	1336	1420	2100	1278	1548	298	306	1526	1268	2400	1278	1334	309
	250	1404	1480	2200	1278	1548	300	308	1592	1332	2500	1278	1334	310

* The above weight does not include motor and drive unit as these will vary with supplier.

All Dimensions in mm.



OVERALL DIMENSION – BSB "UII" SERIES



Model	Motor Frame Size	90°/ 270°							360°					
		C (90°)	C (270°)	L	W	H	* Wt (kg) 90°	* Wt (kg) 270°	C1	C2	L	W	H	* Wt (kg)
900	112	1169	1325	1800	1390	1728	354	363	1403	1133	2150	1390	1488	370
	132	1189	1338	1850	1390	1728	355	364	1421	1148	2200	1390	1488	371
	160	1293	1425	2000	1390	1728	358	367	1476	1197	2300	1390	1488	373
	180	1315	1441	2050	1390	1728	358	367	1543	1260	2400	1390	1488	375
	200	1385	1501	2150	1390	1728	360	369	1564	1278	2450	1390	1488	376
	225	1451	1557	2250	1390	1728	362	371	1627	1338	2550	1390	1488	378
	250	1518	1615	2350	1390	1728	364	373	1692	1399	2650	1390	1488	380
1000	132	1305	1475	2000	1478	1890	410	416	1532	1236	2350	1478	1620	430
	160	1361	1518	2100	1478	1890	411	417	1586	1282	2450	1478	1620	432
	180	1429	1575	2200	1478	1890	413	419	1651	1343	2550	1478	1620	434
	200	1451	1591	2250	1478	1890	414	420	1719	1405	2650	1478	1620	436
	225	1515	1644	2350	1478	1890	416	422	1781	1463	2750	1478	1620	437
	250	1581	1700	2450	1478	1890	418	424	1844	1523	2850	1478	1620	439
	280	1690	1796	2600	1478	1890	421	427	1903	1579	2950	1478	1620	441
1120	132	1423	1615	2150	1740	2158	738	738	1695	1356	2550	1740	1850	754
	160	1479	1658	2250	1740	2158	742	742	1749	1403	2650	1740	1850	758
	180	1547	1715	2350	1740	2158	746	746	1815	1464	2750	1740	1850	762
	200	1616	1773	2450	1740	2158	750	750	1836	1482	2800	1740	1850	764
	225	1680	1827	2550	1740	2158	754	754	1945	1585	2950	1740	1850	770
	250	1746	1882	2650	1740	2158	758	758	2008	1645	3050	1740	1850	774
	280	1806	1932	2750	1740	2158	762	762	2067	1700	3150	1740	1850	778
1250	132	1575	1805	2350	1874	2410	1096	1096	1884	1504	2800	1874	2055	1129
	160	1629	1846	2450	1874	2410	1104	1104	1937	1550	2900	1874	2055	1136
	180	1696	1900	2550	1874	2410	1111	1111	2002	1608	3000	1874	2055	1143
	200	1717	1914	2600	1874	2410	1114	1114	2068	1669	3100	1874	2055	1150
	225	1779	1965	2700	1874	2410	1122	1122	2129	1725	3200	1874	2055	1158
	250	1842	2017	2800	1874	2410	1129	1129	2190	1782	3300	1874	2055	1165
	280	1901	2064	2900	1874	2410	1136	1136	2247	1835	3400	1874	2055	1172
1400	160	1796	2050	2700	2090	2693	1445	1445	2148	1720	3200	2090	2295	1481
	180	1815	2062	2750	2090	2693	1449	1449	2212	1778	3300	2090	2295	1488
	200	1881	2115	2850	2090	2693	1456	1456	2232	1794	3350	2090	2295	1492
	225	1942	2164	2950	2090	2693	1463	1463	2291	1848	3450	2090	2295	1499
	250	2004	2214	3050	2090	2693	1470	1470	2352	1903	3550	2090	2295	1506
	280	2060	2259	3150	2090	2693	1477	1477	2408	1954	3650	2090	2295	1513
	315	2160	2343	3300	2090	2693	1488	1488	2505	2046	3800	2090	2295	1524

* The above weight does not include motor and drive unit as these will vary with supplier.

All Dimensions in mm.

* Please consult Kruger for the overall dimension of fan BSB 1600, 1800 & 2000.



Operational Limits - "BSB"

		315	355	400	450	500	560	630	710	800	900	1000	1120	1250	1400	1600	1800	2000		
Maximum Absorbed Power	C	2.5	3	3.5	4	5	6	7												
	T	5	6	7	10	11	13	16	9	11	14	16	20	25	35					
	X	10	12	15	18	22	26	32	20	25	30	40	50	55	70					
	Z								40	50	60	80	100	110	150					
	UI-PI	2.5	3	3.5	4	5	6	7	9	11	14	16	20	25	35					
	UII	5	6	7	10	11	13	16	20	25	30	40	50	55	70	100	130	160		
	UIII	10	12	15	18	22	26	32	40	50	60	80	100	110	150	200	260	320		
	PII	5	6	7	10	11	13	16	20	25	30	40	50	55	70					
	PIII	10	12	15	18	22	26	32	40	50	60	80	100	110	150					
Maximum Fan Speed	C	3200	2800	2500	2200	1950	1800	1500												
	T	4200	3700	3300	2900	2550	2300	2000	1350	1200	1050	950	850	780	680					
	X	5300	4700	4200	3600	3200	2900	2500	1800	1600	1400	1250	1150	1000	880					
	Z								2250	2000	1750	1600	1450	1300	1100					
	UI	3200	2800	2500	2200	1950	1800	1500	1350	1200	1050	950	850	780	680					
	UII	4200	3700	3300	2900	2550	2300	2000	1800	1600	1400	1250	1150	1000	880	750	650	600		
	UIII	5300	4700	4200	3600	3200	2900	2500	2250	2000	1750	1600	1450	1300	1100	1000	850	800		
Temperature Range / Min. -20°C	C	85	85	85	85	85	85	85												
	T-X-Z	100	100	100	100	100	100	100	100	100	100	100	100	100	100					
	UI	180	180	180	180	180	180	180	180	180	180	180	180	180	180					
	UII-UIII	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	
	PI-PII-PIII	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200				
	C	19	25	33	42	55	76	101												
	T	33	49	59	71	89	123	152	189	228	285	338	375	478	575	769	1048			
	X	35	51	60	73	91	126	154	192	232	289	345	386	478	586	782	1068			
PI	45	57	68	95	110	128	160	159	232	288	349	380	478	574	782					
PII	60	72	85	110	133	152	185	188	263	325	380	515	588	681						
UI	32	45	55	68	83	112	140	180	250	311	366	601	833	1139						
UII	33	46	55	69	84	113	142	182	252	314	369	606	839	1152	2500	3400	3900			
UIII	60	72	85	110	133	152	185	188	263	325	380	515	588	681	2700	3700	4200			