

**BIFLOW**  
CYL/CON



Bifurcated **Axial Fans**

# Biflow SB - Cylindrical

## Features & Benefits



The Biflow SB is a quality range of bifurcated axial fans with a cylindrical casing, specially developed for handling more hostile air movement applications. The Biflow SB is designed so that air throughput totally by-passes the motor, keeping the motor out of the airstream in a cooler environment.

- 3 standard sizes from 400mm to 630mm.
- Air volume flow rates of up to 4.50 m<sup>3</sup>/sec.
- Static pressures of up to 200 Pa.
- Motor out of the air stream - Ideal for high temperature applications.
- Motors are foot mounted totally enclosed metric, protected to IP55.
- Robust, hot dipped galvanised steel casing.
- Suitable for ambient operating temperatures of up to 200° C.
- Ideal for external or internal mounting.
- Wide range of ancillaries.

### Features & Benefits

**Motor protection** – As the motor is out of the air stream, when the fan is operating at temperatures of up to 200° C, this keeps the air, dust and other contaminants away from the motor, which is an important benefit.

**Quality impellers** – Adjustable pitch aerofoil section impellers with blades made from high quality pressure die cast aluminium. Hubs are pressure die cast aluminium.

**Mounting arrangement** – With a single entry motor tunnel into the fan casing, the motor tunnel must be either mounted with its opening vertically upwards, or horizontal to ensure adequate motor cooling. All bifurcated axial fans are suitable for external mounting.

**Material strength** - SB bifurcated axial fans have a robust, heavy duty construction for added strength and durability. Fan casings are heavy gauge, sheet steel, roll formed and welded and hot dipped galvanised after fabrication to BS 729.

**Motor accessibility** – Foot mounted motors are easily accessible, which means where there is a requirement to change motors, this can be done relatively easily.

**Cost effective** – The high efficiency impellers make this a very economical method of moving high volumes of air at low to medium pressures.

**Choice** – A range of 3 sizes from 400mm to 630mm diameter, means wider performance and greater choice for the engineer.

**Availability** – The SB range of bifurcated fans is available

immediately from stock.

**Flexible performance** – Adjustable pitch impellers mean the pitch angle of the impeller can be adjusted on site (within limits) if a commissioning problem were to occur.

**Integral Flanges** – Casings have integral spun flanges for a smooth airflow.

**Full Accessory Range** – Mounting feet, anti-vibration mounts, matching flanges, flexible connectors, silencers, bell mouth inlets, non return dampers and wire guards.

**Tested to the very latest standards** – SB units are tested to ISO 5801:1997 (airside performance) and to BS 848 Pt 2:1985 (sound performance) meaning accurate, up to date information on performance and noise data that can be relied upon.

**Quality assurance** – All units are designed and manufactured with procedures as defined in BS EN ISO 9001: 2000.

**Warranty** – Each SB bifurcated fan has a 12 month warranty.

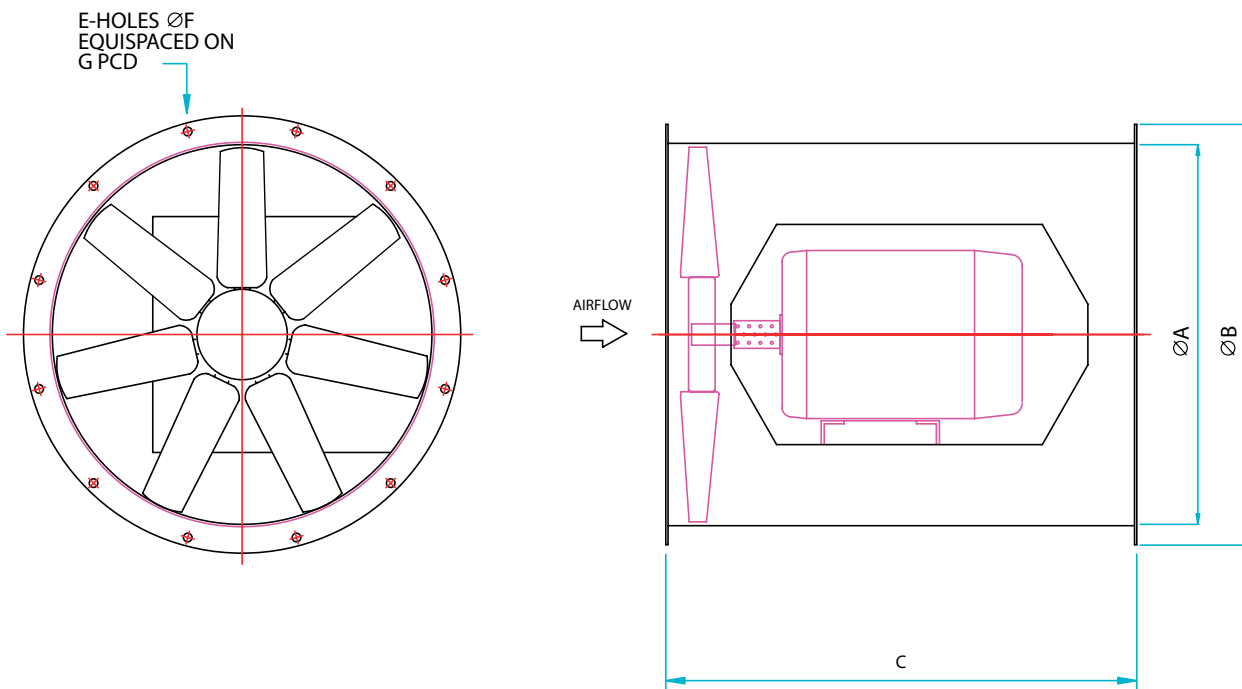
### Applications

Kitchen extract, spray booths, hot gas situations, corrosive atmospheres, boiler houses, heavy industrial.

# Biflow SB - Cylindrical Dimensional Data



AXIAL FLOW



Product Code	A	B	C	E	F	G	Weight kg
SB400-CYL4-3	400	475	450	8	12	450	29
SB500-CYL4-3	500	585	450	12	12	560	47
SB630-CYL4-3	630	715	570	12	12	690	78

# Biflow SB - Cylindrical

## Performance & Electrical Data



AXIAL FLOW

### THREE Phase - 380V-415V / 50Hz

Product Code	Speed r/min	Airflow m³/s @ Static Pressure Pa.							Motor Electrical Data				A.V. Mounts	dBA @ 3m
		25	50	75	100	150	200		IE1 FLC Amps	IE2 FLC Amps	SC Amps	Output kW		
SB400-CYL4-3	1400	1.01	0.96	0.89	0.82	0.70			0.69	N/A	3.80	0.25	S2B	55
SB500-CYL4-3	1415	2.30	2.23	2.14	2.04	1.92	1.52		1.67	1.65	10.9	0.75	S2G	62
SB630-CYL4-3	1410	4.50	4.38	4.27	4.16	4.04	3.76	3.44	4.54	4.43	30.9	2.2	S2	70

Sound levels are average spherical free field values at 50% peak pressure for comparative purposes only.

## Silencer Data

Product Code	dBA Attenuation		ΔP (Pa)	dBA Attenuation		ΔP (Pa)
	1DENP	1DEP		2DENP	2DEP	
SB400-CYL4-3	-9	-13	14	-13	-15	22
SB500-CYL4-3	-9	-11	26	-14	-15	42
SB630-CYL4-3	-9	-14	39	-13	-21	63

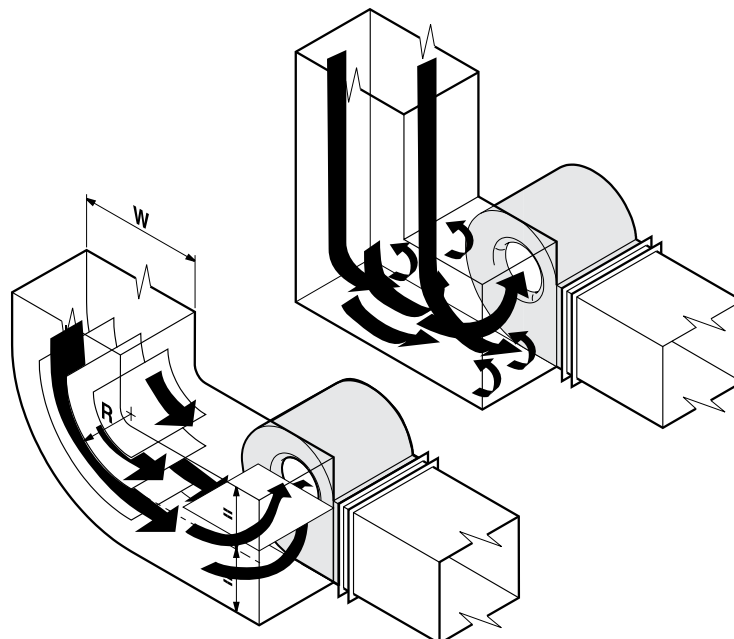
## Spinning of air at inlet connection

### DO NOT!

A poorly designed inlet box can generate spinning of the air which can reduce performance by around 25%. Also, avoid small inlet boxes as they can cause surging.

### DO!

Splitters at the inlet help prevent spinning flow. Turning vanes, where  $R/W < 1.0$  improves uniformity of flow approaching the fan inlet. Inlet boxes should be amply sized.



# Biflow SB - Cylindrical

## Sound Data



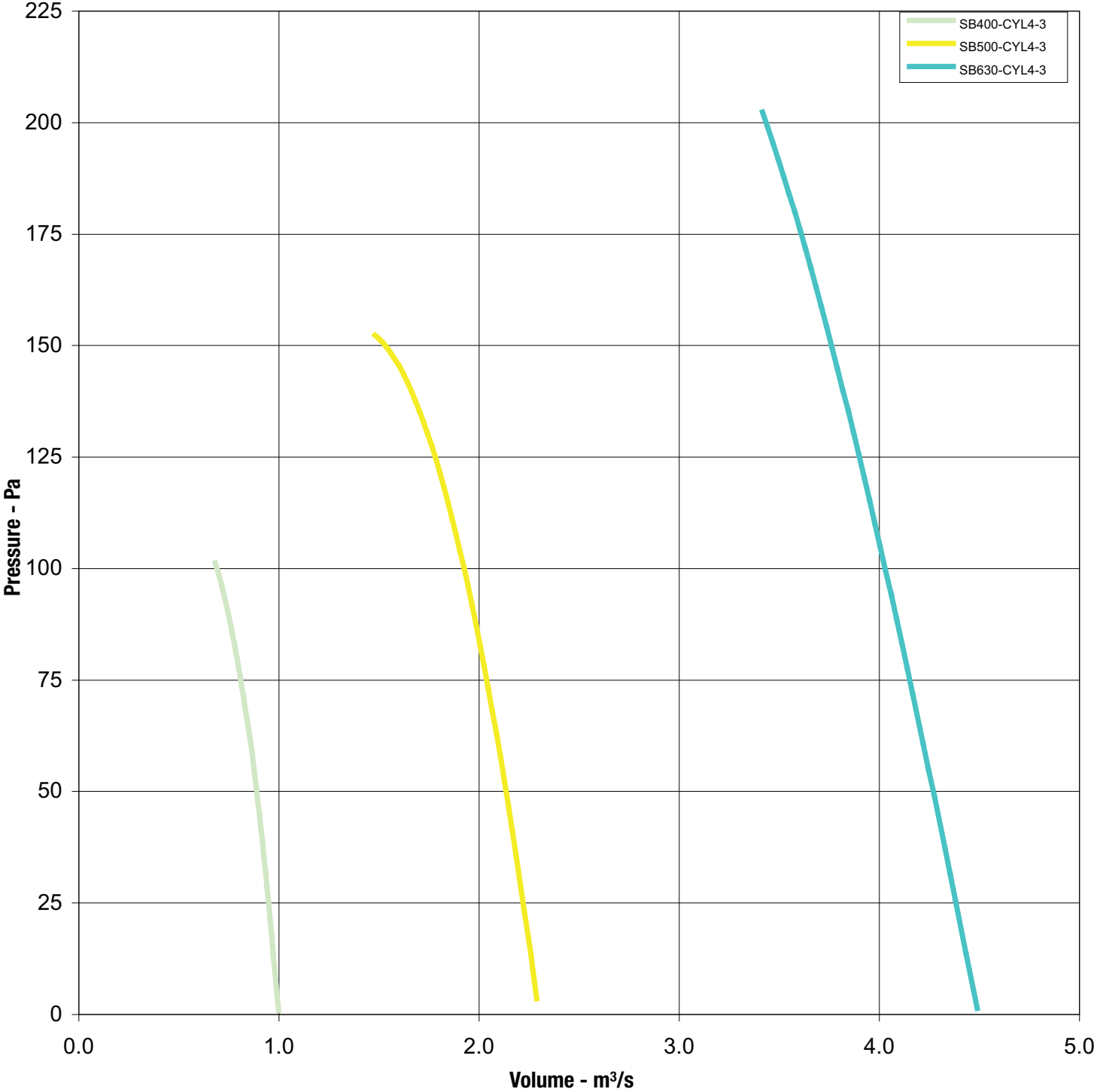
### SB CYL - THREE Phase

Product Code	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	dBa @ 3m
SB400-CYL4-3	80	77	76	72	71	69	66	56	55
SB500-CYL4-3	80	79	78	77	79	76	73	66	62
SB630-CYL4-3	89	87	85	85	85	85	83	78	70

# Biflow SB - Cylindrical Performance Curves



## 4 Pole 3Ph Range



# Biflow SB - Conical

## Features & Benefits



**The Biflow SB is a quality range of bifurcated axial fans with a conical casing, specially developed for handling more hostile air movement applications. The Biflow SB is designed so that air throughput totally by-passes the motor, keeping the motor out of the airstream in a cooler environment.**

- 4 standard sizes from 250mm to 500mm.
- Air volume flow rates of up to 3.80 m<sup>3</sup>/sec.
- Static pressures of up to 600 Pa.
- Motors are foot mounted totally enclosed metric, protected to IP55.
- Motor out of the air stream - Ideal for high temperature applications.
- Impellers are highly efficient aluminium aerofoil bladed section, retained in an aluminium hub and balanced to Grade G6.3.
- Robust, hot dipped galvanised steel casing.
- Extensive stock range available.
- Ideal for external or internal mounting.
- Wide range of ancillaries.
- Suitable for ambient operating temperatures of up to 200°C.

### Features & Benefits

**Casing design** – The conically profiled fan casing is designed to maximize the available space and size of drive motor for a given impeller diameter, without causing any undue restriction of airflow.

**Motor protection** – As the motor is out of the air stream, when the fan is operating at temperatures of up to 200° C, this keeps the air, dust and other contaminants away from the motor, which is an important benefit.

**Impeller design** – Adjustable pitch aerofoil section impellers with blades made from high quality pressure die cast aluminium. Hubs are pressure die cast aluminium.

**Material strength** - SB bifurcated axial fans have a robust, heavy duty construction for added strength and durability. Fan casings are heavy gauge, sheet steel, roll formed and welded and hot dipped galvanised after fabrication to BS 729.

**Motor accessibility** – Foot mounted motors are easily accessible, which means where there is a requirement to change motors, this can be done relatively easily.

**Cost effective** – The high efficiency impellers make this a very economical method of moving high volumes of air at low to medium pressures.

**Choice** – A range of 4 sizes from 250mm to 500mm diameter, this means wider performance and greater choice for the engineer.

**Availability** – The SB range of bifurcated fans is available immediately from stock.

**Flexible performance** – Adjustable pitch impellers mean the pitch angle of the impeller can be adjusted on site (within limits) if a commissioning problem were to occur.

**Integral Flanges** – Casings have integral spun flanges for a smooth airflow.

**Tested to the very latest standards** – SB units are tested to ISO 5801:1997 (airside performance) and to BS 848 Pt 2:1985 (sound performance) at Elta Fans own test facility, meaning accurate, up to date information on performance and noise data that can be relied upon.

**Quality assurance** – All units are designed and manufactured with procedures as defined in BS EN ISO 9001: 2000.

**Full range of ancillaries** – Mounting feet, Anti-Vibration mounts, matching flanges, flexible connectors, silencers, bell mouth inlets, non return dampers and wire guards.

**Warranty** – Each SB has a 12 month warranty.

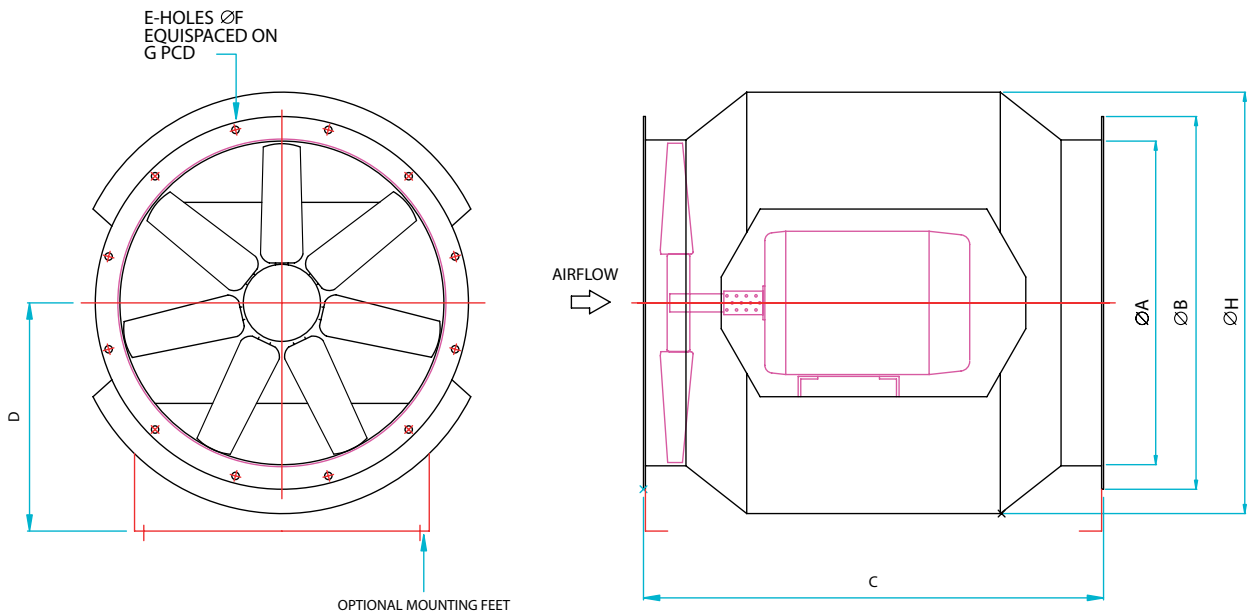
### Applications

Kitchen extract, spray booths, hot gas situations, corrosive atmospheres, boiler houses, heavy industrial.

# Biflow SB - Conical Dimensional Data

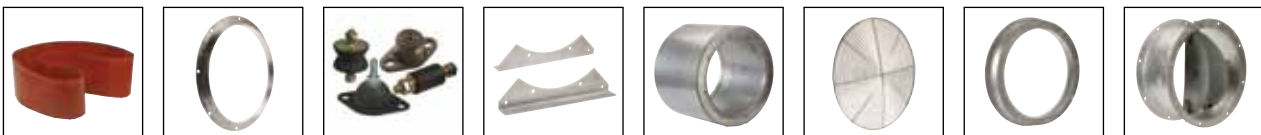


AXIAL FLOW



Product Code	A	B	C	D	E	F	G	H	Weight kg
SB250-CON4-1	250	325	460	220	8	10	299	400	23
SB250-CON4-3	250	325	460	220	8	10	299	400	23
SB250-CON2-3	250	325	460	220	8	10	299	400	23
SB315-CON4-1	315	380	500	250	8	10	355	460	30
SB315-CON4-3	315	380	500	250	8	10	355	460	30
SB315-CON2-3	315	380	500	250	8	10	355	460	31
SB400-CON2-3	400	485	650	305	8	12	450	570	49
SB500-CON2-3	500	585	710	370	12	12	560	700	86

## Accessories



# Biflow SB - Conical

## Performance & Electrical Data



### SINGLE Phase - 220V-240V / 50Hz

Product Code	Speed r/min	Airflow m <sup>3</sup> /s @ Static Pressure Pa.												Motor Electrical Data			A.V. Mounts	dBA @ 3m
		0	25	50	75	100	150	200	250	300	400	500	600	FLC Amps	SC Amps	Output kW		
SB250-CON4-1	1450	0.28	0.22	0.15	0.03									1.13	3.73	0.12	S1G	48
SB315-CON4-1	1370	0.52	0.48	0.43	0.38	0.23								1.13	3.73	0.12	S2B	51

Sound levels are average spherical free field values at 50% peak pressure for comparative purposes only.

### THREE Phase - 380V-415V / 50Hz

Product Code	Speed r/min	Airflow m <sup>3</sup> /s @ Static Pressure Pa.												Motor Electrical Data				A.V. Mounts	dBA @ 3m
		0	25	50	75	100	150	200	250	300	400	500	600	IE1 FLC Amps	IE2 FLC Amps	SC Amps	Output kW		
SB250-CON4-3	1370	0.27	0.21	0.14	0.04									0.48	N/A	2.40	0.12	S1G	48
SB250-CON2-3	2780	0.57	0.53	0.50	0.47	0.44	0.36	0.28	0.20					0.68	N/A	3.06	0.25	S1G	61
SB315-CON4-3	1370	0.52	0.48	0.43	0.37	0.25								0.48	N/A	2.40	0.12	S2B	51
SB315-CON2-3	2800	0.93	0.92	0.91	0.90	0.88	0.84	0.80	0.76	0.71	0.55			1.18	N/A	6.14	0.55	S2B	64
SB400-CON2-3	2840	2.08	2.07	2.05	2.02	2.00	1.96	1.92	1.86	1.82	1.70	1.53		4.56	4.42	27.4	2.2	S2G	70
SB500-CON2-3	2900	3.80	3.78	3.76	3.73	3.71	3.66	3.60	3.54	3.46	3.30	3.15	2.90	7.55	7.49	57.4	4.0	S2	80

Sound levels are average spherical free field values at 50% peak pressure for comparative purposes only.

### Silencer Data - SINGLE Phase

Product Code	dBA Attenuation		$\Delta P$ (Pa) 1DEP	dBA Attenuation		$\Delta P$ (Pa) 2DEP
	1DENP	1DEP		2DENP	2DEP	
SB250-CON4-1	-9	-11	11	-14	-16	16
SB315-CON4-1	-8	-11	8	-13	-15	12

### Silencer Data - THREE Phase

Product Code	dBA Attenuation		$\Delta P$ (Pa) 1DEP	dBA Attenuation		$\Delta P$ (Pa) 2DEP
	1DENP	1DEP		2DENP	2DEP	
SB250-CON4-3	-8	-11	8	-14	-16	16
SB250-CON2-3	-9	-12	25	-15	-15	40
SB315-CON4-3	-8	-11	8	-13	-15	12
SB315-CON2-3	-9	-14	28	-16	-15	44
SB400-CON2-3	-9	-11	64	-14	-15	103
SB500-CON2-3	-9	-16	81	-14	-19	130

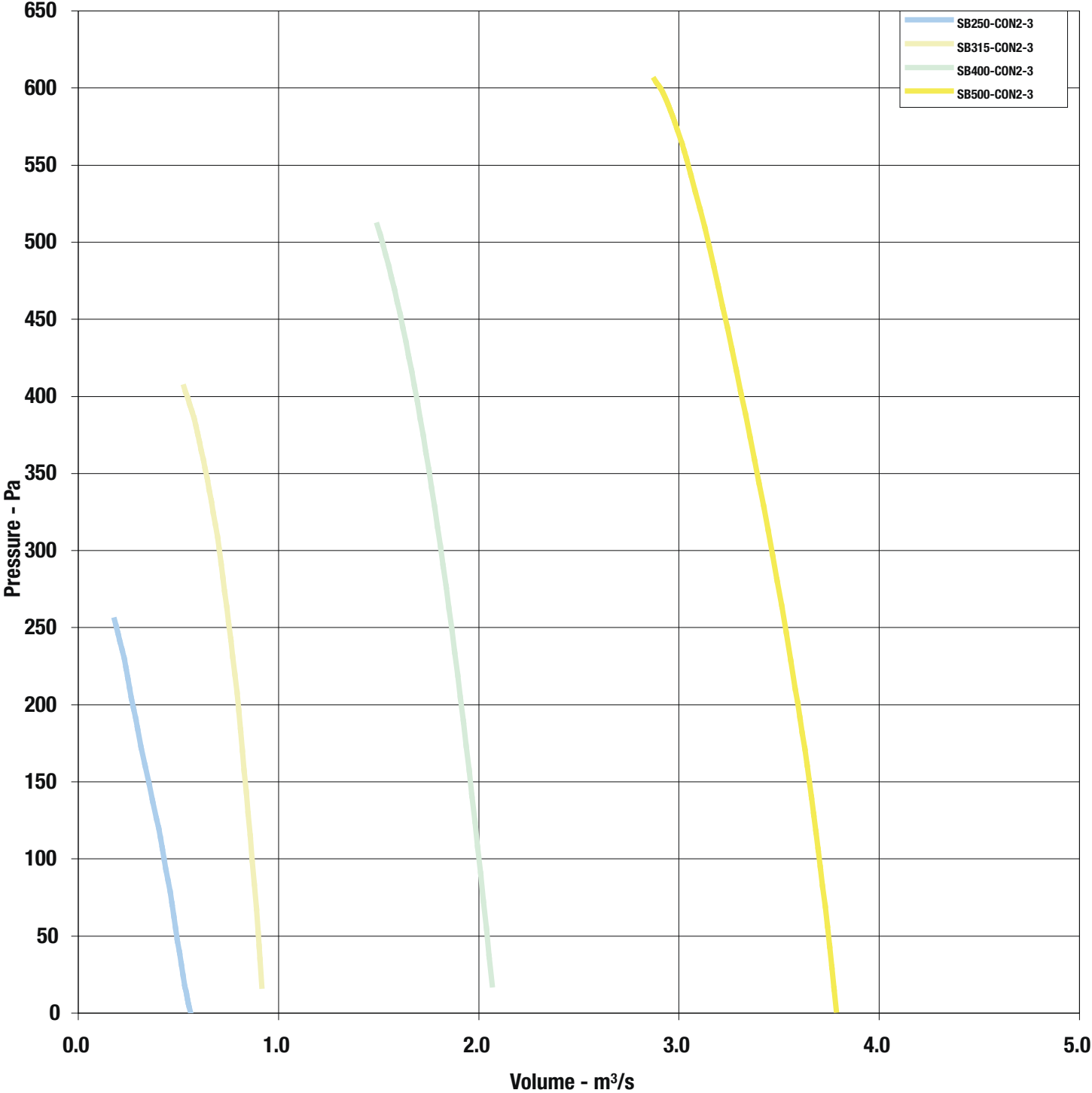
AXIAL FLOW

# Biflow SB - Conical

## Performance Curves



### 2 Pole 3Ph Range

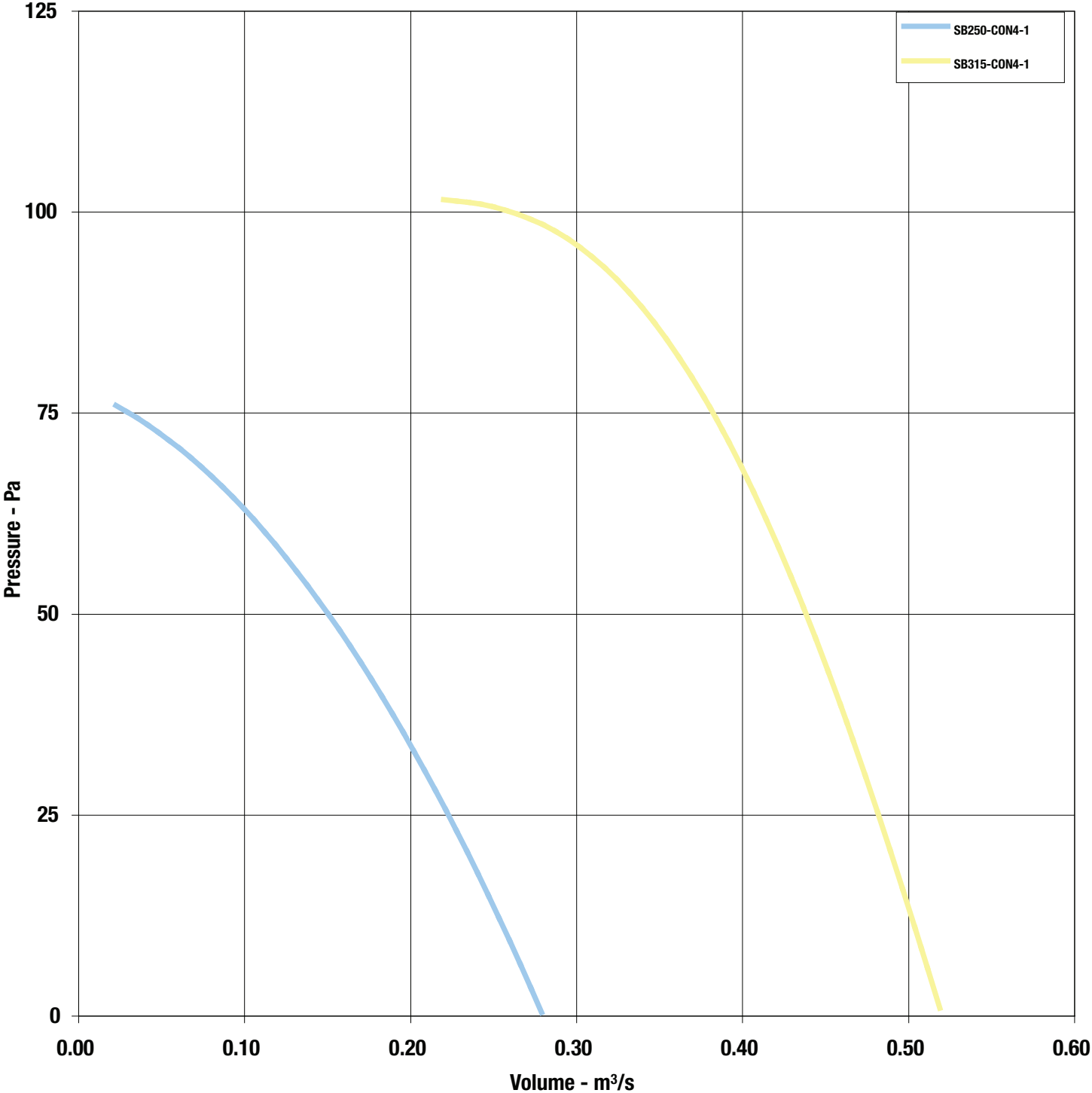


# Biflow SB - Conical

## Performance Curves



4 Pole 1Ph Range

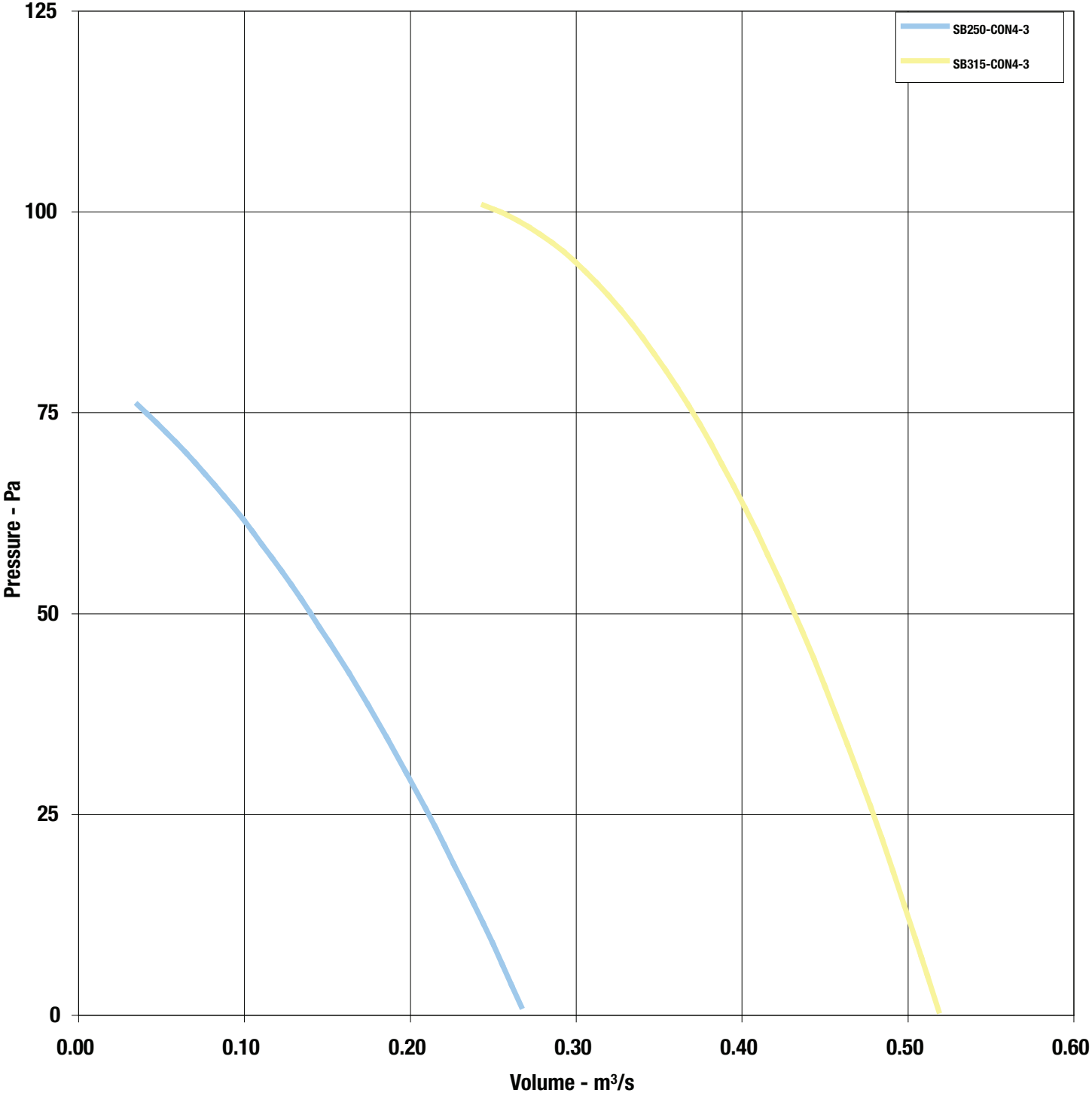


# Biflow SB - Conical

## Performance Curves



### 4 Pole 3Ph Range

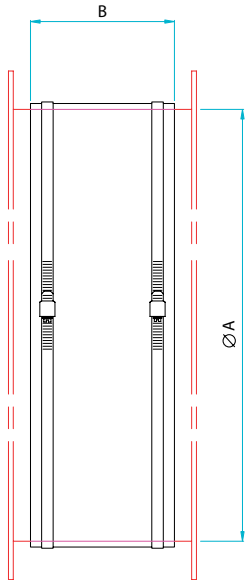


# Biflow SB - Cylindrical & Conical Accessories



AXIAL FLOW

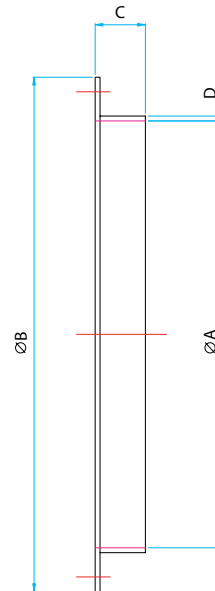
## Flexible Connectors



- Fit to matching flanges to provide flexible connection
- Silicone coated glass fibre
- Supplied with plated steel band fixings
- Alternative materials available to order

Product Code	Fan Dia. A	B	Weight kg
063-0250-SC250	250	150	0.5
063-0315-SC250	315	150	0.6
063-0400-SC250	400	150	0.9
063-0500-SC250	500	150	1.2
063-0630-SC250	630	200	1.4

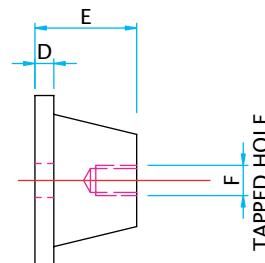
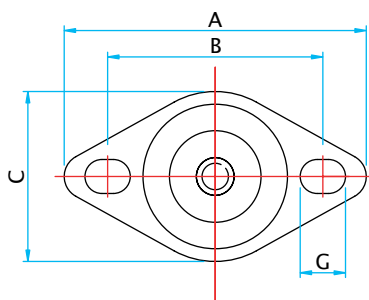
## Matching Flanges



- Fit directly to fan case flange
- Provides easy connection to flexible connector or ducting
- Hot dipped galvanised steel

Product Code	Fan Dia. A	B	C	D	Weight kg
061B-0250	250	325	30	1.5	0.5
061B-0315	315	375	30	1.5	0.7
061B-0400	400	475	40	1.5	1.2
061B-0500	500	585	45	2.0	2.6
061B-0630	630	715	45	2.0	3.5

## Anti-Vibration Mounts



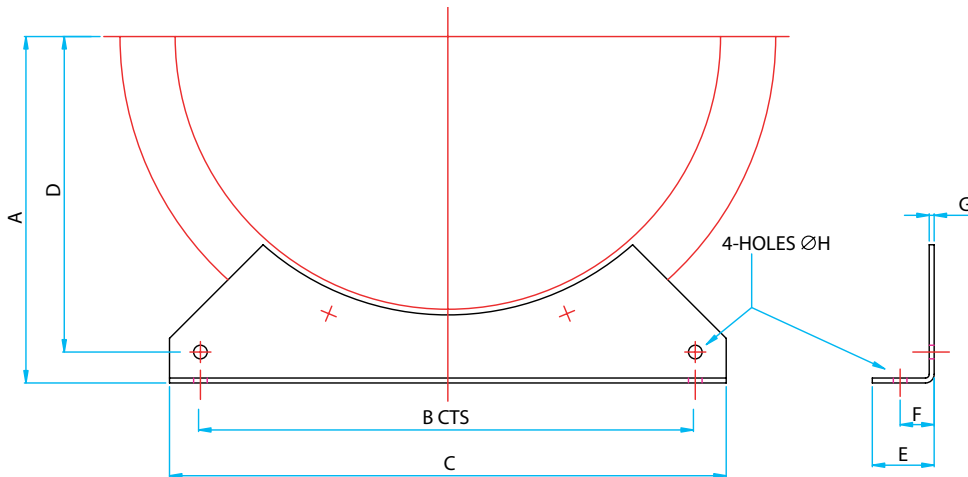
Product Code	A	B	C	D	E	F	G	Weight kg
062-S1G	80	57	45	5	32	M8	12 x 9	0.040
062-S2								0.100
062-S2B								0.100
062-S2G								0.102

- Fit directly to mounting feet
- Rubber with steel insert
- Supplied as set of 4, complete with fixings

# Biflow SB - Cylindrical & Conical Accessories



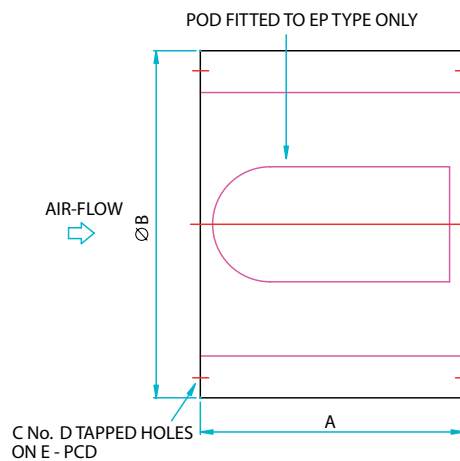
## Mounting Feet



- For free standing mounting of ducted fans
- Fixes directly to fan case flange
- Hot dipped galvanised steel

Product Code	Fan Code	Fan Dia.	A	B	C	D	E	F	G	H	Weight kg
060B-0250-B	SB250-CON	250	220	206	256	-	40	23	3	9	1.0
060B-0315-B	SB315-CON	315	250	265	315	-	40	23	3	9	1.5
060B-0400-B	SB400-CON	400	305	350	400	-	50	27.5	4	9	2.0
060B-0500-B	SB500-CON	500	370	450	500	-	50	27	4	11	3.0
060B-0400	SB400-CYL	400	250	350	400	230	50	27.5	4	11	1.5
060B-0500	SB500-CYL	500	315	450	500	290	50	27	4	11	2.5
060B-0630	SB630-CYL	630	400	580	630	375	60	32	5	11	5.0

## Silencers



- Pre-galvanised sheet steel with perforated steel lining
- Infill of glass tissue faced high density mineral wool
- For saturated or other special applications please refer to Elta

Product Code	Fan Dia.	A 1D	A 2D	B	C	D	E	Weight kg			
								1DENP	1DEP	2DENP	2DEP
068-0250-*D**P	250	250	500	350	8	M8	299	7	9	11	13
068-0315-*D**P	315	315	630	417	8	M8	355	9	11	15	17
068-0400-*D**P	400	400	800	500	8	M10	450	13	16	22	26
068-0500-*D**P	500	500	1000	652	12	M10	560	18	22	32	37
068-0630-*D**P	630	630	1260	782	12	M10	690	26	32	48	57

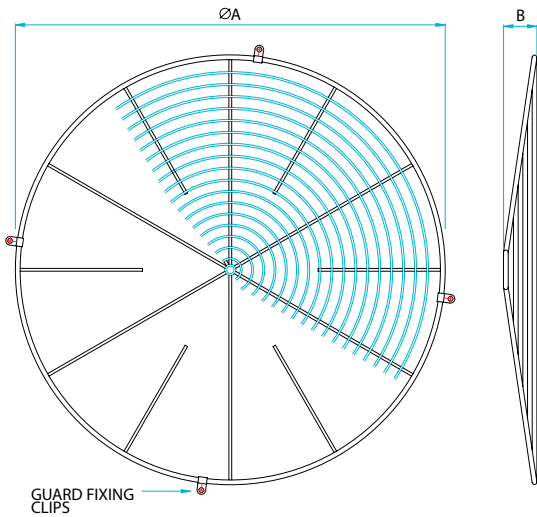
1 or 2 SEE DIM 'A' → E = WITH POD or EN = WITHOUT POD

# Biflow SB - Cylindrical & Conical Accessories



AXIAL FLOW

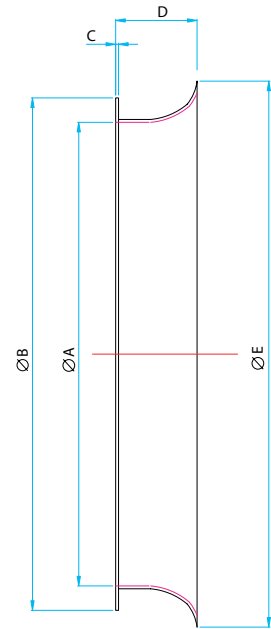
## Wire Guards



Product Code	Fan Dia.	A	B	Weight kg
078C-0250-C	250	270	18	0.9
078C-0315-C	315	335	21	1.1
078C-0400-C	400	420	26	1.6
078C-0500-C	500	520	32	2.2
078C-0630-C	630	655	40	2.6

- Bright zinc plated steel
- Fix with clips & screws provided

## Bell Mouth Inlets

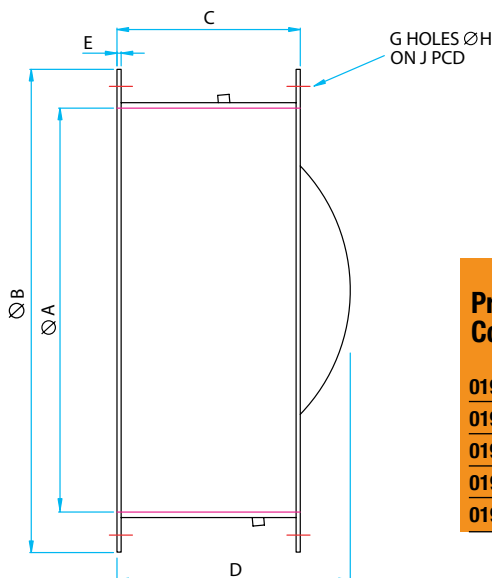


- For improved airflow in end of duct applications
- Fixed directly to fan case flange
- Hot dipped galvanised steel
- Available to order

Product Code	Fan Dia. A	B	C	D	E	Weight kg
241B-0250*	250	315	3	50	316	2.0
241B-0315*	315	380	3	58	395	2.5
241B-0400-BELL	400	485	3	75	515	4.5
241B-0500-BELL	500	585	3	93	630	6.2
241B-0630-BELL	630	715	3	105	780	9.0

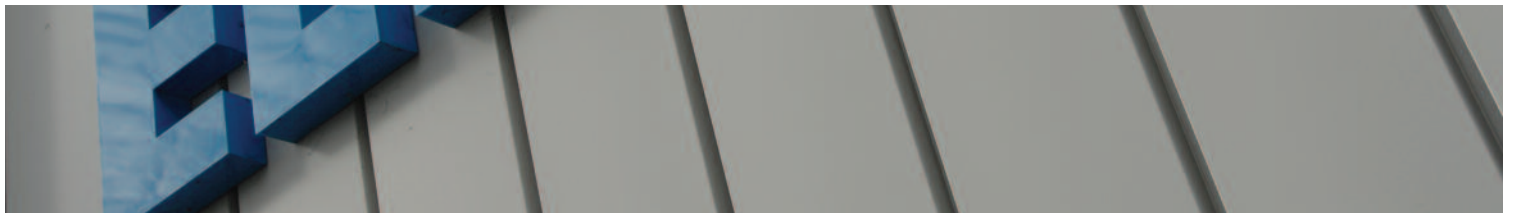
\* Inlet cone

## Non Return Dampers



- Prevents reverse flow of air when fan not operating
- Fixed directly to fan case flange
- Hot dipped galvanised steel
- Galvanised steel butterfly type blades
- Suitable for horizontal or vertical (upward airflow) mounting
- Available to order

Product Code	Fan Dia. A	B	C	D	E	G	H	J	Weight kg
019-0250-STD	250	306	170	170	1.6	8	10	280	7.0
019-0315-STD	315	375	180	210	2.0	8	10	355	7.5
019-0450-STD	450	530	220	280	3.0	8	12	500	12.0
019-0500-STD	500	585	220	315	3.0	12	12	560	18.0
019-0630-STD	630	715	250	420	3.0	12	12	690	25.0



**Elta Fans Ltd - Applied Technology**

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