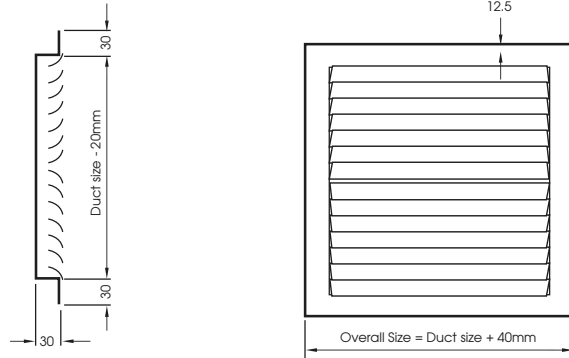


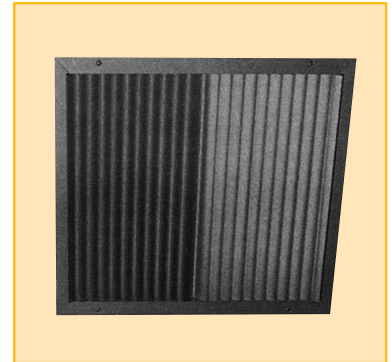
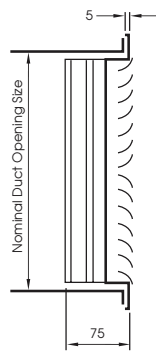
CURVED BLADE DIFFUSERS

TYPE: CBD

CBD (Without damper)



CBDV (With damper)



Application

Suitable for most ceiling supply or extract installations, the wide variety of size and pattern configurations together with the adjustable blades, provide a high degree of flexibility in diffuser selection. Individually adjustable blades allow on-site flexibility to direct air horizontally, vertically or in an intermediate pattern.

Choice of 15 different core patterns to choose from, 1,2,3 or 4 way, square, rectangular or linear.

Technical Information

CONSTRUCTION:

Manufactured to the very highest standards entirely from rigid extruded aluminium sections. Stringent quality control throughout manufacture ensures a high standard of material and workmanship.

FINISH:

Satin Silver Anodised as standard. Any stove enamel or polyester powder colour to B.S. or R.A.L. specification can be supplied upon request.

FIXING:

Face fixing through countersunk flange holes is standard Style 1.

SIZES:

Virtually any size from 150 X 150 to 1200 X 600 or continuous lengths up to 300mm wide can be produced to suit your requirements.

ACCESSORIES:

Type V Opposed blade volume control dampers. (Specify CBDV.)
Type D Deflectair, Air turning device.
Type PB Top or side inlet plenum boxes. See overleaf.

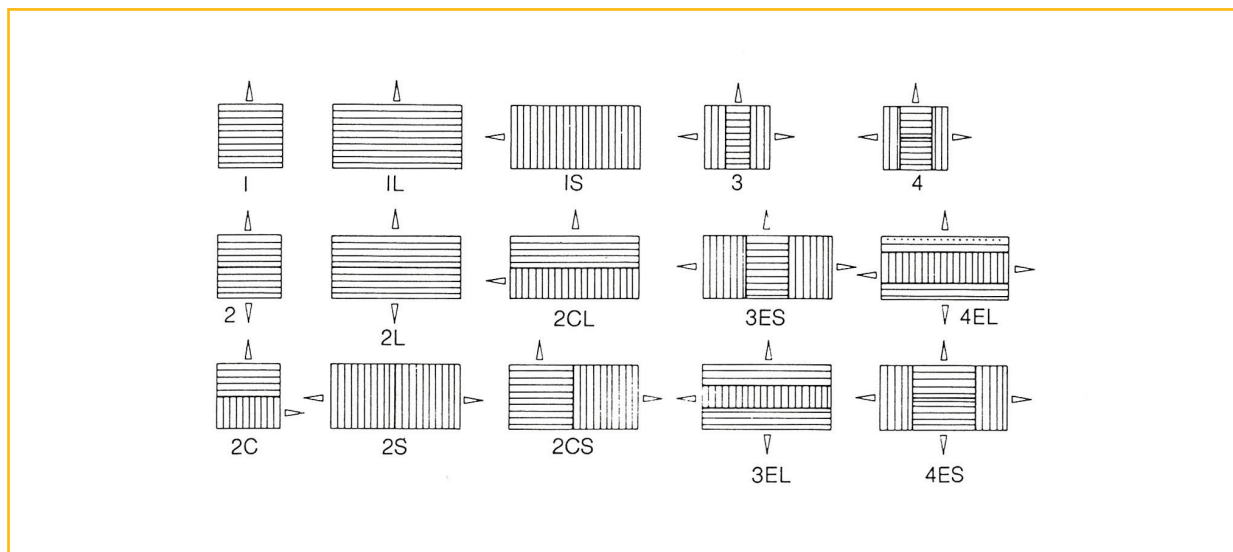
OPTIONS:

Blades are adjustable as standard but may be fixed if required.
'Lay-in' version, available, suitable for 'T' bar ceiling (Specify CBTO/CBTV).
Hinged or removable core available.

CURVED BLADE DIFFUSERS

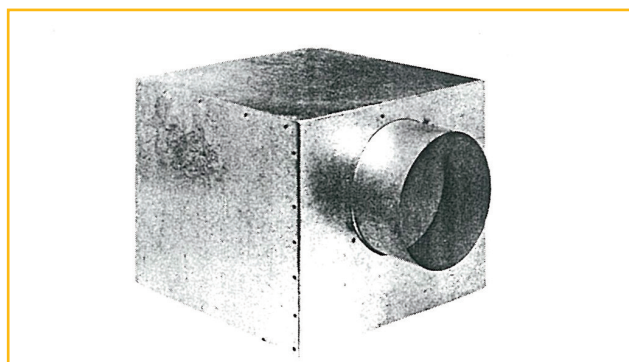
PERFORMANCE DATA TYPE: CBD

CORE STYLES



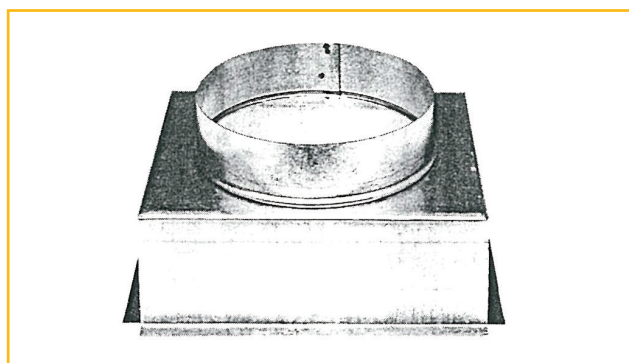
PLENUM BOXES

SIDE INLET



PB-E

TOP INLET



PB-F

CURVED BLADE DIFFUSERS

DATA BASIS TYPE: CBD

GENERAL INFORMATION

All performance data is based upon the following terms of reference and definitions:-

1. THROW

Throw is defined as being the horizontal distance from the face of the diffuser to the point at which the jet velocity has been reduced to 0.5m/s. Throw values therefore, should be measured as the distance from the diffuser to the nearest vertical surface within the airstream (or a distance equal to 1/2 the distance between two opposing diffusers.) at which point the downwall terminal velocities would be in the order of 0.2m/s. The tabulated throw data shows two figures for each selection, the shorter of the two is the distance at which the downwall velocity has reduced to 0.4m/s and the larger figure is the distance at which the downwall velocity has reduced to 0.2m/s.

2. EXPOSED DUCT APPLICATIONS

Where ducts are exposed and no "Coanda" effect can be established, the tabulated throw data will be reduced by 35%. Multiply the required throw by 1.5 and select from the tables in the normal" manner.

3. TERMINAL VELOCITY

Is considered to be the downwall velocity measured at a point approx 1500mm above finished floor level, and approx. 150mm from the wall.

4. TEMPERATURE

Performance data is based upon supply air temperatures 10°C below room temperature with a floor to ceiling height of 2.7M. Satisfactory performance can be achieved with supply temperature differentials (Heating or Cooling) up to 12degC.

5. MOUNTING HEIGHT

For ceiling heights greater than 2.7M the following factors should be applied to the required throw.

CEILING HEIGHT	3.0	3.3	3.6	4.0	4.5
FACTOR	1.05	1.10	1.15	1.21	1.25

6. VOLUME CONTROL DAMPERS

Data includes opposed blade volume control damper (In the fully open position.) mounted on the diffuser neck. The damper is designed for the final trimming of air volumes and should not be used to try to balance the system. Harsh throttling down will result in excessive noise and pressure drops. For guidance purposes a damper 20% closed will increase the pressure drop by approximately 14Pa, and noise level by approximately 4NC. For diffusers without dampers multiply the pressure drop values in the Tables by 0.9 and deduct 4NC.

7. RECOMMENDED NOISE LEVELS

8. PLENUM BOXES PERFORMANCE DATA - NC LEVELS

In order to achieve the design noise criteria within the space we would recommend that the spigot velocities given in Table 'A' should not be exceeded.

TABLE 'A'

REQUIRED NOISE CRITERIA LEVEL	20	25	30	35	40
MAXIMUM SPIGOT VELOCITY (m/s)	2.0	2.5	3.0	3.5	4.5

CURVED BLADE DIFFUSERS

PERFORMANCE DATA TYPE: CBD

TABLE B

Volume (M ³ /Sec)	Size (mm)	Neck Area (M ²)	Neck Vel (M/S)	Δ Ps (Pa)	NC	Throw
.02	150 x 150	0.25	1.7	8	-	2.5 - 4.5
	250 x 100					
	200 x 200					
	250 x 150	.04	.6	2	-	1.6 - 2.5
	400 x 100					
	250 x 250	.06	.5	1	-	1.2 - 2.0
	300 x 200					
	450 x 150					
.04	600 x 100	.025	2.5	20	23	3.7 - 6.2
	150 x 150					
	250 x 100					
	200 x 200					
	250 x 150	.04	1.3	6	-	2.0 - 3.0
	400 x 100					
	250 x 250					
	300 x 200	.06	.6	3	-	1.5 - 2.6
	450 x 150					
	600 x 100					
	300 x 300	.09	.5	1	-	1.2 - 2.2
	350 x 250					
	450 x 200					
	600 x 150					
	350 x 350	.12	.3	1	-	1.0 - 2.0
	400 x 300					
	500 x 250					
	600 x 200					
.06	150 x 150	.025	3.5	40	32	4.9 - 7.8
	250 x 100					
	200 x 200					
	250 x 150					
	400 x 100	.04	1.9	14	22	3.6 - 6.0
	250 x 250					
	300 x 200					
	450 x 150	.06	1.1	5	15	2.0 - 3.8
	600 x 100					
	300 x 300					
	350 x 250	.09	.7	3	-	2.0 - 3.2
	450 x 200					
	600 x 150					
	350 x 350					
	400 x 300	.12	.5	1	-	1.5 - 2.5
	500 x 250					
	600 x 200					
	150 x 150					
.08	250 x 100	.025	5.0	67	39	6.2 - 9.5
	200 x 200					
	250 x 150					
	400 x 100	.04	2.5	20	27	5.0 - 7.0
	250 x 250					
	300 x 200					
	450 x 150	.06	1.5	8	17	3.1 - 4.9
	600 x 100					

Volume (M ³ /Sec)	Size (mm)	Neck Area (M ²)	Neck Vel (M/S)	Δ Ps (Pa)	NC	Throw
.08	300 x 300	.09	1.0	4	15	2.8 - 4.3
	350 x 250					
	450 x 200					
	600 x 150					
	350 x 350	.12	.8	2	-	1.7 - 3.0
	400 x 300					
	500 x 250					
	600 x 200					
.10	400 x 400	.16	.5	1	-	1.5 - 2.5
	450 x 350					
	500 x 300					
	600 x 250					
	200 x 200	.04	3.0	30	32	5.5 - 8.4
	250 x 150					
	400 x 100					
	250 x 250					
	300 x 200	.06	2.0	14	28	3.7 - 6.2
	450 x 150					
	600 x 100					
	300 x 300					
.12	350 x 250	.09	1.3	6	17	3.2 - 5.0
	450 x 200					
	600 x 150					
	350 x 350					
	400 x 300	.12	.8	3	-	2.0 - 3.8
	500 x 250					
	600 x 200					
	400 x 400					
.16	450 x 350	.16	.5	2	-	1.8 - 3.1
	500 x 300					
	600 x 250					
	200 x 200					
	250 x 150	.04	3.5	40	37	6.8 - 9.9
	400 x 100					
	250 x 250					
	300 x 200					
.20	450 x 150	.06	2.5	18	30	4.5 - 7.5
	600 x 100					
	300 x 300					
	350 x 250					
	450 x 200	.09	1.5	8	19	3.7 - 5.7
	600 x 150					
	350 x 350					
	400 x 300					
.25	500 x 250	.12	1.0	4	15	2.6 - 4.7
	600 x 200					
	400 x 400					
	450 x 350					
	500 x 300	.16	.8	43	-	2.1 - 3.7
	600 x 250					
	150 x 150					
	250 x 100					

CURVED BLADE DIFFUSERS

PERFORMANCE DATA TYPE: CBD

TABLE B (cont)

Volume (M³/Sec)	Size (mm)	Neck Area (M²)	Neck Vel (M/S)	Δ Ps (Pa)	NC	Throw
.14	200 x 200					
	250 x 150	.04	4.4	66	43	8.3 - 12.3
	400 x 100					
	250 x 250					
	300 x 200	.06	2.5	20	32	5.0 - 8.0
	450 x 150					
	600 x 100					
	300 x 300					
	350 x 250	.09	1.8	14	26	4.6 - 7.4
	450 x 200					
	600 x 150					
	350 x 350					
	400 x 300	.12	1.3	6	18	3.1 - 5.0
	500 x 250					
	600 x 200					
	400 x 400					
	450 x 350	.16	1.0	4	17	3.1 - 4.6
	500 x 300					
	600 x 250					
	450 x 450					
	500 x 400					
	600 x 350	.2	8	2	16	2.5 - 3.7
	700 x 300					
	850 x 250					
	500 x 500					
	600 x 450	.25	.6	1	15	2.2 - 2.8
	650 x 400					
	750 x 350					
	550 x 550					
	600 x 500	.30	.5	-	-	1.8 - 3.1
	700 x 450					
	750 x 400					
.16	250 x 250					
	300 x 200	.06	3.0	30	34	6.2 - 9.2
	450 x 150					
	600 x 100					
	300 x 300					
	350 x 250	.09	2.0	12	26	4.9 - 8.0
	450 x 200					
	600 x 150					
	350 x 350					
	400 x 300	.12	1.5	6	19	3.7 - 6.2
	500 x 250					
	600 x 200					
	400 x 400					
	450 x 350	.16	1.2	3	18	3.4 - 4.9
	500 x 300					
	600 x 250					
	450 x 450					
	500 x 400					
	600 x 350					
	700 x 300					
	850 x 250					

Volume (M³/Sec)	Size (mm)	Neck Area (M²)	Neck Vel (M/S)	Δ Ps (Pa)	NC	Throw
.16	600 x 350	.2	.9	1	15	2.5 - 4.3
	700 x 300					
	850 x 250					
	500 x 500					
	600 x 450	.25	.8	1	18	2.5 - 3.7
	650 x 400					
	750 x 350					
	550 x 550					
	600 x 500	.30	.6	-	-	2.2 - 3.4
	700 x 450					
	750 x 400					
	600 x 600					
	700 x 500	.36	.5	-	-	1.8 - 2.0
	750 x 450					
.18	250 x 250					
	300 x 200	.06	3.0	39	36	7.0 - 11.1
	450 x 150					
	600 x 100					
	300 x 300					
	350 x 250	.09	2.3	12	28	5.2 - 8.5
	450 x 200					
	600 x 150					
	350 x 350					
	400 x 300	.12	1.6	6	19	3.9 - 6.3
	500 x 250					
	600 x 200					
	400 x 400					
	450 x 350	.16	1.3	5	18	3.7 - 6.0
	500 x 300					
	600 x 250					
	450 x 450					
	500 x 400					
	600 x 350	.2	1.0	3	18	3.1 - 4.9
	700 x 300					
	850 x 250					
	500 x 500					
	600 x 450	.25	.8	2	17	2.5 - 3.7
	650 x 400					
	750 x 350					
	550 x 550					
	600 x 500	.30	.6	1	-	2.2 - 3.4
	700 x 450					
	750 x 400					
	600 x 600					
	700 x 500	.36	.5	-	-	1.8 - 3.1
	750 x 450					
.20	250 x 250					
	300 x 200	.06	3.5	39	36	7.4 - 11.1
	450 x 150					
	600 x 100					

CURVED BLADE DIFFUSERS

PERFORMANCE DATA TYPE: CBD

TABLE B (cont)

Volume (M³/Sec)	Size (mm)	Neck Area (M²)	Neck Vel (M/S)	Δ Ps (Pa)	NC	Throw
.14	300 x 300					
	350 x 250	.09	2.5	19	32	5.6 - 9.2
	450 x 200					
	600 x 150					
	350 x 350					
	400 x 300	.12	1.9	12	26	4.5 - 7.9
	500 x 250					
	600 x 700					
	400 x 400					
	450 x 350	.16	1.5	6	20	4.2 - 6.8
	500 x 300					
	600 x 250					
	450 x 450					
	500 x 400					
	600 x 350	.20	1.0	3	18	3.1 - 4.9
	700 x 300					
	850 x 250					
	500 x 500					
	600 x 450	.25	.80	2	16	2.5 - 4.8
	650 x 400					
	750 x 350					
	550 x 550					
	600 x 500	.30	.60	1	-	2.5 - 4.3
	700 x 450					
	750 x 400					
	600 x 600					
	700 x 500	.36	.50	-	-	2.0 - 3.0
	750 x 450					
.30	300 x 300					
	350 x 250	.09	3.5	40	41	8.5 - 12.5
	450 x 200					
	600 x 150					
	350 x 350					
	400 x 300	.12	2.5	20	33	6.2 - 9.5
	500 x 250					
	600 x 200					
	400 x 400					
	450 x 350	.16	2.0	12	27	5.5 - 8.6
	500 x 300					
	600 x 250					
	450 x 450					
	500 x 400					
	600 x 350	.20	1.5	6	22	4.3 - 7.4
	700 x 300					
	850 x 250					
	500 x 500					
	600 x 450	.25	1.2	4	20	3.7 - 6.2
	650 x 400					
	750 x 350					

Volume (M³/Sec)	Size (mm)	Neck Area (M²)	Neck Vel (M/S)	Δ Ps (Pa)	NC	Throw
.30	550 x 550					
	600 x 500	.30	1.0	3	15	3.5 - 5.5
	700 x 450					
	750 x 400					
	600 x 600					
	700 x 500	.36	.80	2	-	3.0 - 5.0
	750 x 450					
.40	350 x 350					
	400 x 300	.12	3.0	30	38	7.4 - 11.7
	500 x 250					
	600 x 200					
	400 x 400					
	450 x 350	.16	2.5	20	32	7.0 - 11.0
	500 x 300					
	600 x 250					
	450 x 450					
	500 x 400					
	600 x 350	.20	1.8	10	28	5.5 - 9.2
	700 x 300					
	850 x 250					
	500 x 500					
	600 x 450	.25	1.5	6	23	4.6 - 7.4
	650 x 400					
	750 x 350					
	550 x 550					
	600 x 500	.30	1.3	4	20	4.4 - 6.8
	700 x 450					
	750 x 400					
	600 x 600					
	700 x 500	.36	1.0	3	15	3.7 - 5.8
	750 x 450					
	750 x 750					
	900 x 600	.56	.70	1	-	3.0 - 4.5
	1200 x 450					
	850 x 850					
	1000 - 650	.72	.50	-	-	2.2 - 3.7
	1200 x 600					
.50	400 x 400					
	450 x 350	.16	3.0	30	40	8.3 - 12.3
	500 x 300					
	600 x 250					
	450 x 450					
	500 x 400					
	600 x 350	.20	2.5	18	34	7.3 - 11.5
	700 x 300					
	850 x 250					
	500 x 500					
	600 x 450	.25	2.0	12	30	6.0 - 9.2
	650 x 400					
	750 x 350					