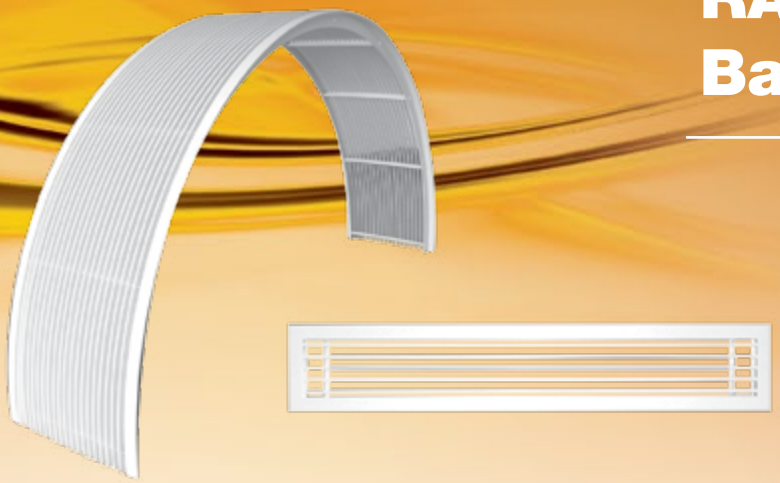
RA/RAC
Bar Grille



Materials

RA-A Extruded aluminium A6063.

Surface Finish

Baked white powder coat or natural anodized as standard.

Curve Type Linear Bar Grille (RAC)

The curved structure and aesthetic appearance of RAC make it perfect to be installed at the round column or curved wall.

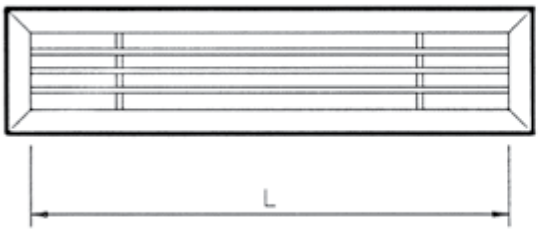
Features

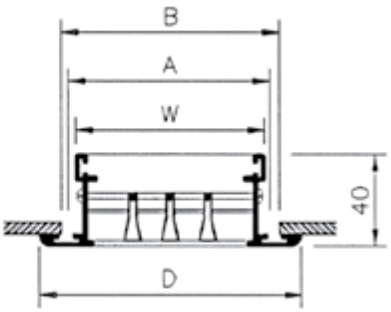
- The bar grille air blades are fixed & not adjustable. Maximum single length is 2700m. Above this length, the grille will come in multiple section.
- The neck sizes (w) are proportional to the number of linear bar blades.

Please refer to the following table.

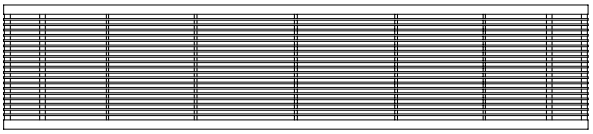
- Two different types of linear bar face deflection angle are available.
- The bar grilles that come with plenum boxes are known as RAB
- Approximately 65% free area.

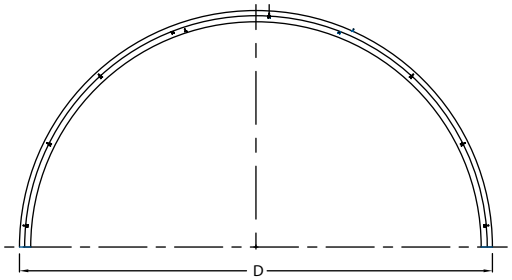
RA Construction Illustrations





RA/RAC Construction Illustrations





RA/RAC Bar Grille

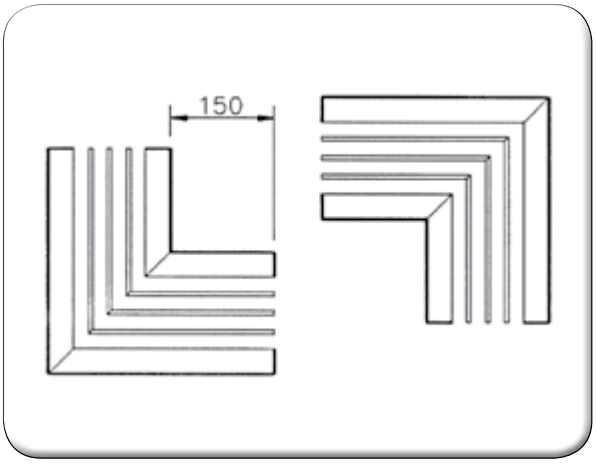
Bar Grille Vs Width *Unit : mm*

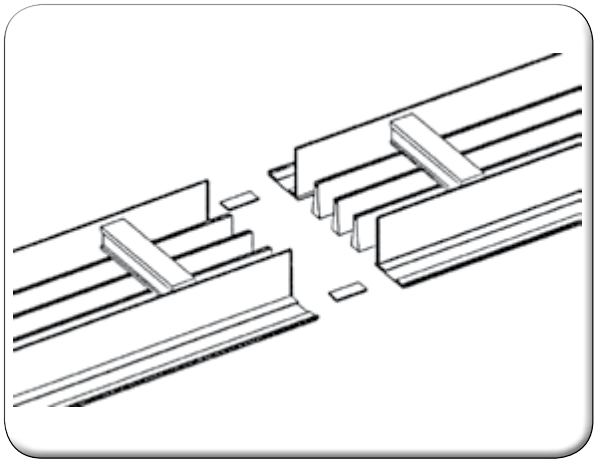
No.of Blade	2	3	4	5	6	7	8	10	12	14	16	18	20
Neck Width	45	60	75	90	105	120	135	165	195	225	255	285	315

RA Physical Dimension *Unit : mm*

Model	Materials	Thickness		L x W Neck Size	A Duct Size	B Wall Size	D Face Size	Order Key
		Frame	Blade					
RA-A	Extruded Aluminium A6063	1.0	4.5	L: To suit design Length W: To suit No. of Blade	L+10 W+10	L+15 W+15	L+29 W+29	RA - A + 100 x 3 - 1 (W H) Model: RA; Materials: A; Accessories: 100; W: 3; H: 1

RA-A Linear Bar Grille



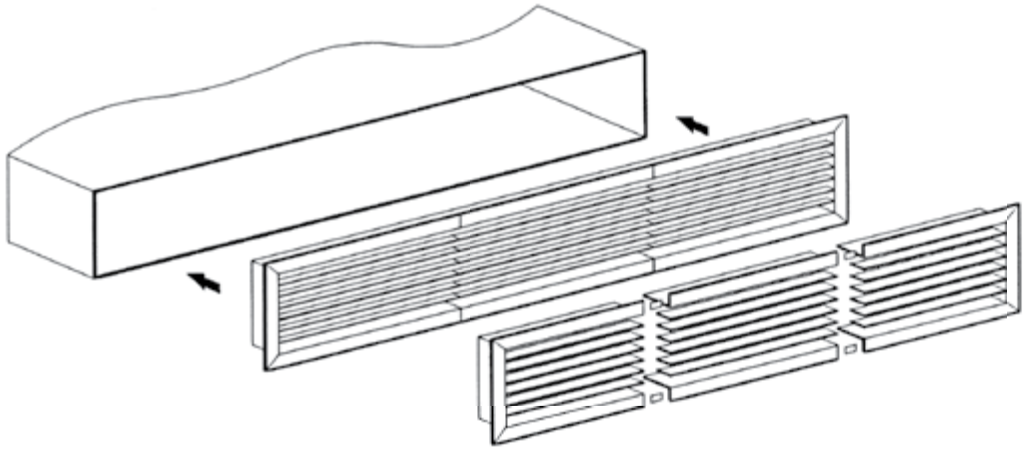


- 90° mitred corner sections for linear bar grilles are available.
- Joining strips are available for continuous installation of the mitred corner section & the linear bar grille.

- Maximum length of a single linear bar grille is 2700mm. Above 2700mm, the grille will come in multiple section.
- Joining strips are available for multiple section of linear bar grille.

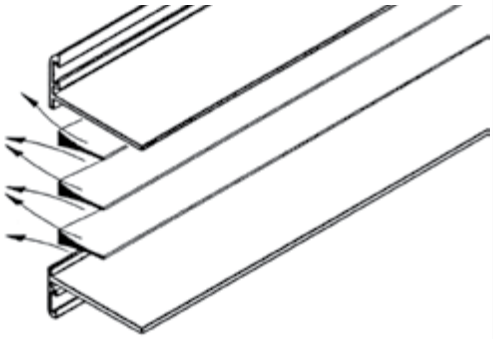
RA/RAC Bar Grille

RA-A Linear Bar Grille

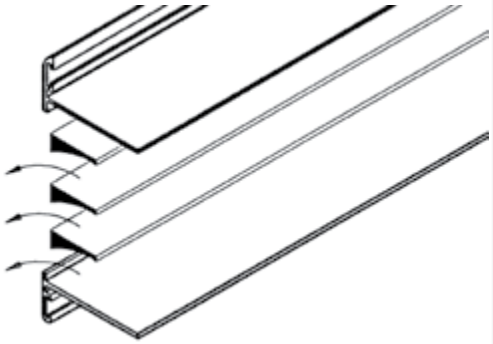


RA-A Bar Deflection Angle

- Two different linear bar face deflection angles are available.
- Deflection for RA/RAC -1:0°
  RA/RAC -2:15°

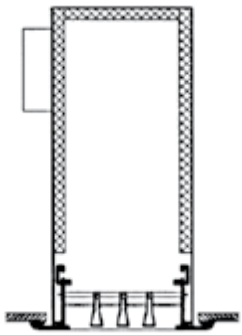


RA/RAC -1:0°



RA/RAC -2:15°

Model RAB : RA Linear Bar Grille c/w Plenum Box.



- Plenum box is constructed of 0.5mm SPGC galvanized steel.
- Two types of insulation are available.
- External insulation: 25mm X 24kg/m2 fiberglass wrapped with fiber-reinforced aluminium foil. (Optional)
- Internal insulation: 5mm thick PE foam.

RA/RAC Bar Grille

RA-A Linear Bar Grille

RA Physcal Dimension *Unit : mm*

L - Length of Plenum Box	W Width of Plenum Box	H Height of Plenum Box	S Inlet Size
Face length of linear diffuser	Neck width of linear diffuser W + 20	230	100ø~300ø oval shape

RA/RAC -1 (0°) - Supply Performance Data

Neck Area m²	Neck Vel. M/S		1.0	1.5	2.0	2.5	3.0	3.5
	Tot. Press (mmAq)		0.4	0.6	0.9	1.6	2.2	3.0
45	CMH		162	243	324	405	486	567
	Throw (m)	Ceiling	0.3 - 0.3	1.2 - 1.2	2.1 - 2.1	2.7 - 3.0	3.3 - 3.6	4.2 - 4.8
		Wall	1.5 - 2.1	2.4 - 3.6	3.3 - 4.8	4.2 - 6.0	5.1 - 6.9	5.7 - 7.8
	NC		-	-	21	26	31	35
60	CMH		216	324	432	540	648	756
	Throw (m)	Ceiling	0.4 - 0.4	1.7 - 1.7	2.8 - 2.9	3.5 - 3.8	4.4 - 4.7	5.1 - 5.4
		Wall	1.9 - 2.6	2.8 - 4.0	4.0 - 5.3	4.9 - 6.5	5.6 - 7.4	6.6 - 8.6
	NC		-	-	20	25	30	34
75	CMH		270	405	540	675	810	945
	Throw (m)	Ceiling	0.8 - 0.8	2.3 - 2.3	3.4 - 3.5	4.3 - 4.6	5.3 - 5.6	6.1 - 6.6
		Wall	2.1 - 3.0	3.4 - 4.6	4.6 - 5.9	5.6 - 7.4	6.6 - 8.2	7.6 - 9.4
	NC		-	-	20	25	30	34
90	CMH		324	486	648	810	972	1134
	Throw (m)	Ceiling	0.9 - 0.9	2.7 - 2.7	3.9 - 3.9	4.8 - 5.1	6.0 - 6.3	6.9 - 7.2
		Wall	2.4 - 3.3	3.9 - 5.1	5.1 - 6.3	6.0 - 7.5	7.5 - 9.0	8.4 - 10.2
	NC		-	-	21	26	31	35
105	CMH		378	567	756	945	1134	1323
	Throw (m)	Ceiling	1.1 - 1.1	3.0 - 3.0	4.2 - 4.2	5.2 - 5.2	6.5 - 6.8	7.2 - 7.3
		Wall	2.8 - 3.7	4.2 - 5.4	5.5 - 6.8	6.5 - 8.0	8.0 - 9.5	8.9 - 10.7
	NC		-	-	21	26	31	35
120	CMH		432	648	864	1080	1296	1512
	Throw (m)	Ceiling	1.3 - 1.3	3.0 - 3.0	4.4 - 4.4	5.5 - 5.5	6.8 - 6.8	7.4 - 7.4
		Wall	3.2 - 4.1	4.4 - 5.6	5.9 - 7.1	6.8 - 8.3	8.3 - 9.8	9.4 - 11.2
	NC		-	-	21	26	31	35

RA/RAC Bar Grille

RA/RAC -1 (0˚) - Supply Performance Data *Unit : mm*
Continue

Neck Area m²	Neck Vel. M/S		1.0	1.5	2.0	2.5	3.0	3.5
	Tot. Press (mmAq)		0.4	0.6	0.9	1.6	2.2	3.0
135	CMH		486	729	972	1215	1458	1701
	Throw (m)	Ceiling	1.5 - 1.5	3.0 - 3.0	4.5 - 4.5	5.5 - 5.5	6.9 - 6.9	7.5 - 7.5
		Wall	3.6 - 4.5	4.8 - 6.0	6.0 - 7.2	7.2 - 8.7	8.7 - 10.2	9.9 - 11.7
	NC		-	-	22	27	32	36
165	CMH		594	891	1188	1485	1782	2079
	Throw (m)	Ceiling	1.8 - 1.8	3.3 - 3.3	4.8 - 4.8	6.1 - 6.1	7.5 - 7.7	8.2 - 8.2
		Wall	4.2 - 5.1	5.4 - 6.6	6.6 - 7.8	8.0 - 9.3	9.3 - 10.8	10.5 - 12.3
	NC		-	-	22	27	32	36
195	CMH		702	1053	1404	1755	2106	2457
	Throw (m)	Ceiling	2.0 - 2.0	3.5 - 3.5	5.0 - 5.0	6.3 - 6.3	7.8 - 7.9	8.5 - 8.5
		Wall	4.8 - 5.8	5.9 - 7.1	7.0 - 8.1	8.6 - 9.8	9.8 - 11.2	11.1 - 12.9
	NC		-	-	23	28	33	37
225	CMH		810	1215	1620	2025	2430	2835
	Throw (m)	Ceiling	2.3 - 2.3	3.8 - 3.8	5.2 - 5.2	6.6 - 6.6	8.0 - 8.0	8.8 - 8.8
		Wall	5.5 - 6.5	6.4 - 7.6	7.4 - 8.4	9.2 - 10.3	10.3 - 11.7	11.8 - 13.6
	NC		-	-	23	28	33	37
255	CMH		918	1377	1836	2295	2754	3213
	Throw (m)	Ceiling	2.6 - 2.6	4.0 - 4.0	5.4 - 5.4	6.9 - 6.9	8.2 - 8.2	9.0 - 9.0
		Wall	6.2 - 7.4	7.0 - 8.1	7.9 - 8.8	9.8 - 10.8	10.8 - 12.1	12.5 - 14.2
	NC		-	-	24	29	34	38
285	CMH		1026	1539	2052	2565	3078	3591
	Throw (m)	Ceiling	2.8 - 2.8	4.2 - 4.2	5.6 - 5.6	7.2 - 7.2	8.3 - 8.3	9.2 - 9.2
		Wall	7.1 - 8.3	7.6 - 8.7	8.3 - 9.1	10.5 - 11.3	11.3 - 12.6	13.3 - 15.0
	NC		-	-	24	29	34	38
315	CMH		1134	1701	2268	2835	3402	3969
	Throw (m)	Ceiling	3.1 - 3.1	4.5 - 4.5	5.9 - 5.9	7.5 - 7.5	8.5 - 8.5	9.5 - 9.5
		Wall	8.3 - 9.4	8.3 - 9.3	8.8 - 9.5	11.2 - 11.9	11.9 - 13.1	14.1 - 15.7
	NC		-	20	25	30	35	39

- Above performance data is also applicable for RAC with one meter curve lenght.
- Throw values are based on an entire section one meter long.
- Throw is based on terminal velocities of 0.5 m/s - 0.25 m/s respectively.
- NC value is based on a room absorption of 10 dB, re 10^{-12} watts.
- Dash (-) in space indicates NC value less than 20.
- For return air application, Negative SP=0.75 x Tot. Press. NC=above plus 5.
- Corrected values for throw and NC value as the length changes.

Length (M)	0.5	1	1.5	2
NC	-2	0	+2	+3
Terminal Vel. 0.5m/s	0.8	1	1.1	1.2
Terminal Vel. 0.25m/s	0.9	1	1.15	1.2

RA/RAC Bar Grille

RA/RAC -2 (15°) - Supply Performance Data

Neck Area m²	Neck Vel. M/S		1.0	1.5	2.0	2.5	3.0	3.5
	Tot. Press (mmAq)		0.4	0.6	0.9	1.6	2.2	3.0
45	CMH		162	243	324	405	486	567
	Throw (m)	Ceiling	0.3 - 0.3	1.2 - 1.2	2.1 - 2.1	2.7 - 3.0	3.3 - 3.6	4.2 - 4.8
		Wall	1.5 - 2.1	2.4 - 3.6	3.3 - 4.8	4.2 - 6.0	5.1 - 6.9	5.4 - 7.5
	NC		-	-	26	31	36	40
60	CMH		216	324	432	540	648	756
	Throw (m)	Ceiling	0.4 - 0.4	1.6 - 1.6	2.6 - 2.8	3.4 - 3.7	4.5 - 4.8	5.2 - 5.7
		Wall	1.8 - 2.5	2.8 - 4.0	3.7 - 5.2	5.0 - 6.5	5.9 - 7.7	6.7 - 8.5
	NC		-	-	25	30	35	39
75	CMH		270	405	540	675	810	945
	Throw (m)	Ceiling	0.6 - 0.6	2.0 - 2.0	3.4 - 3.4	4.0 - 4.3	5.2 - 5.5	6.1 - 6.4
		Wall	2.0 - 2.9	3.2 - 4.4	4.4 - 5.8	5.3 - 6.9	6.4 - 8.1	7.5 - 9.3
	NC		-	-	25	30	35	39
90	CMH		324	486	648	810	972	1134
	Throw (m)	Ceiling	0.9 - 0.9	2.4 - 2.7	3.9 - 3.9	4.8 - 4.8	5.7 - 6.0	6.6 - 6.9
		Wall	2.4 - 3.3	3.6 - 4.8	5.1 - 6.3	5.7 - 7.2	7.2 - 8.7	8.1 - 9.9
	NC		-	-	26	31	36	40
105	CMH		378	567	756	945	1134	1323
	Throw (m)	Ceiling	1.1 - 1.1	2.6 - 2.7	4.2 - 4.2	5.0 - 5.1	6.2 - 6.5	7.1 - 7.2
		Wall	2.8 - 3.7	4.0 - 5.2	5.5 - 6.8	6.2 - 7.7	7.5 - 9.2	8.6 - 10.5
	NC		-	-	26	31	36	40
120	CMH		432	648	864	1080	1296	1512
	Throw (m)	Ceiling	1.3 - 1.3	2.8 - 2.8	4.3 - 4.3	5.3 - 5.3	6.6 - 6.7	7.4 - 7.4
		Wall	3.2 - 4.0	4.4 - 5.6	5.8 - 7.1	6.6 - 8.1	7.7 - 9.5	8.8 - 10.7
	NC		-	-	26	31	36	40
135	CMH		486	729	972	1215	1458	1701
	Throw (m)	Ceiling	1.5 - 1.5	3.0 - 3.0	4.5 - 4.5	5.4 - 5.4	6.9 - 6.9	7.5 - 7.5
		Wall	3.3 - 4.2	4.8 - 6.0	6.0 - 7.2	7.2 - 8.4	8.1 - 9.6	9.0 - 10.8
	NC		-	20	27	32	37	41
165	CMH		594	891	1188	1485	1782	2079
	Throw (m)	Ceiling	1.8 - 1.8	3.3 - 3.3	4.8 - 4.8	6.0 - 6.0	7.5 - 7.7	8.1 - 8.1
		Wall	3.6 - 4.5	5.4 - 6.6	6.6 - 7.8	7.9 - 9.0	8.5 - 10.1	9.6 - 11.4
	NC		-	20	27	32	37	41
195	CMH		702	1053	1404	1755	2106	2457
	Throw (m)	Ceiling	2.0 - 2.0	3.5 - 3.5	5.0 - 5.0	6.3 - 6.3	7.8 - 7.9	8.5 - 8.5
		Wall	3.9 - 4.8	6.0 - 7.1	7.0 - 8.2	8.5 - 9.5	8.8 - 10.4	10.0 - 11.7
	NC		-	22	28	33	38	42
225	CMH		810	1215	1620	2025	2430	2835
	Throw (m)	Ceiling	2.3 - 2.3	3.8 - 3.8	5.2 - 5.2	6.6 - 6.6	8.0 - 8.0	8.8 - 8.8
		Wall	4.3 - 5.2	6.7 - 7.7	7.4 - 8.6	9.2 - 9.9	9.2 - 9.9	10.4 - 12.1
	NC		-	22	28	33	38	42

RA/RAC Bar Grille

RA/RAC -2 (15°) - Supply Performance Data
Continue

Neck Area m²	Neck Vel. M/S		1.0	1.5	2.0	2.5	3.0	3.5
	Tot. Press (mmAq)		0.4	0.6	0.9	1.6	2.2	3.0
255	CMH		918	1377	1836	2295	2754	3213
	Throw (m)	Ceiling	2.6 - 2.6	4.0 - 4.0	5.4 - 5.4	6.9 - 6.9	8.2 - 8.2	9.0 - 9.0
		Wall	4.7 - 5.5	7.4 - 8.3	7.9 - 9.0	10.0 - 10.4	9.6 - 11.0	10.8 - 12.5
	NC		-	23	29	34	39	43
285	CMH		1026	1539	2052	2565	3078	3591
	Throw (m)	Ceiling	2.8 - 2.8	4.2 - 4.2	5.6 - 5.6	7.2 - 7.2	8.3 - 8.3	9.2- 9.2
		Wall	5.1 - 5.9	8.2 - 9.0	8.3 - 9.5	10.7 - 10.9	9.9 - 11.4	11.2 - 12.8
	NC		-	23	29	34	39	43
315	CMH		1134	1701	2268	2835	3402	3969
	Throw (m)	Ceiling	3.1 - 3.1	4.5 - 4.5	5.9 - 5.9	7.5 - 7.5	8.5 - 8.5	9.5 - 9.5
		Wall	5.5 - 6.3	9.1 - 9.7	8.8 - 10.0	11.6 - 11.5	10.3 - 11.7	11.7 - 13.2
	NC		-	25	30	35	40	44

- Above performance data is also applicable for RAC with one meter curve lenght.
- Throw values are based on an entire section one meter long.
- Throw is based on terminal velocities of 0.5 m/s - 0.25 m/s respectively.
- NC value is based on a room absorption of 10 dB, re 10^{-12} watts.
- Dash (-) in space indicates NC value less than 20.
- For return air application, Negative SP=0.75 x Tot. Press. NC=above plus 5.
- Corrected values for throw and NC value as the length changes.

NC	-2	0	+2	+3
Terminal Vel. 0.5m/s	**0.8**	**1**	**1.1**	**1.2**
Terminal Vel. 0.25m/s	0.9	1	1.15	1.2

Eg: When Length is 2m, Throw : use a multiple of 1.2 NC : NC plus 3

RA/RAC Bar Grille

RA/RAC - Return Performance Data *Unit : mm*

No.of Blade Neck Width	Neck Vel. (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Vel. Press (mmAq)	0.25	0.55	1.0	1.55	2.2	3.0
	Neg. SP. (mmAq)	0.3	0.5	0.7	1.2	1.7	2.3
45	CMH/M	162	243	324	405	486	567
	NC	-	-	24	29	34	38
60	CMH/M	216	324	432	540	648	756
	NC	-	-	23	28	33	37
75	CMH/M	270	405	540	675	810	945
	NC	-	-	23	28	33	37
90	CMH/M	324	486	648	810	972	1134
	NC	-	-	24	29	34	38
105	CMH/M	378	567	756	945	1134	1323
	NC	-	-	24	29	34	38
120	CMH/M	432	648	864	1080	1296	1512
	NC	-	-	24	29	34	38
135	CMH/M	486	729	972	1215	1458	1701
	NC	-	-	25	30	35	39
165	CMH/M	594	891	1188	1485	1782	2079
	NC	-	-	25	30	35	39
195	CMH/M	702	1053	1404	1755	2106	2457
	NC	-	21	26	31	36	40
225	CMH/M	810	1215	1620	2025	2430	2835
	NC	-	21	26	31	36	40
255	CMH/M	918	1372	1836	2295	2754	3213
	NC	-	22	27	32	37	41
285	CMH/M	1026	1539	2052	2565	3078	3591
	NC	-	22	27	32	37	41
315	CMH/M	1134	1701	2268	2835	3402	3969
	NC	-	22	28	33	38	42

- Above performance data is also applicable for RAC with one meter curve lenght.
- Throw values are based on an entire section one meter long.
- Throw is based on terminal velocities of 0.5 m/s - 0.25 m/s respectively.
- NC value is based on a room absorption of 10 dB, re 10^{-12} watts.
- Dash (-) in space indicates NC value less than 20.
- Corrected values for throw and NC value as the length changes.

Length (M)	0.5	1	1.5	2
NC	-2	0	+2	+3