



CEILING DIFFUSERS



Our Product Ranges

Dampers

- 1 Fire Dampers
- 2 Fire / Smoke Dampers
- 3 Volume Control Dampers
- 4 Motorized Control Dampers
- 5 Pressure Relief Dampers /Non Return Dampers

Variable Air Volumes

- 6 Pressure Independent VAV
- 7 Constant Air Volume VAV
- 8 By Pass VAV

Louvers

- 9 Sand Trap Louvers
- 10 Acoustic Louvers
- 11 Stationery Louvers / Architectural Louvers
- 12 Storm Louvers
- 13 Weather Louvers

Sound Attenuators

- 14 Rectangular Sound Attenuators
- 15 Circular Sound Attenuators
- 16 Crosstalk Attenuators

Electric Duct Heaters

- 17 Flange & Slip 'n' Type
- 18 Modulating & On/Off Type

Air Outlets

- 19 Registers & Grilles
- 20 Diffusers (Linear Diffusers, Sq. & Rect. Ceiling Diffusers, Round Diffusers, Jetflow Diffusers)
- 21 Swirl Diffusers & Disc Valves
- 22 Drum Louvers

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CEILING DIFFUSERS

FOUR WAY

Construction Details

Frame and core

Airwellcare Diffusers constructed with High quality extruded Aluminium Profiles with the Flange width of 33mm.

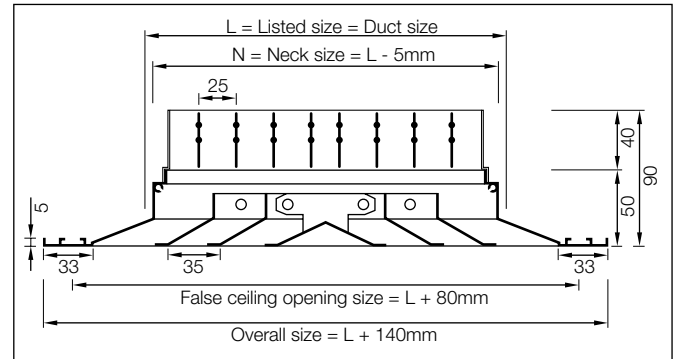
Damper frame and core

High quality extruded aluminium profile with natural aluminium finish.

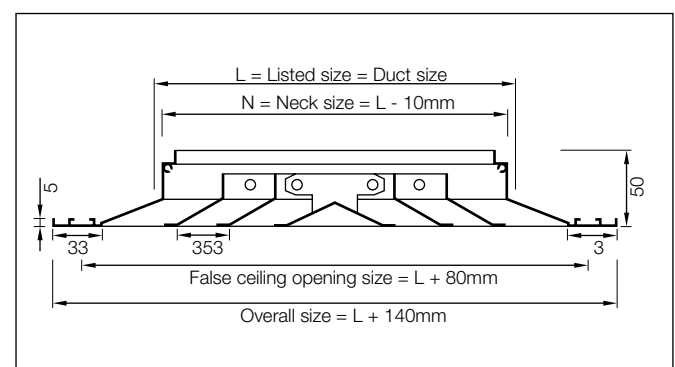
Black matt finish is optional.

Description

- ❖ The **frame and blades** are of high quality extruded corrosion resistant aluminium profile.
- ❖ The **Core** of louvred type is fixed to the frame by the help of Aluminium pins and steel springs, which is easily removable to allow for optimum flexibility in installation, maintenance and damper adjustments.
- ❖ **Bushes** are of Nylon and properly positioned in the frame through which the damper blade pass through, to provide rattle free smooth operations.
- ❖ **Damper** fit rigidly to the frame by the help of Aluminium Rivets. Fixing with spring clips is optional.
- ❖ **Opposed blade damper** is screw operated from the face opening of the Diffuser.
- ❖ **Foam Gasket (Optional)** can be provided all around the back of frame, to prevent the leakage of air.
- ❖ The **Air is distributed** equally in Four horizontal directions.
- ❖ **Rectangular sizes / Non Standard Sizes** are available as per choices and as optional.



**Supply Square Ceiling Diffuser
(Four Way)**



**For Return Air Diffuser, Model AWC CD-R 4
(Without Opposed Blade Damper)**

Standard Finishes

- ❖ Powder coated finishes as per RAL Colour codes.
- ❖ Also flexible to the customer's requirement

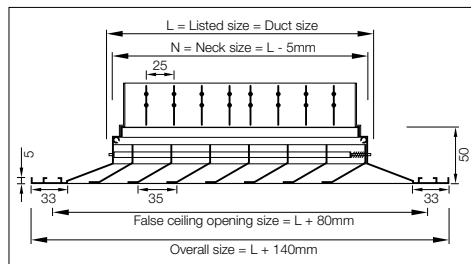
CEILING DIFFUSERS

DIFFUSER CORE SELECTION & MODEL REFERENCE

ONE WAY

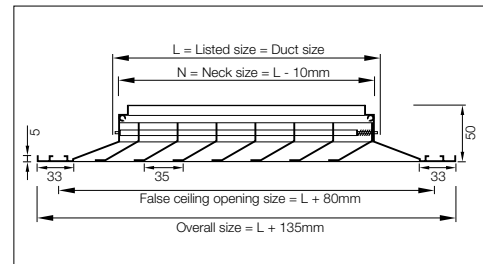


Model AWC CDS-1



With Opposed Blade Damper

Model AWC CDR-1

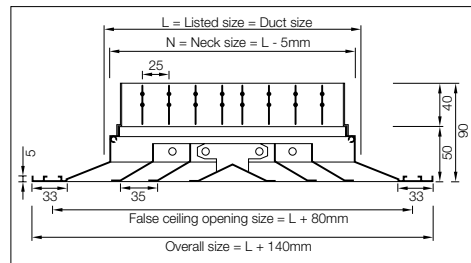


Without Damper

TWO WAY

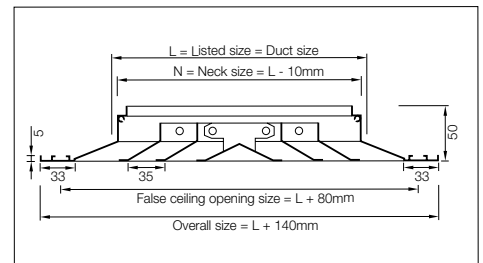


Model AWC CDS-2



With Opposed Blade Damper

Model AWC CDR-2

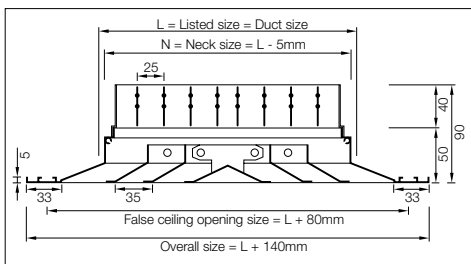


Without Damper

THREE WAY

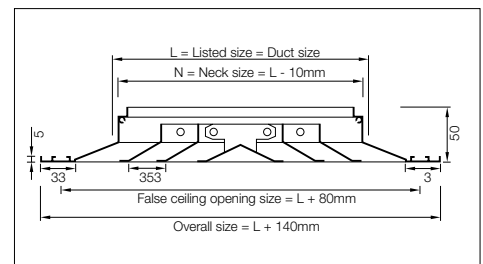


Model AWC CDS-3



With Opposed Blade Damper

Model AWC CDR-3



Without Damper

Note: The construction and description will be same as per page no.4 for one way, two way & three way diffusers, with different selection of cores as shown in the figures above.

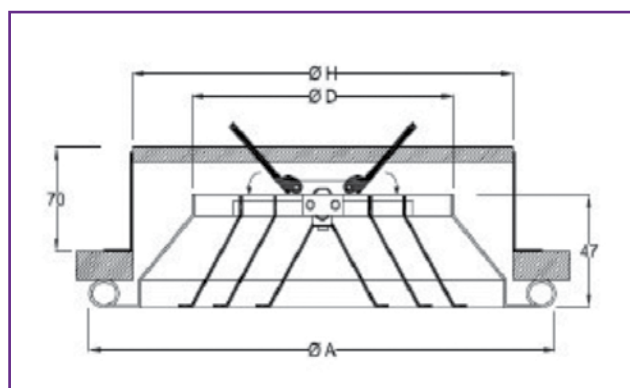
CIRCULAR DIFFUSERS

Construction Details

Frame and core

Airwellcare Round Diffusers are constructed with :

- ❖ High Quality Aluminium .
- ❖ With Removable Core.
- ❖ With Butterfly Damper.
- ❖ The frame and inner cones are constructed with high quality Aluminium Sheet
- ❖ The Butterfly Damper can easily be adjusted through the face of the Diffuser by rotating the Screw.
- ❖ The diffuser can be used for ceiling or exposed duct mounting.
- ❖ Foam Gasket (Optional) can be provided all around the back of frame, to prevent the leakage of air.



**For Return Circular Diffuser,
Model: AWC CD-R
(Without Butterfly Damper)**

Standard Finishes

- ❖ Powder coated finishes as per RAL Colour codes.
- ❖ Also flexible to the customer's requirement

Model	Neck Dia (mm)	Dimensions (mm)		
		A	D	H
CD-R	150	257	148	220
CD-R	200	309	198	271
CD-R	250	362	249	324
CD-R	300	415	298	377
CD-R	350	460	348	411



MODEL : AWC DL-A

DRUM LOUVER

Standard Construction Details

Frame

1.5mm Thick Extruded Aluminium Profiles.

Blade

Extruded Aluminium Adjustable blades.

Damper

High quality extruded Aluminium Opposed Dampers.

Drum

Drum is made of Aluminium Sheets with aesthetically designed extruded profile shapes.

Specification

- ❖ Blades are fixed inside the drum body made with aluminium sheets and specially shaped profiles and the opposed blade damper is attached to the drum body.
- ❖ The hole assembly is fixed to the frame by mechanical fasteners so as to enable rotation in the vertical direction.
- ❖ The louver is suitable for both long and short throw patterns with trajectory control.
- ❖ The drum can be adjusted in the vertical direction 0° to 30° upwards or downwards to direct the throw on the desired direction.
- ❖ Foam Gasket is sealed around the back of the frame to prevent air leakage and for an air tight operations.



Features

- ❖ Adjustable Vanes within a rotatable Drum.
- ❖ Drum is adjustable through 30 degrees, with positive detente mechanism to fix drum angle setting.
- ❖ Ideal solution for air movement in shopping malls, industrial plants, arenas, stadiums or any large enclosed space.

Standard Finishes

- ❖ Powder coated finishes as per RAL Colour codes.
- ❖ Also flexible to the customer's requirement

CORE PATTERN & FIXING DETAIL

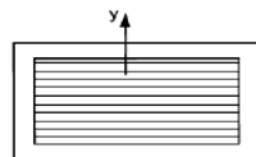
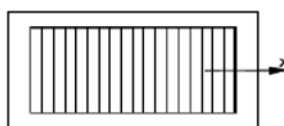
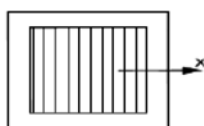
Air Pattern

Square

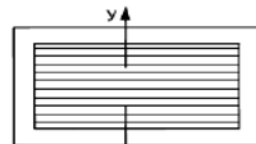
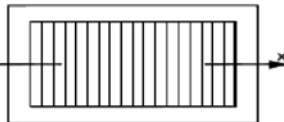
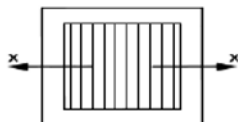
Rectangular

Core Pattern

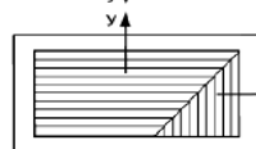
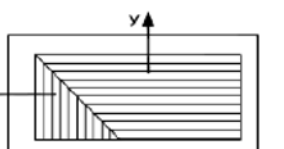
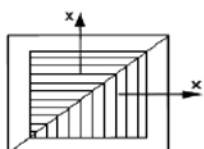
One Way



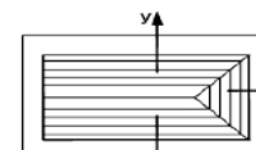
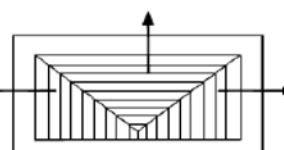
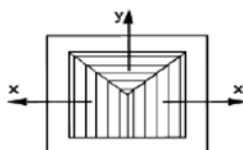
Two Way



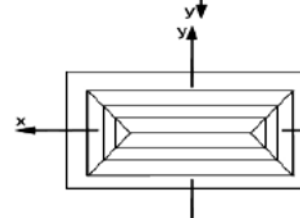
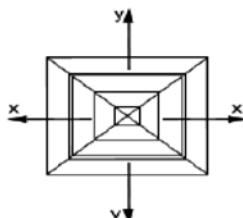
One Way Corner



Three Way

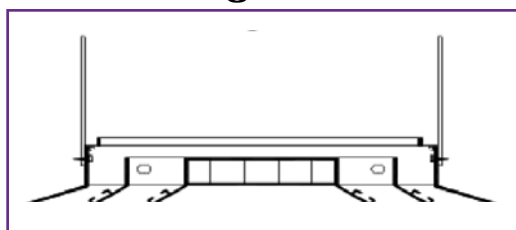


Four Way



Diffuser Size (Width x Depth mm)	150x150	225x225	300x300	375x375	450x450	525x525	600x600
Duct size(mm)							
False Ceiling Opening Size (mm)	230x230	305x305	380x380	455x455	530x530	605x605	680x680

Fixing Detail



Concealed screw fixing from neck of the diffuser to the duct after removing the inner core

ENGINEERING & PERFORMANCE DATA

Supply Ceiling Diffuser - One way

Neck size in mm x mm Area factor In m ²	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0098	Cfm	47	72	95	119	144	167
	M ³ /sec.	0.023	0.034	0.045	0.056	0.068	0.079
	P _s in mm H ₂ O	0.69	1.05	2.11	3.54	4.98	6.44
	Throw in m	1.3-2-2.7	2-2.8-3.6	2.8-3.7-4.4	3.3-4.2-4.9	4-4.7-5.9	4.4-5.5-6.2
	NC	<15	16	21	27	34	39
225 x 225 0.018	Cfm	108	161	214	269	322	375
	M ³ /sec.	0.051	0.076	0.101	0.127	0.152	0.177
	P _s in mm H ₂ O	0.69	1.37	2.8	4.26	6.05	8.23
	Throw in m	1.3-2-2.7	2.0-2.8-3.9	2.9-3.7-5.2	3.8-5.3-6.8	5.1-7-9.3	7-8.6-11.6
	NC	<15	17	24	30	36	41
300 x 300 0.03	Cfm	191	286	381	476	572	667
	M ³ /sec.	0.09	0.135	0.18	0.225	0.27	0.31
	P _s in mm H ₂ O	0.69	1.75	3.17	5.31	7.46	10.4
	Throw in m	2.4-3.5-5.5	3.6-5.0-7.1	4.8-5.9-8.8	5.7-7.2-9.8	6.3-7.4-11	7-8.6-12.5
	NC	<15	17	26	33	38	43
375 x 375 0.046	Cfm	299	447	595	745	893	1042
	M ³ /sec.	0.141	0.211	0.281	0.352	0.422	0.492
	P _s in mm H ₂ O	1.03	2.09	3.52	5.66	8.18	11.46
	Throw in m	2.7-4.1-6.2	4.6-6.4-8.8	6.2-7.3-10.6	7.2-8.7-12.5	7.8-9-14.5	8.6-10.5-15.6
	NC	<15	18	28	35	40	44
450 x 450 0.0695	Cfm	430	644	858	1071	1287	1501
	M ³ /sec.	0.203	0.304	0.405	0.506	0.608	0.709
	P _s in mm H ₂ O	1.03	2.09	3.86	6.38	9.24	11.46
	Throw in m	3.5-5.2-8.5	5.3-7.4-10.6	7.9-9.1-12.8	8.3-10.5-15.15	9.7-11.8-17	10.5-13-18
	NC	<15	20	30	36	41	44
525 x 525 0.099	Cfm	585	875	1165	1461	1757	2033
	M ³ /sec.	0.276	0.413	0.55	0.69	0.83	0.96
	P _s in mm H ₂ O	1.03	2.45	4.22	6.74	9.6	11.83
	Throw in m	4.1-5.8-9.5	6-8.8-12.6	8.4-10.2-15	9.8-12-17.4	10.9-14-20	12-14.8-21.5
	NC	15	23	32	37	42	45
600 x 600 0.139	Cfm	762	1143	1524	1906	2287	2668
	M ³ /sec.	0.36	0.54	0.72	0.9	1.08	1.26
	P _s in mm H ₂ O	1.03	2.45	4.22	6.74	9.6	11.83
	Throw in m	4.5-6.5-11.6	6.7-9.1-14	9.1-12-17.1	10.5-14-20	12-16-23	12.8-17.2-24
	NC	16	26	33	38	42	45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Supply Ceiling Diffuser - Two way

Neck size in mm x mm Area factor In m ²	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0096	Cfm	47	72	95	119	144	167
	M ³ /sec.	0.023	0.034	0.045	0.056	0.068	0.079
	P _s in mm H ₂ O	0.64	0.87	2.02	3.41	4.83	6.1
	Throw in m	1.3-2-2.7	2-2.8-3.6	2.8-3.7-4.4	3.2-4-4.8	3.8-4.5-5.6	4.1-5.2-6
	NC	<15	16	21	27	34	39
225 x 225 0.0175	Cfm	108	161	214	269	322	375
	M ³ /sec.	0.051	0.076	0.101	0.127	0.152	0.177
	P _s in mm H ₂ O	0.64	1.29	2.7	4.1	5.86	7.77
	Throw in m	1.3-2-2.7	2-2.8-3.9	2.8-3.7-5.1	3.7-5.2-6.6	4.8-6.7-9	6.7-8.2-11
	NC	<15	17	24	30	36	41
300 x 300 0.029	Cfm	191	286	381	476	572	667
	M ³ /sec.	0.09	0.135	0.18	0.225	0.27	0.315
	P _s in mm H ₂ O	0.64	1.64	3.05	5.1	7.23	9.81
	Throw in m	2.4-3.5-5.5	3.6-4.9-7	4.7-5.8-8.6	5.5-6.9-9.5	5.9-7.1-11	6.7-8.4-12
	NC	<15	17	26	33	38	43
375 x 375 0.045	Cfm	299	447	595	745	893	1042
	M ³ /sec.	0.141	0.211	0.281	0.352	0.422	0.492
	P _s in mm H ₂ O	0.96	1.96	3.71	5.5	7.92	10.81
	Throw in m	2.7-4.1-6.2	4.6-6.3-8.7	6.1-7.2-10.4	6.9-8.4-12.1	7.4-9.3-14	8.1-10-14.9
	NC	<15	18	28	35	40	44
450 x 450 0.068	Cfm	430	644	858	1071	1287	1501
	M ³ /sec.	0.203	0.304	0.405	0.506	0.608	0.709
	P _s in mm H ₂ O	0.96	1.96	4.06	6.68	8.9	12.16
	Throw in m	3.4-5.1-8.5	5.3-7.4-10	8.3-10-15	8-10.2-14.6	9.3-11-16.3	10-12.3-17
	NC	<15	20	30	36	41	44
525 x 525 0.097	Cfm	585	875	1165	1461	1757	2033
	M ³ /sec.	0.276	0.413	0.55	0.69	0.83	0.96
	P _s in mm H ₂ O	0.96	2.29	4.06	6.49	9.31	11.1
	Throw in m	4.1-5.8-9.5	6-8.7-12.6	8.3-10-15	9.5-11.8-17	10.4-13.4-19	11.6-14.1-20
	NC	15	23	32	37	42	45
600 x 600 0.136	Cfm	762	1143	1524	1906	2287	2668
	M ³ /sec.	0.36	0.54	0.72	0.9	1.08	1.26
	P _s in mm H ₂ O	0.96	2.29	4.06	6.49	9.31	11.1
	Throw in m	4.5-6.5-11	6.6-9-14	9-11.8-16.9	10.2-13.6-19	11.4-15.2-22	12.2-16-23
	NC	16	26	33	38	42	45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Supply Ceiling Diffuser - Three way

Neck size in mm x mm Area factor In m ²	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0095	Total CFM	47	72	95	119	144	167
	Total M ³ / S e c	0.023	0.034	0.045	0.056	0.068	0.079
	M ³ /Sec each side of X	0.008	0.013	0.017	0.021	0.025	0.03
	M ³ /Sec in Y side	0.007	0.008	0.011	0.014	0.018	0.019
	P _s in mm of H ₂ O	0.56	0.85	1.72	2.87	4.06	5.29
	Throw in each side of X-(M)	1.2-1.8-2.4	1.8-2.4-3.1	2.4-3.1-3.7	2.7-3.4-4	3.1-3.7-4.6	3.4-4.3-4.9
	Throw in Y side-(M)	1.2-1.8-2.5	1.8-2.6-3.4	2.6-3.4-4.0	3.0-3.7-4.4	3.5-4.1-5.0	3.7-4.7-5.4
	N C	<15	16	21	27	34	39
225 x 225 0.0172	Total CFM	108	161	214	269	322	375
	Total M ³ / S e c	0.051	0.076	0.101	0.127	0.152	0.177
	M ³ /Sec each side of X	0.019	0.028	0.038	0.048	0.057	0.066
	M ³ /Sec in Y side	0.013	0.020	0.025	0.031	0.038	6.72
	P _s in mm of H ₂ O	0.56	1.12	2.29	3.45	4.92	5.84
	Throw in each side of X-(M)	1.2-1.8-2.4	1.8-2.4-3.4	2.4-3.1-4.3	3.1-4.3-5.5	4.0-5.5-7.3	5.5-6.7-9.1
	Throw in Y side-(M)	1.2-1.8-2.5	1.8-2.6-3.7	2.6-3.4-4.7	3.4-4.8-6.1	4.4-6.1-8.2	6.1-7.5-10.1
	N C	<15	17	24	30	36	41
300 x 300 0.028	Total CFM	191	286	381	476	572	667
	Total M ³ /Sec	0.09	0.135	0.18	0.225	0.27	0.315
	M ³ /Sec each side of X	0.033	0.051	0.068	0.084	0.101	0.118
	M ³ /Sec in Y side	0.024	0.033	0.044	0.057	0.068	0.079
	P _s in mm of H ₂ O	0.56	1.45	2.59	4.36	6.08	8.48
	Throw in each side of X-(M)	2.1-3.1-4.9	3.1-4.3-6.1	4.0-4.9-7.3	4.6-5.8-7.9	4.9-5.8-9.1	5.5-6.7-9.8
	Throw in Y side-(M)	2.1-3.3-5.2	3.4-4.6-6.5	4.3-5.4-8.0	5.1-6.3-8.5	5.4-6.6-10.1	6.2-7.7-10.6
	N C	<15	17	26	33	38	43
375 x 375 0.044	Total CFM	299	447	595	745	893	1042
	Total M ³ / Sec	0.141	0.211	0.281	0.352	0.422	0.492
	M ³ /Sec each side of X	0.053	0.079	0.105	0.132	0.158	0.185
	M ³ /Sec in Y side	0.035	0.053	0.071	0.088	0.106	0.122
	P _s in mm of H ₂ O	0.84	1.70	2.87	4.59	6.66	9.35
	Throw in each side of X-(M)	2.4-3.7-5.5	4.0-5.5-7.6	5.2-6.1-8.8	5.8-7.0-10.1	6.1-7.6-11.3	6.7-8.2-12.2
	Throw in Y side-(M)	2.5-3.9-5.8	4.3-5.9-8.2	5.6-6.7-9.4	6.4-7.6-10.9	6.7-8.3-12.5	7.4-9.1-13.4
	N C	<15	18	28	35	40	44

ENGINEERING & PERFORMANCE DATA

Supply Ceiling Diffuser - Three way

Neck size in mm x mm Area factor In m ²	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
450 x 450 0.067	Total CFM	430	644	858	1071	1287	1501
	Total M ³ / Sec	0.203	0.304	0.405	0.506	0.608	0.709
	M ³ /Sec each side of X	0.076	0.114	0.151	0.19	0.228	0.267
	M ³ /Sec in Y side	0.051	0.076	0.103	0.126	0.152	0.175
	P _s in mm of H ₂ O	0.84	1.70	3.16	5.16	7.52	10.51
	Throw in each side of X-(M)	3.1-4.6-7.6	4.6-06.4-9.1	6.6-7.6-10.7	6.7-8.5-12.2	7.6-9.2-13.4	8.2-10.1-14
	Throw in Y side-(M)	3.2-4.9-8.1	4.9-6.8-9.5	7.2-8.7-12.5	7.2-9.2-13.4	8.3-10.2-15.4	9.1-11.3-15.6
	N C	<15	20	30	36	41	44
525 x 525 0.095	Total CFM	585	875	1165	1461	1757	2033
	Total M ³ / Sec	0.276	0.413	0.55	0.69	0.83	0.96
	M ³ /Sec each side of X	0.103	0.155	0.206	0.259	0.311	0.36
	M ³ /Sec in Y side	0.07	0.103	0.138	0.172	0.208	0.24
	P _s in mm of H ₂ O	0.84	1.99	3.5	5.46	7.82	9.65
	Throw in each side of X-(M)	3.7-5.2-8.5	5.2-7.6-11	7.0-8.5-12.5	7.9-9.8-14	8.5-11-15.9	9.5-11.6-16.8
	Throw in Y side-(M)	3.9-5.6-9.2	5.6-8.2-11.9	7.6-9.3-13.7	8.5-10.4-5.4	9.4-12.5-17.7	10.6-13.1-17.8
	N C	15	23	32	37	42	45
600 x 600 0.133	Total CFM	762	1143	1524	1906	2287	2668
	Total M ³ / Sec	0.36	0.54	0.72	0.9	1.08	1.26
	M ³ /Sec each side of X	0.135	0.202	0.27	0.338	0.405	0.472
	M ³ /Sec in Y side	0.09	0.136	0.18	0.224	0.270	0.316
	P _s in mm of H ₂ O	0.84	1.99	3.5	5.46	7.82	9.65
	Throw in each side of X-(M)	4-5.8-10.4	5.8-8-12.2	7.6-10-14.3	8.5-11.3-16.1	9.4-12.5-18	10-13.4-19.5
	Throw in Y side-(M)	4.2-6.2-10.7	6.2-8.3-13.1	8.4-10.9-15.4	9.3-12.1-17.6	10.2-14.0-20	11.2-15.0-21.6
	N C	16	26	33	38	42	45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Supply Ceiling Diffuser -Four way

Neck size in mm x mm Area factor in m ²	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0093	Cfm	47	72	95	119	144	167
	M ³ /sec.	0.023	0.034	0.045	0.056	0.068	0.079
	- P _s in mm H ₂ O	0.51	0.76	1.52	2.54	3.56	4.57
	Throw in m	1.2-1.8-2.4	1.8-2.4-3.1	2.4-3.1-3.7	2.7-3.4-4	3.1-3.7-4.6	3.4-4.3-4.9
	NC	<15	16	21	27	34	39
225 x 225 0.0169	Cfm	108	161	214	269	322	375
	M ³ /sec.	0.051	0.076	0.101	0.127	0.152	0.177
	- P _s in mm H ₂ O	0.51	1.00	2.03	3.05	4.32	5.84
	Throw in m	1.2-1.8-2.4	1.8-2.4-3.4	2.4-3.1-4.3	3.1-4.3-5.5	4-5.5-7.3	5.5-6.7-9.1
	NC	<15	17	24	30	36	41
300 x 300 0.028	Cfm	191	286	381	476	572	667
	M ³ /sec.	0.09	0.135	0.18	0.225	0.27	0.315
	- P _s in mm H ₂ O	0.51	1.27	2.29	3.81	5.33	7.37
	Throw in m	2.1-3.1-4.9	3.1-4.3-6.1	4.0-4.9-7.3	4.6-5.8-7.9	4.9-5.8-9.1	5.5-6.7-9.8
	NC	<15	17	26	33	38	43
375 x 375 0.043	Cfm	299	447	595	745	893	1042
	M ³ /sec.	0.141	0.211	0.281	0.352	0.422	0.492
	- P _s in mm H ₂ O	0.76	1.52	2.54	4.06	5.84	8.13
	Throw in m	2.4-3.7-5.5	4.0-5.5-7.6	5.2-6.1-8.8	5.8-7-10.1	6.1-7.6-11.3	6.7-8.2-12.2
	NC	<15	18	28	35	40	44
450 x 450 0.065	Cfm	430	644	858	1071	1287	1501
	M ³ /sec.	0.203	0.304	0.405	0.506	0.608	0.709
	- P _s in mm H ₂ O	0.76	1.52	2.79	4.57	6.6	9.14
	Throw in m	3.1-4.6-7.6	4.6-6.4-9.1	5.6-7.6-10.7	6.7-8.5-12.2	7.6-9.2-13.4	8.2-10.1-14
	NC	<15	20	30	36	41	44
525 x 525 0.093	Cfm	585	875	1165	1461	1757	2033
	M ³ /sec.	0.276	0.413	0.55	0.69	0.83	0.96
	- P _s in mm H ₂ O	0.76	1.78	3.05	4.83	6.86	8.39
	Throw in m	3.7-5.2-8.5	5.2-7.6-11	7.0-8.5-12.5	7.9-9.8-14	8.5-11-15.9	9.5-11.6-16.8
	NC	15	23	32	37	42	45
600 x 600 0.13	Cfm	762	1143	1524	1906	2287	2668
	M ³ /sec.	0.36	0.54	0.72	0.9	1.08	1.26
	- P _s in mm H ₂ O	0.76	1.78	3.05	4.83	6.86	8.39
	Throw in m	4-5.8-10.4	5.8-8-12.2	7.6-10-14.3	8.5-11.3-16.1	9.4-12.5-18	10-13.4-19.5
	NC	16	26	33	38	42	45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Return Ceiling Diffuser - One way

Neck size in mm x mm Neck Area In m ²	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM	49	61	74	85	97	123	146	171	195
	M ³ /sec.	0.023	0.029	0.035	0.04	0.046	0.058	0.069	0.081	0.092
	- P _s in mm H ₂ O	0.65	1.04	1.51	2.06	2.66	4.25	6.12	8.54	11.18
	NC	<15	<15	<15	<15	19	25	30	34	40
225 x 225 0.051	CFM	108	135	163	188	216	271	324	379	432
	M ³ /sec.	0.051	0.064	0.077	0.089	0.102	0.128	0.153	0.179	0.204
	- P _s in mm H ₂ O	0.70	1.14	1.72	2.25	3.04	4.71	6.79	9.65	12.57
	NC	<15	<15	<15	16	21	28	34	40	45
300 x 300 0.09	CFM	193	239	286	335	381	476	572	667	762
	M ³ /sec.	0.09	0.113	0.135	0.158	0.18	0.225	0.27	0.315	0.36
	- P _s in mm H ₂ O	0.81	1.26	1.85	2.51	3.34	5.25	7.61	10.47	13.97
	NC	<15	<15	16	21	25	32	38	43	48
375 x 375 0.141	CFM	298	372	449	521	597	747	896	1046	1194
	M ³ /sec.	0.141	0.176	0.212	0.246	0.282	0.353	0.423	0.494	0.564
	- P _s in mm H ₂ O	0.91	1.42	2.11	2.85	3.79	5.93	8.7	11.85	15.64
	NC	<15	<15	19	25	32	38	43	47	51
450 x 450 0.203	CFM	430	538	646	752	860	1076	1289	1505	1719
	M ³ /sec.	0.203	0.254	0.305	0.355	0.406	0.508	0.609	0.711	0.812
	- P _s in mm H ₂ O	0.99	1.52	2.27	3.09	4.14	6.46	9.24	12.95	17.04
	NC	<15	17	24	31	36	40	45	48	52
525 x 525 0.276	CFM	584	730	877	1023	1168	1461	1753	2045	2337
	M ³ /sec.	0.276	0.345	0.414	0.483	0.552	0.69	0.828	0.966	1.104
	- P _s in mm H ₂ O	1.06	1.66	2.45	3.33	4.44	6.99	10.05	13.78	18.44
	NC	18	25	30	36	40	44	47	51	55
600 x 600 0.36	CFM	762	953	1143	1334	1524	1905	2287	2668	3049
	M ³ /sec.	0.36	0.45	0.54	0.63	0.72	0.9	1.08	1.26	1.44
	- P _s in mm H ₂ O	1.16	1.82	2.64	3.65	4.79	7.54	10.87	15.16	20.12
	NC	23	30	36	40	42	46	49	54	58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Return Ceiling Diffuser - Two way

Neck size in mm x mm Neck Area In m ²	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM	49	61	74	85	97	123	146	171	195
	M ³ /sec.	0.023	0.029	0.035	0.04	0.046	0.058	0.069	0.081	0.092
	- P _s in mm H ₂ O	0.65	1.04	1.49	2.04	2.61	4.17	6.00	8.34	10.77
	NC	<15	<15	<15	<15	19	25	30	34	40
225 x 225 0.051	CFM	108	135	163	188	216	271	324	379	432
	M ³ /sec.	0.051	0.064	0.077	0.089	0.102	0.128	0.153	0.179	0.204
	- P _s in mm H ₂ O	0.7	1.14	1.69	2.22	2.98	4.62	6.67	9.42	12.12
	NC	<15	<15	<15	16	21	28	34	40	45
300 x 300 0.09	CFM	193	239	286	335	381	476	572	667	762
	M ³ /sec.	0.09	0.113	0.135	0.158	0.18	0.225	0.27	0.315	0.36
	- P _s in mm H ₂ O	0.80	1.26	1.83	2.48	3.28	5.15	7.47	10.23	13.46
	NC	<15	<15	16	21	25	32	38	43	48
375 x 375 0.141	CFM	298	372	449	521	597	747	896	1046	1194
	M ³ /sec.	0.141	0.176	0.212	0.246	0.282	0.353	0.423	0.494	0.564
	- P _s in mm H ₂ O	0.90	1.41	2.09	2.82	3.72	5.81	8.54	11.58	15.07
	NC	<15	<15	19	25	32	38	43	47	51
450 x 450 0.203	CFM	430	538	646	752	860	1076	1289	1505	1719
	M ³ /sec.	0.203	0.254	0.305	0.355	0.406	0.508	0.609	0.711	0.812
	- P _s in mm H ₂ O	0.98	1.52	2.25	3.06	4.07	6.33	9.07	12.66	16.42
	NC	<15	17	24	31	36	40	45	48	52
525 x 525 0.276	CFM	584	730	877	1023	1168	1461	1753	2045	2337
	M ³ /sec.	0.276	0.345	0.414	0.483	0.552	0.69	0.828	0.966	1.104
	- P _s in mm H ₂ O	1.06	1.65	2.43	3.29	4.36	6.86	9.86	13.46	17.77
	NC	18	25	30	36	40	44	47	51	55
600 x 600 0.36	CFM	762	953	1143	1334	1524	1905	2287	2668	3049
	M ³ /sec.	0.36	0.45	0.54	0.63	0.72	0.9	1.08	1.26	1.44
	- P _s in mm H ₂ O	1.16	1.81	2.62	3.62	4.7	7.39	10.67	14.81	19.39
	NC	23	30	36	40	42	46	49	54	58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Return Ceiling Diffuser - Three way

Neck size in mm x mm Neck Area in m ²	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM	49	61	74	85	97	123	146	171	195
	M ³ /sec.	0.023	0.029	0.035	0.04	0.046	0.058	0.069	0.081	0.092
	- P _s in mm H ₂ O	0.7	1.12	1.48	2.02	2.59	4.14	5.96	8.2	10.67
	NC	<15	<15	<15	<15	19	25	30	34	40
225 x 225 0.051	CFM	108	135	163	188	216	271	324	379	432
	M ³ /sec.	0.051	0.064	0.077	0.089	0.102	0.128	0.156	0.179	0.204
	- P _s in mm H ₂ O	0.76	1.23	1.68	2.20	2.96	4.58	6.62	9.27	12.00
	NC	<15	<15	<15	16	21	28	34	40	45
300 x 300 0.09	CFM	193	239	286	335	381	476	572	667	762
	M ³ /sec.	0.09	0.113	0.135	0.158	0.18	0.225	0.27	0.315	0.36
	- P _s in mm H ₂ O	0.87	1.36	1.82	2.46	3.25	5.11	7.41	10.06	13.34
	NC	<15	<15	16	21	25	32	38	43	48
375 x 375 0.141	CFM	298	372	449	521	597	747	896	1046	1194
	M ³ /sec.	0.141	0.176	0.212	0.246	0.282	0.353	0.423	0.494	0.564
	- P _s in mm H ₂ O	0.98	1.53	2.07	2.79	3.69	5.77	8.48	11.38	14.93
	NC	<15	<15	19	25	32	38	43	47	51
450 x 450 0.203	CFM	430	538	646	752	860	1076	1289	1505	1719
	M ³ /sec.	0.203	0.254	0.305	0.355	0.406	0.508	0.609	0.711	0.812
	- P _s in mm H ₂ O	1.07	1.63	2.22	3.03	4.04	6.29	9.01	12.45	16.26
	NC	<15	17	24	31	36	40	45	48	52
525 x 525 0.276	CFM	584	730	877	102.3	1168	1461	1753	2045	2337
	M ³ /sec.	0.276	0.345	0.414	0.483	0.552	0.69	0.828	0.966	1.104
	- P _s in mm H ₂ O	1.14	1.79	2.41	3.26	4.33	6.81	9.79	13.24	17.59
	NC	18	25	30	36	40	44	47	51	55
600 x 600 0.36	CFM	762	953	1143	1334	1524	1905	2287	2668	3049
	M ³ /sec.	0.36	0.45	0.54	0.63	0.72	0.9	1.08	1.26	1.44
	- P _s in mm H ₂ O	1.25	1.97	2.59	3.58	4.67	7.34	10.59	14.56	19.2
	NC	23	30	36	40	42	46	49	54	58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Return Ceiling Diffuser - Four way

Neck size in mm x mm Neck Area in m ²	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM	49	61	74	85	97	123	146	171	195
	M ³ /sec.	0.023	0.029	0.035	0.04	0.046	0.058	0.069	0.081	0.092
	- P _s in mm H ₂ O	0.64	1.02	1.45	1.98	2.51	4.01	5.72	7.9	10.16
	NC	<15	<15	<15	<15	19	25	30	34	40
225 x 225 0.051	CFM	108	135	163	188	216	271	324	379	432
	M ³ /sec.	0.051	0.064	0.077	0.089	0.102	0.128	0.153	0.179	0.204
	- P _s in mm H ₂ O	0.69	1.12	1.65	2.16	2.87	4.44	6.35	8.89	11.43
	NC	<15	<15	<15	16	21	28	34	40	45
300 x 300 0.09	CFM	193	239	286	335	381	476	572	667	762
	M ³ /sec.	0.09	0.113	0.135	0.158	0.18	0.225	0.27	0.315	0.36
	- P _s in mm H ₂ O	0.79	1.24	1.78	2.41	3.15	4.95	7.11	9.65	12.7
	NC	<15	<15	16	21	25	32	38	43	48
375 x 375 0.141	CFM	298	372	449	521	597	747	896	1046	1194
	M ³ /sec.	0.141	0.176	0.212	0.246	0.282	0.353	0.423	0.494	0.564
	- P _s in mm H ₂ O	0.89	1.39	2.03	2.74	3.58	5.59	8.13	10.9	14.22
	NC	<15	<15	19	25	32	38	43	47	51
450 x 450 0.203	CFM	430	538	646	752	860	1076	1289	1505	1719
	M ³ /sec.	0.203	0.254	0.305	0.355	0.406	0.508	0.609	0.711	0.812
	- P _s in mm H ₂ O	0.97	1.49	2.18	2.97	3.91	6.09	8.64	11.94	15.49
	NC	<15	17	24	31	36	40	45	48	52
525 x 525 0.276	CFM	584	730	877	1023	1168	1461	1753	2045	2337
	M ³ /sec.	0.276	0.345	0.414	0.483	0.552	0.69	0.828	0.966	1.104
	- P _s in mm H ₂ O	1.04	1.63	2.36	3.2	4.19	6.6	9.39	12.7	16.76
	NC	18	25	30	36	40	44	47	51	55
600 x 600 0.36	CFM	762	953	1143	1334	1524	1905	2287	2668	3049
	M ³ /sec.	0.36	0.45	0.54	0.63	0.72	0.9	1.08	1.26	1.44
	- P _s in mm H ₂ O	1.14	1.78	2.54	3.51	4.52	7.11	10.16	13.9	18.29
	NC	23	30	36	40	42	46	49	54	58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Supply & Return Circular Diffuser

Neck dia in mm	Face velocity in m/sec	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
160	Cfm	51	66	78	91	106	125	137	152	172
	M ³ /sec	0.0241	0.0311	0.037	0.043	0.050	0.059	0.065	0.072	0.081
	P _s in mm H ₂ O	0.20	0.264	0.387	0.536	0.680	0.810	0.950	1.120	1.40
	Throw in m	0.9-0.5	1.1-0.7	1.3-0.9	1.6-1.1	2.0-1.5	2.5-2.0	2.9-2.4	3.4-2.8	4.0-3.3
	NC	<15	15	20	24	29	31	36	42	49
200	Cfm	72	93	117	136	155	174	195	218	248
	M ³ /sec	0.034	0.044	0.055	0.064	0.073	0.082	0.092	0.103	0.117
	P _s in mm H ₂ O	0.230	0.279	0.447	0.677	0.850	1.050	1.250	1.510	2.1
	Throw in m	1.3-0.85	1.5-1.0	1.8-1.3	2.1-1.5	2.5-1.9	2.9-2.2	3.4-2.6	4.0-3.1	4.8-3.7
	NC	<15	15	20	23	28	31	35	42	50
250	Cfm	116	146	176	203	231	258	288	320	358
	M ³ /sec	0.055	0.067	0.083	0.096	0.109	0.122	0.136	0.151	0.167
	P _s in mm H ₂ O	0.301	0.362	0.487	0.661	1.080	1.290	1.530	2.0	2.40
	Throw in m	1.6-1.1	1.9-1.4	2.4-1.8	2.7-2.0	3.0-2.2	3.5-2.5	4.2-3.0	5.0-3.6	6.0-4.4
	NC	<15	15	18	23	29	33	38	45	53
315	Cfm	177	222	267	314	354	392	437	487	542
	M ³ /sec	0.083	0.105	0.126	0.148	0.167	0.185	0.206	0.230	0.257
	P _s in mm H ₂ O	0.410	0.480	0.653	1.020	1.260	1.820	2.20	2.60	3.20
	Throw in m	1.8-1.3	2.2-1.6	2.5-2.0	3.1-2.5	3.6-3.0	4.2-3.2	4.9-3.8	5.8-4.6	7.0-5.6
	NC	<15	15	21	25	30	34	38	45	55
355	Cfm	244	297	350	413	466	530	583	639	699
	M ³ /sec	0.115	0.140	0.165	0.195	0.220	0.250	0.275	0.301	0.330
	P _s in mm H ₂ O	0.194	0.229	0.390	0.586	0.809	1.160	1.40	1.680	2.020
	Throw in m	2.0-1.4	2.5-1.7	3.1-2.4	3.6-2.7	4.2-3.0	4.7-2.3	5.6-3.9	6.7-4.6	8.1-5.6
	NC	<15	15	19	26	30	35	43	52	60
400	Cfm	270	333	396	460	530	591	654	719	789
	M ³ /sec	0.127	0.157	0.187	0.217	0.250	0.279	0.308	0.339	0.372
	P _s in mm H ₂ O	0.163	0.192	0.309	0.469	0.589	0.827	1.10	1.40	1.70
	Throw in m	2.1-1.5	2.5-1.8	3.0-2.3	3.6-2.7	4.1-3.0	4.6-3.2	5.4-3.8	6.5-4.6	7.9-5.4
	NC	<15	15	20	25	29	34	41	50	61

- Neck size is measured in m/sec.
- P_s: Static pressure loss in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.25 & 0.5 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.

ENGINEERING & PERFORMANCE DATA

Drum Louver AWC DL-A

Neck Velocity	Size	175x200	550x200	1100x200 850x250 750x300	1600x200 1250x250 1000x300 750x375	1750x250 1500x300 1000x375	1750x300 1250x375
1	CFM	83	261	475	651	914	1363
	NC	<15	<15	<15	<15	<15	<15
	P _s in mm of H ₂ O	0.45	0.275	0.20	0.175	0.125	0.1
	THROW in M	1-1.2-1.5	3.9-5.8-8.8	4.6-6.0-10.0	7-9.1-14.3	7.3-9.4-15.2	7.0-10.4-17.9
1.5	CFM	124	390	713	974	1373	1615
	NC	<15	15	<15	<15	<15	<15
	P _s in mm of H ₂ O	1.025	0.675	0.375	0.375	0.3	0.275
	THROW in M	1.8-2.1-3.7	4.5-6.0-10.0	7.0-9.1-14.3	7.6-9.7-15.8	7.6-10.6-17.9	8.2-10.6-19.2
2	CFM	162	523	950	1297	1829	2157
	NC	15	16	15	15	16	17
	P _s in mm of H ₂ O	1.75	1.15	0.7	0.7	0.55	0.525
	THROW in M	2.7-3.7-6.0	5.8-7.6-12.1	7.6-9.8-15.8	9.1-11.5-18.2	9.4-12.1-21.3	10.0-13.1-21.9
2.5	CFM	204	651	1188	1625	2285	2693
	NC	16	18	20	21	23	25
	P _s in mm of H ₂ O	2.8	1.825	1.05	1.05	0.85	0.8
	THROW in M	3.4-4.9-7.3	7-9.1-14.3	8.8-11.9-18.6	10.3-13.1-21.3	12.8-15.8-27.4	13.1-16.7-30.4
3	CFM	247	781	1425	1948	2741	3230
	NC	18	23	28	30	32	31
	P _s in mm of H ₂ O	4.125	2.7	1.575	1.575	1.25	1.175
	THROW in M	4.0-5.8-8.8	7.9-10.9-16.7	10.9-14.0-21	13.4-16.1-24.9	14.3-17.9-30.4	17.3-21.3-37.4
3.5	CFM	285	912	1663	2275	3197	3772
	NC	24	30	33	33	35	35
	P _s in mm of H ₂ O	5.475	3.625	2.175	2.175	1.7	1.6
	THROW in M	4.9-6.4-9.8	9.4-12.4-18.8	13.1-15.8-24.9	14.6-17.9-27.7	17.0-21.0-36.5	20.1-25.9-43.0
4	CFM	333	1040	1900	2598	3658	4308
	NC	27	35	39	40	40	43
	P _s in mm of H ₂ O	7.475	4.5	2.825	2.825	2.2	2.05
	THROW in M	5.4-7.0-10.7	10.0-13.1-20.1	14.3-17.0-27.7	16.4-19.8-30.4	19.8-24.0-41.1	23.1-25.9-48.7
4.5	CFM	380	1173	2138	2921	4114	4850
	NC	31	39	43	44	47	48
	P _s in mm of H ₂ O	9.8	5.975	3.55	3.55	2.775	2.6
	THROW in M	5.8-7.9-11.6	10.7-14.0-21.0	15.2-18.2-29.5	18.5-21.9-33.8	21.3-25.9-43.5	25.9-32.3-53.3
5	CFM	413	1302	2375	3249	4570	5387
	NC	36	43	47	48	49	50
	P _s in mm of H ₂ O	11.55	7.2	4.425	4.425	3.45	3.225
	THROW in M	6.0-8.2-11.9	10.9-14.3-21	16.4-19.2-30.4	18.8-22.2-34.1	22.2-24.3-45.7	26.2-33.5-54.8

- Neck velocity is measured in m/sec.
- P_s Static pressure in mm of H₂O.
- Throw (meters) is measured for a terminal velocity of 0.75, 0.5 and 0.25 m/sec.
- NC based on a room attenuation of 10 dB.



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