

DRUM LOUVERS 45DL SERIES

- HIGH CAPACITY
- LONG THROW
- ALUMINUM CONSTRUCTION

Models:

45DL1 Single Vanes

45DL2 Split Vanes

- Suffix '-O' adds a steel opposed blade damper



Models 45DL1-O and 45DL2

Model Series 45DL Drum Louvers are supply air outlets engineered for use in cooling, heating, and ventilating applications requiring long throws and accurate directional control of conditioned air in large enclosed spaces where ductwork cannot be brought close to the occupants. Typically, they are used in sport arenas, exhibition halls, manufacturing and industrial plants, office building entrances, lobbies, shopping malls and atriums.

Model Series 45DL Drum Louvers are designed to provide jet or diffused air patterns in ceiling, sidewall and exposed duct applications. In sidewall and exposed duct installations, the **Model Series 45DL** can be mounted vertically or horizontally.

Model Series 45DL are ideal for vertical spot cooling or heating when mounted in the ceiling or on the bottom of exposed ductwork. They are capable of supplying straight flow primary air jet streams at 0° deflection for long throws, and a diffused pattern of primary air at 15° and 30° deflections for shorter throws and greater spread. There is a difference of approximately 35 percent in throw between jet and diffused air patterns. The cylindrical drum enables primary air to be directed horizontally or vertically within a 60° arc, and when coupled with the adjustable louvers provides accurate directional control of primary air for people, plant or product.

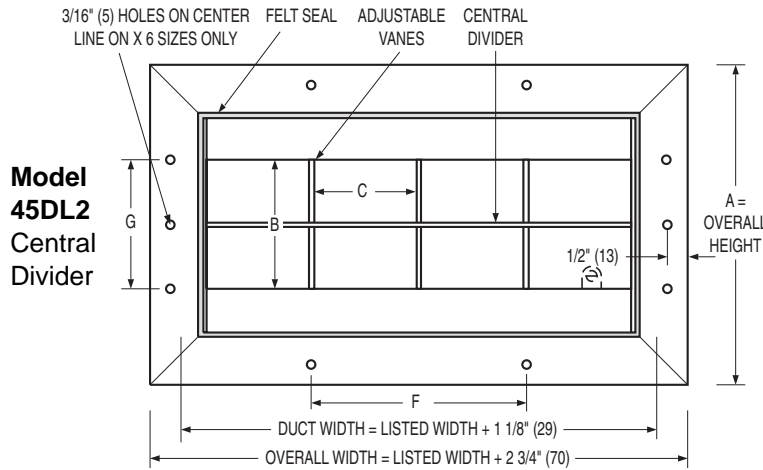
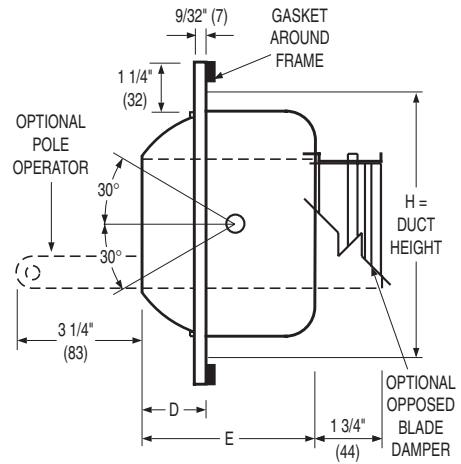
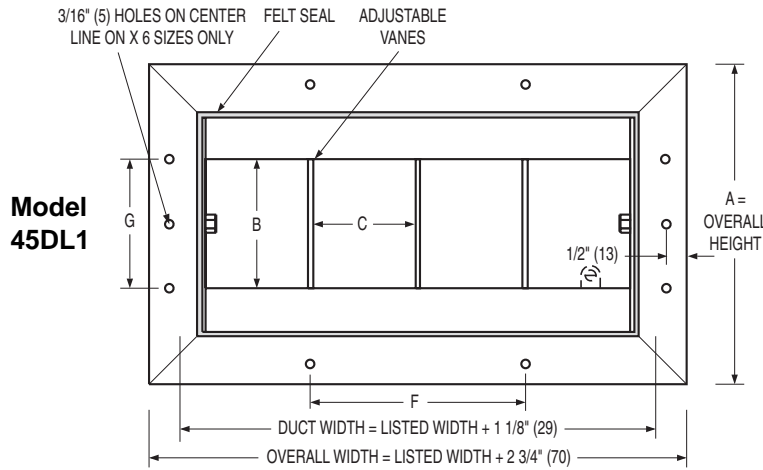
Model 45DL2 features a split-vane option. The individual vanes are separated by a central divider and may be adjusted in opposite directions to produce a 'counter flow' air pattern. This creates more rapid mixing of primary and room air and a further reduction in the length of throw. With this option you therefore have the utmost versatility for all applications.

FEATURES:

- Rotating adjustable cylindrical drums are tightly pivoted to the end caps of the 1 1/4" (32) wide border frames and are supplied with 3/16" (5) diameter face screw mounting holes and a perimeter frame gasket.
- Felt seal around the rotating drum to minimize air leakage.
- Paddle-size deflection vanes are rear pivoted on nylon bushings in the rectangular drum opening, and tightly hold deflection angle settings regardless of duct velocity and pressure levels.
- The Drum Louver is rated for use at capacities ranging from 100 to 14,000 cfm.
- Sizes available are 6" (152), 10" (254), 12" (305) and 15" (381) in height and 9" (229) through 72" (1829) in width. See dimensional data on next page for available increments.
- An optional pole operator is available to allow directional control of airflow in remote mounted locations.
- An optional opposed blade damper is available with a screwdriver slot operator accessible through the discharge opening. However, they are not recommended where the static pressure drop across the drum louver exceeds 0.25" w.g.. Under these conditions balancing should be performed by a remote damper installed in the take-off.
- High quality, extruded aluminum construction.
- AW Appliance White baked enamel finish is standard. Other finishes are available.

Dimensional Data

Model Series 45DL Drum Louvers



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GRILLES AND REGISTERS

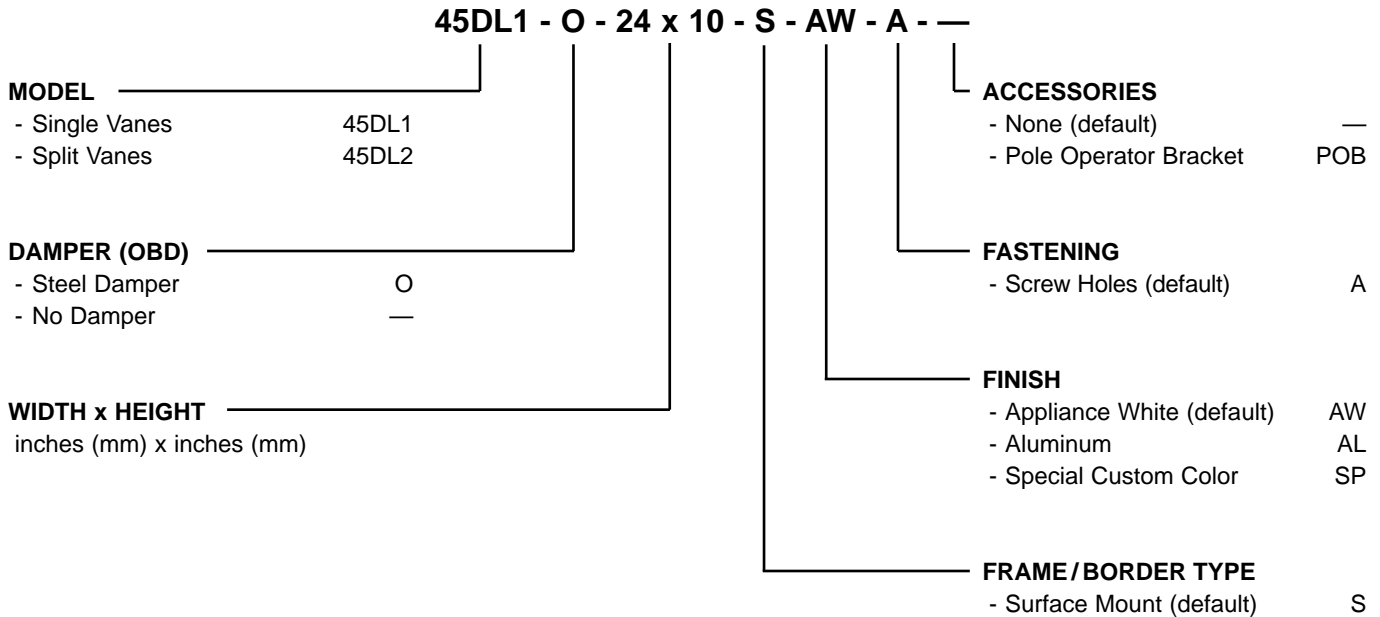
HEIGHT	6		10		12		15	
	W x H	NO. OF VANES	W x H	NO. OF VANES	W x H	NO. OF VANES	W x H	NO. OF VANES
LISTED SIZES NOMINAL WIDTH x HEIGHT IN INCHES	9 x 6	2	18 x 10	2	18 x 12	2	18 x 15	2
	12 x 6	3	24 x 10	3	24 x 12	3	24 x 15	3
	18 x 6	5	30 x 10	4	30 x 12	4	30 x 15	4
	24 x 6	7	36 x 10	5	36 x 12	5	36 x 15	5
	30 x 6	9	42 x 10	6	42 x 12	6	42 x 15	6
	36 x 6	11	48 x 10	7	48 x 12	7	48 x 15	7
	48 x 6	15	54 x 10	8	54 x 12	8	54 x 15	8
	54 x 6	17	60 x 10	9	60 x 12	9	60 x 15	9
60 x 6	19	72 x 10	11	72 x 12	11	72 x 15	11	

DIMENSIONS IN INCHES (MM)	H	6 7/8 (175)	10 1/2 (267)	12 1/2 (318)	15 1/2 (384)
	A	8 1/2 (216)	12 1/8 (308)	14 1/8 (359)	17 1/8 (435)
	B	3 3/8 (86)	5 3/8 (137)	6 3/8 (162)	9 3/8 (238)
	C	3 (76)	6 (152)	6 (152)	6 (152)
	D	1 11/16 (43)	2 21/32 (67)	3 9/32 (83)	3 3/4 (95)
	E	4 1/2 (114)	6 1/4 (159)	7 1/8 (181)	8 3/4 (222)
	F	6 (152)	6 (152)	6 (152)	6 (152)
	G	—	6 (152)	6 (152)	9 (229)

HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

Drum Louvers – Model Series 45DL



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GRILLES AND REGISTERS

Notes:

1. Damper not recommended where the static pressure drop across the drum louver exceeds 0.25" w.g.
2. For a standard drum louver with no special requirements, specification is only required as far as the damper selection. The "default" will automatically be selected. For example, a split vanes drum louver and damper is Model 45DL2-O. Unit will be supplied with screw holes and AW Appliance White baked enamel finish.

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **45DL1** or **45DL2 Drum Louvers** of the type and size as shown on the plans and air distribution schedules. The louver is to be manufactured from extruded aluminum and have a cylindrical adjustable drum that rotates. The blades are to have a paddle like profile that pivot on nylon bushings. A perimeter gasket is to be included around the frame and a felt seal is to be around the drum. The finish shall be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the louver, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

Performance Data

Model Series 45DL • 6" (152) Drum Louver

SIZE	Neck Velocity, FPM VP	280 .005	420 .011	560 .020	700 .031	840 .044	980 .060	1120 .078	1400 .122	1680 .176
9 x 6	Airflow, CFM	105	158	210	263	315	368	420	525	630
	TP	.022	.06	.10	.16	.21	.30	.40	.60	.90
	T	7-10-18	10-14-24	13-18-30	15-21-35	17-23-40	20-28-46	22-30-50	26-35-56	30-40-66
	NC	—	—	—	22	27	32	36	41	46
12 x 6	Airflow, CFM	140	210	280	350	420	490	560	700	840
	TP	.03	.06	.10	.16	.23	.32	.40	.63	.90
	T	8-11-18	12-16-27	16-21-34	18-24-40	20-26-45	23-31-50	25-34-55	30-40-66	35-47-76
	NC	—	—	—	23	28	33	37	42	47
18 x 6	Airflow, CFM	210	315	420	525	630	735	840	1050	1260
	TP	.022	.06	.10	.16	.24	.33	.40	.60	.90
	T	12-16-27	17-22-36	21-27-45	25-32-52	28-37-62	31-42-70	34-46-76	42-54-90	48-62-101
	NC	—	—	—	24	29	34	38	43	49
24 x 6	Airflow, CFM	280	420	560	700	840	980	1120	1400	1680
	TP	.03	.06	.10	.16	.24	.32	.40	.63	.90
	T	16-21-33	21-28-44	26-33-54	31-40-64	35-45-72	38-50-80	42-52-88	48-64-100	52-71-110
	NC	—	—	—	26	31	36	40	47	52
30 x 6	Airflow, CFM	350	525	700	875	1050	1225	1400	1750	2100
	TP	.022	.06	.10	.16	.21	.32	.40	.63	.90
	T	19-24-38	25-32-50	30-38-60	35-45-70	39-50-78	43-56-86	47-60-94	54-70-100	60-78-120
	NC	—	—	20	27	32	37	41	48	53
36 x 6	Airflow, CFM	420	630	840	1050	1260	1470	1680	2100	2520
	TP	.03	.06	.10	.16	.22	.30	.40	.60	.90
	T	20-26-40	26-35-54	32-41-64	36-46-74	40-52-82	44-55-90	48-62-100	54-72-115	62-80-130
	NC	—	—	21	28	33	38	42	49	55
48 x 6	Airflow, CFM	565	848	1130	1412	1695	1978	2260	2825	3390
	TP	.03	.06	.10	.16	.24	.32	.40	.63	.90
	T	24-31-39	31-42-63	37-49-76	44-56-89	48-62-100	50-70-110	58-74-120	65-82-130	74-95-150
	NC	—	—	22	29	34	39	43	50	56
60 x 6	Airflow, CFM	700	1050	1400	1750	2100	2450	2800	3500	4200
	TP	.03	.06	.10	.16	.24	.32	.40	.63	.90
	T	28-36-54	36-46-66	43-55-84	49-63-96	52-70-110	60-75-120	65-82-130	75-90-150	84-105-170
	NC	—	—	23	30	35	40	44	51	57

CFM - cubic feet per minute

FPM - feet per minute velocity

TP - total pressure - inches w.g.

VP - velocity pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

2. Total pressure, throw and NC are based on 45DL1 at 0° deflection. Correction factors for other conditions are listed below.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Correction Factor

Model	Deflection	TP	Throw	NC
45DL1	15°	x 1.5	x .85	+ 4
	30°	x 1.9	x .73	+ 9
45DL2	0°	x 1.3	-	-
	15°	x 1.7	x .85	+ 4
	30°	x 2.2	x .73	+ 9

Performance Data

Model Series 45DL • 10" (254) Drum Louver

SIZE	Neck Velocity, FPM VP	270 .005	400 .012	536 .018	670 .028	800 .040	940 .055	1075 .072	1340 .112	1610 .162
18 x 10	Airflow, CFM	336	504	672	840	1008	1176	1344	1680	2016
	TP	.02	.05	.08	.10	.18	.19	.25	.40	.60
	T	15-20-32	21-28-45	26-35-52	32-42-64	34-44-74	36-50-78	44-54-90	48-65-100	54-72-110
	NC	—	—	—	26	33	39	44	52	60
24 x 10	Airflow, CFM	450	675	900	1125	1350	1575	1800	2250	2700
	TP	.02	.05	.08	.13	.18	.20	.3	.45	.7
	T	19-25-40	25-35-52	30-42-64	35-46-74	38-52-80	44-58-94	50-65-100	54-72-110	64-82-125
	NC	—	—	21	30	34	43	48	58	63
30 x 10	Airflow, CFM	560	840	1120	1400	1680	1960	2240	2800	3360
	TP	.02	.05	.08	.13	.18	.24	.31	.48	.7
	T	22-28-46	29-40-62	35-46-74	42-55-86	46-62-96	50-68-100	54-72-110	65-82-130	72-92-145
	NC	—	—	23	31	38	46	50	58	64
36 x 10	Airflow, CFM	670	1005	1340	1675	2010	2345	2680	3350	4020
	TP	.02	.04	.08	.13	.18	.25	.32	.48	.7
	T	23-32-52	30-43-68	36-50-82	44-60-98	50-68-105	56-76-115	60-80-120	70-90-140	80-105-170
	NC	—	—	25	34	40	47	52	60	68
42 x 10	Airflow, CFM	785	1177	1570	1962	2355	2748	3140	3925	4710
	TP	.02	.05	.08	.13	.19	.26	.34	.52	.75
	T	25-34-54	32-45-70	40-54-86	46-62-100	54-72-110	60-80-120	66-86-140	75-100-150	88-115-180
	NC	—	—	26	35	42	48	53	60	69
48 x 10	Airflow, CFM	895	1342	1790	2238	2685	3133	3580	4475	5370
	TP	.02	.04	.08	.13	.17	.24	.32	.48	.68
	T	26-34-58	33-48-73	43-58-94	53-74-108	56-76-116	60-80-120	66-90-140	78-105-150	90-110-180
	NC	—	—	26	35	41	47	52	61	68
54 x 10	Airflow, CFM	1010	1515	2020	2525	3030	3535	4040	5050	6060
	TP	.02	.05	.08	.13	.17	.24	.31	.47	.68
	T	28-36-60	35-50-75	45-60-96	55-76-110	60-80-120	65-88-135	70-95-145	82-110-160	95-120-190
	NC	—	—	27	35	42	48	53	61	68
60 x 10	Airflow, CFM	1120	1680	2240	2800	3360	3920	4480	5600	6720
	TP	.02	.05	.08	.13	.17	.23	.30	.46	.68
	T	32-42-68	40-54-72	50-68-100	58-76-120	65-84-130	70-92-140	78-100-150	90-120-180	100-130-190
	NC	—	—	27	35	42	48	53	61	68
72 x 10	Airflow, CFM	1345	2018	2690	3362	4035	4707	5380	6725	8070
	TP	.02	.05	.08	.13	.19	.26	.35	.52	.75
	T	34-44-72	44-58-90	54-70-110	62-82-130	70-92-140	78-100-160	85-110-170	98-130-200	110-140-230
	NC	—	—	28	37	44	48	54	63	70

CFM - cubic feet per minute
FPM - feet per minute velocity
TP - total pressure - inches w.g.
VP - velocity pressure - inches w.g.
T - throw in feet
NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
 2. Total pressure, throw and NC are based on 45DL1 at 0° deflection. Correction factors for other conditions are listed below.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Correction Factor

Model	Deflection	TP	Throw	NC
45DL1	15°	x 1.5	x .85	+ 4
	30°	x 1.9	x .73	+ 9
45DL2	0°	x 1.3	-	-
	15°	x 1.7	x .85	+ 4
	30°	x 2.2	x .73	+ 9

Performance Data

Model Series 45DL • 12" (305) Drum Louver

SIZE	Neck Velocity, FPM VP	265 .004	400 .010	530 .018	660 .027	795 .039	930 .054	1060 .070	1325 .109	1600 .160
18 x 12	Airflow, CFM	400	600	800	1000	1200	1400	1600	2000	2400
	TP	.033	.08	.14	.22	.30	.44	.55	.86	1.04
	T	14-20-34	19-27-46	24-34-60	30-40-70	35-47-78	38-56-95	44-60-100	50-70-120	55-80-130
	NC	—	—	—	25	32	36	40	47	52
24 x 12	Airflow, CFM	530	795	1060	1325	1590	1855	2120	2650	3180
	TP	.03	.07	.13	.20	.29	.42	.53	.82	1.10
	T	17-24-42	24-34-54	26-37-64	35-47-78	38-56-95	45-65-110	52-72-120	65-85-140	72-98-160
	NC	—	—	—	27	32	35	40	46	52
30 x 12	Airflow, CFM	665	998	1330	1662	1993	2328	2660	3324	3990
	TP	.03	.06	.10	.14	.21	.28	.35	.58	.80
	T	18-25-44	26-37-64	33-45-76	37-54-90	45-65-110	50-70-120	58-80-130	67-92-155	85-110-180
	NC	—	—	21	27	32	38	40	48	54
36 x 12	Airflow, CFM	800	1200	1600	2000	2400	2800	3200	4000	4800
	TP	.03	.05	.08	.12	.17	.22	.30	.46	.63
	T	22-31-54	30-44-74	38-54-90	46-64-110	50-70-120	58-80-135	65-90-150	78-105-180	90-120-200
	NC	—	—	22	28	34	38	42	50	55
42 x 12	Airflow, CFM	930	1395	1860	2325	2790	3255	3720	4650	5580
	TP	.03	.05	.10	.16	.22	.31	.40	.62	.80
	T	25-35-60	34-46-80	44-58-100	50-70-120	58-80-130	65-90-150	75-100-170	85-115-200	100-140-230
	NC	—	—	26	31	35	41	45	52	55
48 x 12	Airflow, CFM	1065	1598	2130	2663	3195	3728	4260	5326	6390
	TP	.03	.06	.08	.14	.20	.28	.36	.56	.80
	T	25-33-53	35-46-82	44-56-96	52-70-115	58-78-125	60-95-150	75-100-170	88-120-210	100-140-230
	NC	—	—	26	31	36	41	45	52	55
54 x 12	Airflow, CFM	1200	1800	2400	3000	3600	4200	4800	6000	7200
	TP	.03	.06	.11	.17	.25	.34	.42	.68	.95
	T	27-36-63	37-50-88	46-62-108	56-75-130	65-85-145	72-98-160	80-105-180	95-125-220	110-150-250
	NC	—	—	24	31	36	41	45	52	55
60 x 12	Airflow, CFM	1350	2025	2700	3375	4050	4725	5400	6750	8100
	TP	.03	.06	.11	.17	.22	.30	.38	.58	.83
	T	28-37-65	42-56-100	47-63-110	54-74-130	64-84-150	72-100-170	80-110-190	92-120-240	110-140-260
	NC	—	—	20	28	33	37	42	48	54
72 x 12	Airflow, CFM	1600	2400	3200	4000	4800	5600	6400	8000	9600
	TP	.03	.06	.11	.17	.22	.30	.38	.58	.83
	T	32-42-72	42-54-100	52-72-120	62-74-140	72-100-170	82-110-190	92-120-240	110-140-260	120-160-290
	NC	—	—	25	31	36	41	45	52	55

CFM - cubic feet per minute

FPM - feet per minute velocity

TP - total pressure - inches w.g.

VP - velocity pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

2. Total pressure, throw and NC are based on 45DL1 at 0° deflection. Correction factors for other conditions are listed below.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Correction Factor

Model	Deflection	TP	Throw	NC
45DL1	15°	x 1.5	x .85	+ 4
	30°	x 1.9	x .73	+ 9
45DL2	0°	x 1.3	-	-
	15°	x 1.7	x .85	+ 4
	30°	x 2.2	x .73	+ 9

Performance Data

Model Series 45DL • 15" (381) Drum Louver

SIZE	Neck Velocity, FPM VP	312 .006	470 .014	625 .024	780 .038	935 .054	1090 .074	1250 .097	1560 .152	1870 .218
18 x 15	Airflow, CFM	585	878	1170	1463	1755	2048	2340	2925	3510
	TP	.02	.05	.09	.14	.21	.27	.36	.55	.82
	T	15-21-36	21-30-52	28-40-67	32-45-75	37-51-94	42-59-100	47-65-110	58-82-140	66-92-160
	NC	—	—	22	28	33	38	42	49	54
24 x 15	Airflow, CFM	780	1170	1560	1950	2340	2730	3120	3900	4680
	TP	.02	.04	.08	.12	.19	.25	.34	.50	.68
	T	18-25-45	25-35-62	33-46-80	40-55-100	45-64-110	54-75-130	60-84-140	70-100-170	80-110-190
	NC	—	—	22	28	34	39	43	50	55
30 x 15	Airflow, CFM	975	1463	1950	2438	2925	3413	3900	4875	5850
	TP	.02	.05	.08	.13	.20	.25	.34	.50	.72
	T	21-30-52	30-42-74	38-54-97	45-64-110	54-75-130	60-84-140	66-94-160	80-110-190	92-130-225
	NC	—	—	22	29	35	40	44	51	56
36 x 15	Airflow, CFM	1170	1755	2340	2925	3510	4095	4680	5850	7020
	TP	.025	.05	.10	.15	.20	.26	.36	.55	.78
	T	23-33-58	32-45-80	40-56-100	47-65-110	56-76-130	62-88-150	70-100-170	80-110-190	110-130-220
	NC	—	—	25	32	37	42	45	52	58
42 x 15	Airflow, CFM	1365	2048	2730	3413	4095	4778	5460	6825	8190
	TP	.02	.05	.10	.15	.22	.30	.38	.60	.85
	T	27-37-66	38-52-92	47-65-110	56-76-130	62-88-150	70-100-170	80-110-190	100-130-220	110-150-260
	NC	—	—	25	31	36	41	44	51	57
48 x 15	Airflow, CFM	1565	2348	3130	3913	4695	5478	6260	7825	9390
	TP	.02	.05	.08	.13	.18	.25	.33	.50	.8
	T	28-40-70	40-55-100	50-70-120	60-82-140	70-98-160	80-110-190	90-130-220	110-150-260	120-180-300
	NC	—	—	25	32	37	42	45	52	58
54 x 15	Airflow, CFM	1760	2640	3520	4400	5280	6160	7040	8800	10560
	TP	.025	.05	.10	.16	.21	.30	.40	.65	.85
	T	30-44-75	44-60-110	54-78-130	65-90-160	75-105-180	90-120-210	100-135-240	120-160-280	130-180-310
	NC	—	—	26	32	37	42	45	52	58
60 x 15	Airflow, CFM	1950	2925	3900	4875	5850	6825	7800	9750	11700
	TP	.02	.045	.08	.12	.17	.25	.30	.50	.75
	T	34-45-76	44-60-110	54-78-130	65-90-160	75-105-180	90-120-210	100-135-240	120-160-280	130-180-310
	NC	—	—	26	33	38	43	46	53	59
72 x 15	Airflow, CFM	2345	3518	4690	5863	7035	8208	9380	11725	14070
	TP	.02	.05	.10	.14	.20	.26	.33	.55	.80
	T	37-50-90	50-70-120	62-88-160	76-100-190	90-125-220	100-140-250	115-150-280	130-190-330	160-220-400
	NC	—	—	27	34	39	44	47	54	60

- CFM** - cubic feet per minute
- FPM** - feet per minute velocity
- TP** - total pressure - inches w.g.
- VP** - velocity pressure - inches w.g.
- T** - throw in feet
- NC** - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
2. Total pressure, throw and NC are based on 45DL1 at 0° deflection. Correction factors for other conditions are listed below.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Correction Factor

Model	Deflection	TP	Throw	NC
45DL1	15°	x 1.5	x .85	+ 4
	30°	x 1.9	x .73	+ 9
45DL2	0°	x 1.3	-	-
	15°	x 1.7	x .85	+ 4
	30°	x 2.2	x .73	+ 9