PERFORMANCE NOTES FOR HEAVY DUTY SUPPLY GRILLES AND REGISTERS:
MODEL SERIES: 6100-HD

THROW, SPREAD AND DROP:

The isovel diagrams shown below, illustrate in plan view, the relationship of horizontal spread to throw for three standard vertical blade deflections and represent a typical high side wall supply outlet. The isovels (throw values) are for the cataloged terminal velocities of 150, 100 and 50 fpm.

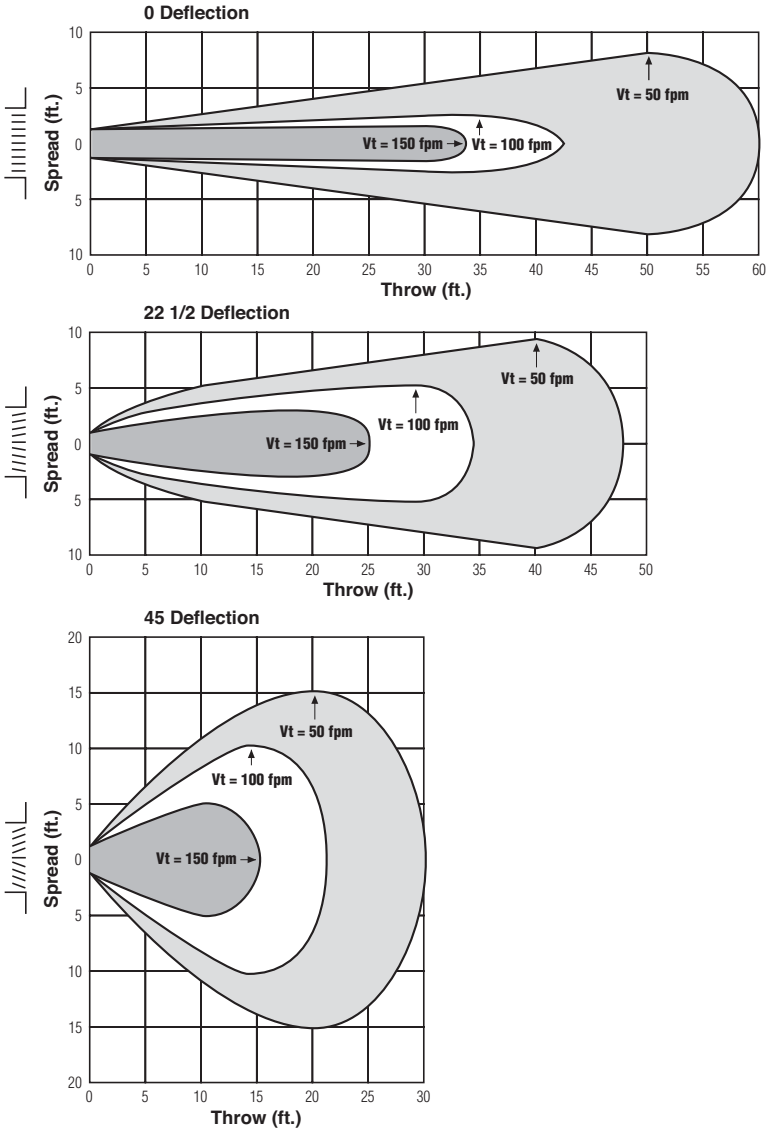
Cataloged data, in accordance with the test code, is with the grille mounted 9" (229) below the ceiling and benefiting from the ceiling coanda effect under isothermal conditions. Throw values without ceiling effect (greater than 24" (610) from a surface parallel to the airflow) may be approximated by multiplying the cataloged throw by x 0.7.

In order to offset potential draft problems caused by premature drop, it is recommended to set the blades with an upward deflection setting of 15 – 20° in free space conditions. The angle of spread and temperature differential between the supply air and room air (ΔT) also effects the drop of the airstream.

Under constant conditions of temperature, volume and core velocity, the wider the spread, the smaller the drop. Typical cold supply air (20°F ΔT) reduces horizontal throw by approximately 30%. Warm air will increase throw by approximately 30% and reduce drop.

For a full explanation of the effects of spread, throw, temperature and drop, refer to the engineering guide at the back of the catalog.

SPREAD CHARACTERISTICS WITH THREE DEFLECTION SETTINGS



NC Corrections for Blade Deflection (add)

Model Type	Damper	Blade Deflection		
		0°	22 1/2°	45°
Double Deflection	With	0	+ 2	+ 7
	Without	– 4	– 2	+ 3
Single Deflection	With	– 4	– 1	+ 4
	Without	– 8	– 6	+ 1

Note: Damper corrections are for wide open damper.

TP Correction Factors for Grilles Without Damper (multiply)

Blade Deflection	0°	22 1/2°	45°
Double Deflection Factor	x .80	x .83	x .89
Single Deflection Factor	x .73	x .76	x .85

NC Corrections for Throttling Damper (add)

Additional Pressure Drop (in. w.g.)	.05"	.15"	.25"
Approx. Damper Opening	75%	67%	50%
NC add	+ 6	+ 11	+ 18

PERFORMANCE DATA:

STEEL HEAVY DUTY SUPPLY GRILLES AND REGISTERS • GYMNASIUM

MODELS: 61DH-HD, 61DV-HD, 61SH-HD, 61SV-HD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity / Velocity Pressure		300 .006	400 .010	500 .016	600 .022	700 .031	800 .040	1000 .062	1200 .090	1400 .122
				Total Pressure	0° 22 1/2° 45°	.015 .017 .026	.026 .030 .046	.041 .047 .072	.059 .068 .103	.081 .093 .142	.106 .122 .186	.165 .190 .289	.238 .274 .417	.324 .373 .567
6 x 6	8 x 4 10 x 4	0.20		CFM		60	80	100	120	140	160	200	240	280
				Noise Criteria		–	–	–	–	19	23	29	35	40
			.14	Throw	0°	5-7-13	7-9-16	8-12-18	10-14-20	11-15-21	12-16-23	15-18-25	16-20-27	17-21-30
			.12		22 1/2°	4-6-10	6-7-13	6-10-14	8-11-16	9-12-17	10-13-18	12-14-20	13-16-22	14-17-24
			.10		45°	3-4-7	4-5-8	4-6-9	5-7-10	6-8-11	6-8-12	8-9-13	8-10-14	9-11-15
8 x 6	10 x 5 12 x 4	0.27		CFM		81	108	135	162	189	216	270	324	378
				Noise Criteria		–	–	–	15	20	24	30	36	41
			.18	Throw	0°	5-8-15	8-12-18	10-14-20	11-16-23	13-18-25	15-19-27	17-21-30	18-23-32	19-24-35
			.16		22 1/2°	4-6-12	6-10-14	8-11-16	9-13-18	10-14-20	12-15-22	14-17-24	14-18-26	15-19-28
			.14		45°	3-4-8	4-6-9	5-7-10	6-8-12	7-9-13	8-10-14	9-11-15	9-12-16	10-12-18
10 x 6	12 x 5 16 x 4	0.35		CFM		105	140	175	210	245	280	350	420	490
				Noise Criteria		–	–	–	16	21	25	31	37	42
			.24	Throw	0°	6-9-18	9-13-21	10-16-24	12-19-26	15-20-28	17-21-30	20-23-33	21-25-36	22-27-39
			.21		22 1/2°	5-7-14	7-10-17	8-13-19	10-15-21	12-16-22	14-17-24	16-18-26	17-20-29	18-22-31
			.18		45°	3-5-9	5-7-11	5-8-12	6-10-13	8-10-14	9-11-15	10-12-17	11-13-18	11-14-20
8 x 8	14 x 5	0.38		CFM		114	152	190	228	266	304	380	456	532
				Noise Criteria		–	–	–	17	22	26	32	38	43
			.26	Throw	0°	6-9-19	9-14-22	11-16-25	13-19-27	16-21-29	18-22-32	19-24-34	21-26-37	23-28-40
			.22		22 1/2°	5-7-15	7-11-18	9-13-20	10-15-22	13-17-23	14-18-26	15-19-27	17-21-30	18-22-32
			.20		45°	3-5-10	5-7-11	6-8-13	7-10-14	8-11-15	9-11-16	10-12-17	11-13-19	12-14-20
12 x 6	18 x 4	0.42		CFM		126	168	210	252	294	336	420	504	588
				Noise Criteria		–	–	–	17	22	26	32	38	43
			.29	Throw	0°	6-9-19	9-14-22	11-16-25	13-19-27	16-21-30	18-22-32	19-24-34	21-28-38	23-29-41
			.25		22 1/2°	5-7-15	7-11-18	9-13-20	10-15-22	13-17-24	14-18-26	15-19-27	17-22-30	18-23-33
			.22		45°	3-5-10	5-7-11	6-8-13	7-10-14	8-11-15	9-11-16	10-12-17	11-14-19	12-15-21
14 x 6	10 x 8	0.50		CFM		150	200	250	300	350	400	500	600	700
				Noise Criteria		–	–	–	18	23	27	33	39	44
			.34	Throw	0°	6-11-20	10-15-23	12-18-25	15-20-28	16-22-31	19-23-33	21-25-36	23-28-40	25-31-43
			.30		22 1/2°	5-9-16	8-12-18	10-14-20	12-16-22	13-18-25	15-18-26	17-20-29	18-22-32	20-25-34
			.26		45°	3-6-10	5-8-12	6-9-13	8-10-14	8-11-16	10-12-17	11-13-18	12-14-20	13-16-22
12 x 8	16 x 6 24 x 4	0.58		CFM		174	232	290	348	406	464	580	696	812
				Noise Criteria		–	–	–	19	24	28	34	40	45
			.39	Throw	0°	7-11-21	10-15-24	12-19-27	15-21-30	17-23-32	20-24-34	22-27-38	24-30-42	26-32-45
			.34		22 1/2°	6-9-17	8-12-19	10-15-22	12-17-24	14-18-26	16-19-27	18-22-30	19-24-34	21-26-36
			.30		45°	4-6-11	5-8-12	6-10-14	8-11-15	9-12-16	10-12-17	11-14-19	12-15-21	13-16-23
10 x 10	14 x 7 26 x 4	0.61		CFM		183	244	305	366	427	488	610	732	854
				Noise Criteria		–	–	–	19	24	28	34	40	45
			.41	Throw	0°	7-11-21	10-16-24	13-19-28	16-21-30	17-23-32	20-24-35	23-28-39	24-30-42	27-32-46
			.36		22 1/2°	6-9-17	8-13-19	10-15-22	13-17-24	14-18-26	16-19-28	18-22-31	19-24-34	22-26-37
			.31		45°	4-6-11	5-8-12	7-10-14	8-11-15	9-12-16	10-12-18	12-14-20	12-15-22	14-16-23
18 x 6	14 x 8 28 x 4 30 x 4	0.65		CFM		195	260	325	390	455	520	650	780	910
				Noise Criteria		–	–	15	20	25	29	35	41	46
			.44	Throw	0°	7-12-22	11-16-25	13-20-29	16-22-32	18-24-34	21-25-36	24-29-40	25-32-45	28-34-48
			.38		22 1/2°	6-10-18	9-13-20	10-16-23	13-18-26	14-19-27	17-20-29	19-23-32	20-26-36	22-27-38
			.33		45°	4-6-11	6-8-13	7-10-15	8-11-16	9-12-17	11-13-18	12-15-20	13-16-23	14-17-24
12 x 10	20 x 6 24 x 5	0.74		CFM		222	296	370	444	518	592	740	888	1036
				Noise Criteria		–	–	15	20	25	29	35	41	46
			.50	Throw	0°	8-13-24	11-17-27	14-21-31	17-24-33	20-26-36	22-27-39	25-31-43	27-33-48	30-36-51
			.44		22 1/2°	6-10-19	9-14-22	11-17-25	14-19-26	16-21-29	18-22-31	20-25-34	22-26-38	24-29-41
			.38		45°	4-7-12	6-9-14	7-11-16	9-12-17	10-13-18	11-14-20	13-16-22	14-17-24	15-18-26
22 x 6	16 x 8 28 x 5 36 x 4	0.80		CFM		240	320	400	480	560	640	800	960	1120
				Noise Criteria		–	–	16	21	26	30	36	42	47
			.54	Throw	0°	8-13-25	11-18-28	15-22-32	18-25-35	20-27-38	23-28-41	26-32-45	28-35-50	31-38-53
			.47		22 1/2°	6-10-20	9-14-22	12-18-26	14-20-28	16-22-30	18-22-33	21-26-36	22-28-40	25-30-42
			.41		45°	4-7-13	6-9-14	8-11-16	9-13-18	10-14-19	12-14-21	13-16-23	14-18-25	16-19-27
12 x 12	14 x 10 18 x 8 24 x 6 38 x 4	0.90		CFM		270	360	450	540	630	720	900	1080	1260
				Noise Criteria		–	–	16	21	26	30	36	42	47
			.61	Throw	0°	9-14-26	12-18-29	15-23-33	18-26-36	21-27-39	24-29-42	27-33-47	29-36-51	32-39-56
			.53		22 1/2°	7-11-21	10-14-23	12-18-26	14-21-29	17-22-31	19-23-34	22-26-38	23-29-41	26-31-45
			.46		45°	5-7-13	6-9-15	8-12-17	9-13-18	11-14-20	12-15-21	14-17-24	15-18-26	16-20-28

For performance data notes, see F156.

PERFORMANCE DATA:
STEEL HEAVY DUTY SUPPLY GRILLES AND REGISTERS • GYMNASIUM
MODELS: 61DH-HD, 61DV-HD, 61SH-HD, 61SV-HD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity / Velocity Pressure		300 .006	400 .010	500 .016	600 .022	700 .031	800 .040	1000 .062	1200 .090	1400 .122
				Total Pressure	0° 22 1/2° 45°	.015 .017 .026	.026 .030 .046	.041 .047 .072	.059 .068 .103	.081 .093 .142	.106 .122 .186	.165 .190 .289	.238 .274 .417	.324 .373 .567
18 x 10	30 x 6	1.13		CFM		339	452	565	678	791	904	1130	1356	1582
				Noise Criteria		–	–	17	22	27	31	37	43	48
			.77	Throw	0°	9-15-29	14-20-33	17-25-36	20-29-40	24-30-43	27-33-46	30-36-51	33-40-57	35-43-61
			.67		22 1/2°	7-12-23	11-16-26	14-20-29	16-23-32	19-24-34	22-26-37	24-29-41	26-32-46	28-34-49
			.58		45°	5-8-15	7-10-17	9-13-18	10-15-20	12-15-22	14-17-23	15-18-26	17-20-29	18-22-31
14 x 14	16 x 12 20 x 10 24 x 8 34 x 6	1.24		CFM		372	496	620	744	868	992	1240	1488	1736
				Noise Criteria		–	–	17	22	27	31	37	43	48
			.84	Throw	0°	11-18-33	16-25-39	20-29-42	24-33-47	27-36-51	31-39-54	35-42-60	39-47-66	41-51-71
			.73		22 1/2°	9-14-26	13-20-31	16-23-34	19-26-38	22-29-41	25-31-43	28-34-48	31-38-53	33-41-57
			.64		45°	6-9-17	8-13-20	10-15-21	12-17-24	14-18-26	16-20-27	18-21-30	20-24-33	21-26-36
18 x 12	16 x 14 22 x 10 28 x 8 38 x 6	1.37		CFM		411	548	685	822	959	1096	1370	1644	1918
				Noise Criteria		–	–	18	23	28	32	38	44	49
			.93	Throw	0°	11-18-33	16-25-39	20-30-43	24-33-47	28-36-51	32-39-54	35-43-61	39-47-67	41-51-72
			.81		22 1/2°	9-14-26	13-20-31	16-24-34	19-26-38	22-29-41	26-31-43	28-34-49	31-38-54	33-41-58
			.71		45°	6-9-17	8-13-20	10-15-22	12-17-24	14-18-26	16-20-27	18-22-31	20-24-34	21-26-36
24 x 10	20 x 12 30 x 8	1.52		CFM		456	608	760	912	1064	1216	1520	1824	2128
				Noise Criteria		–	–	18	23	28	32	38	44	49
			1.03	Throw	0°	12-19-35	16-25-41	21-32-45	25-35-50	29-38-53	34-41-57	37-45-65	41-50-70	43-53-76
			.90		22 1/2°	10-15-28	13-20-33	17-26-36	20-28-40	23-30-42	27-33-46	30-36-51	33-40-56	34-42-61
			.78		45°	6-10-18	8-13-21	11-16-23	13-18-25	15-19-27	17-21-29	19-23-32	21-25-35	22-27-38
16 x 16	18 x 14 22 x 12 30 x 8	1.64		CFM		492	656	820	984	1148	1312	1640	1968	2296
				Noise Criteria		–	–	18	23	28	32	38	44	49
			1.12	Throw	0°	12-20-37	17-26-42	22-32-47	26-37-51	31-40-56	35-42-59	39-47-67	42-51-73	46-56-79
			.97		22 1/2°	10-16-30	14-21-34	18-26-38	21-30-41	25-32-45	28-34-47	31-38-54	34-41-58	37-45-63
			.84		45°	6-10-19	9-13-21	11-16-24	13-19-26	16-20-28	18-21-30	20-24-34	21-26-37	23-28-40
24 x 12	18 x 16 20 x 14 30 x 10 36 x 8	1.85		CFM		555	740	925	1110	1295	1480	1850	2220	2590
				Noise Criteria		–	–	19	24	29	33	39	45	50
			1.26	Throw	0°	12-20-38	18-27-44	22-33-48	27-38-54	32-40-58	36-44-62	40-48-69	44-54-76	48-58-82
			1.09		22 1/2°	10-16-30	14-22-35	18-26-38	22-30-43	26-32-46	29-35-50	32-38-55	35-43-61	38-46-66
			.95		45°	6-10-19	9-14-22	11-17-24	14-19-27	16-20-29	18-22-31	20-24-35	22-27-38	24-29-41
18 x 18	20 x 16 24 x 14 28 x 12 32 x 10	2.10		CFM		630	840	1050	1260	1470	1680	2100	2520	2940
				Noise Criteria		–	–	19	24	29	33	39	45	50
			1.43	Throw	0°	13-21-40	19-29-47	24-36-52	29-40-57	33-43-62	38-47-66	42-52-74	47-57-81	50-62-87
			1.24		22 1/2°	10-17-32	15-23-38	19-29-42	23-32-46	26-34-50	30-38-53	34-42-59	38-46-65	40-50-70
			1.08		45°	7-11-20	10-15-24	12-18-26	15-20-29	17-22-31	19-24-33	21-26-37	24-29-41	25-31-44
30 x 12	20 x 18 22 x 16 26 x 14 36 x 10	2.32		CFM		696	928	1160	1392	1624	1856	2320	2784	3248
				Noise Criteria		–	–	20	25	30	34	40	46	51
			1.58	Throw	0°	14-23-43	21-31-50	26-39-56	31-43-61	36-47-67	41-50-71	46-56-79	50-61-86	54-67-94
			1.37		22 1/2°	11-18-34	17-25-40	21-31-45	25-34-49	29-38-54	33-40-57	32-45-63	40-49-69	43-54-75
			1.19		45°	7-12-22	11-16-25	13-20-28	16-22-31	18-24-34	21-25-36	23-28-40	25-31-43	27-34-47
24 x 16	32 x 12	2.50		CFM		750	1000	1250	1500	1750	2000	2500	3000	3500
				Noise Criteria		–	–	20	25	30	34	40	46	51
			1.70	Throw	0°	14-24-45	22-32-52	27-40-58	32-45-64	37-49-68	43-52-74	48-58-82	52-64-90	56-68-97
			1.48		22 1/2°	11-19-36	18-26-42	22-32-46	26-36-51	30-39-54	34-42-59	38-46-66	42-51-72	45-54-78
			1.29		45°	7-12-23	11-16-26	14-20-29	16-23-32	19-25-34	22-26-37	24-29-41	26-32-45	28-34-49
20 x 20	22 x 18	2.61		CFM		783	1044	1305	1566	1827	2088	2610	3132	3654
				Noise Criteria		–	–	20	25	30	34	40	46	51
			1.77	Throw	0°	15-24-46	22-32-53	27-41-59	32-46-65	38-50-70	44-53-75	49-59-84	53-65-92	58-70-99
			1.54		22 1/2°	12-19-37	18-26-42	22-33-47	26-37-52	30-40-56	35-42-60	39-47-67	42-52-74	46-56-79
			1.34		45°	8-12-23	11-16-27	14-21-30	16-23-33	19-25-35	22-27-38	25-30-42	27-33-46	29-35-50
36 x 12	22 x 20 24 x 18 26 x 16 30 x 14	2.79		CFM		837	1116	1395	1674	1953	2232	2790	3348	3906
				Noise Criteria		–	–	20	25	30	34	40	46	51
			1.90	Throw	0°	15-25-48	23-34-55	28-42-61	34-48-68	4-51-73	45-55-77	50-61-86	55-68-95	59-73-103
			1.65		22 1/2°	12-20-38	18-27-44	22-34-49	27-38-54	32-41-58	36-44-62	40-49-69	44-54-76	47-58-82
			1.44		45°	8-13-24	12-17-28	14-21-31	17-24-34	20-26-37	23-28-39	25-31-43	28-34-48	30-37-52
22 x 22	24 x 20 26 x 18 30 x 16 40 x 12	3.17		CFM		951	1268	1585	1902	2219	2536	3170	3804	4438
				Noise Criteria		–	–	21	26	31	35	41	47	52
			2.16	Throw	0°	17-27-50	24-36-58	29-45-65	36-50-71	42-54-77	47-58-82	53-65-92	58-71-101	62-77-109
			1.87		22 1/2°	14-22-40	19-29-46	23-36-52	29-40-57	34-43-62	38-46-66	42-52-74	46-57-81	50-62-87
			1.63		45°	9-14-25	12-18-29	15-23-33	18-25-36	21-27-39	24-29-41	27-33-46	29-36-51	31-39-55

For performance data notes, see F156.

PERFORMANCE DATA:

STEEL HEAVY DUTY SUPPLY GRILLES AND REGISTERS • GYMNASIUM

MODELS: 61DH-HD, 61DV-HD, 61SH-HD, 61SV-HD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity / Velocity Pressure		300 .006	400 .010	500 .016	600 .022	700 .031	800 .040	1000 .062	1200 .090	1400 .122
				Total Pressure	0°	.015	.026	.041	.059	.081	.106	.165	.238	.324
					22 1/2°	.017	.030	.047	.068	.093	.122	.190	.274	.373
					45°	.026	.046	.072	.103	.142	.186	.289	.417	.567
42 x 12	36 x 14	3.27		**CFM**		**981**	**1308**	**1635**	**1962**	**2289**	**2616**	**3270**	**3924**	**4578**
				Noise Criteria		–	–	21	26	31	35	41	47	52
			2.22	**Throw**	0°	17-27-51	24-36-59	30-45-66	36-51-72	42-55-77	48-59-83	53-66-93	59-72-101	63-77-109
			1.93		22 1/2°	14-22-41	19-29-47	24-36-53	29-41-58	34-44-62	38-47-66	42-53-74	47-58-81	50-62-87
			1.68		45°	9-14-26	12-18-30	15-23-33	18-26-36	21-28-39	24-30-42	27-33-47	3-36-51	32-39-55
30 x 18	24 x 22 34 x 16 40 x 14	3.54		**CFM**		**1062**	**1416**	**1770**	**2124**	**2478**	**2832**	**3540**	**4248**	**4956**
				Noise Criteria		–	–	21	26	31	35	41	47	52
			2.41	**Throw**	0°	18-28-53	25-37-61	31-47-69	37-53-75	44-57-81	50-61-86	56-69-97	61-75-106	66-81-115
			2.09		22 1/2°	14-22-42	20-30-49	25-38-55	30-42-60	35-46-65	40-49-69	45-55-78	49-60-85	53-65-92
			1.82		45°	9-14-27	13-19-31	16-24-35	19-27-38	22-29-41	25-31-43	28-35-49	31-38-53	33-41-58
24 x 24	32 x 20 40 x 16 46 x 14	?		**CFM**		**1137**	**1516**	**1895**	**2274**	**2653**	**3032**	**3790**	**4548**	**5306**
				Noise Criteria		–	–	21	26	31	35	41	47	52
			2.58	**Throw**	0°	18-29-55	29-36-62	33-48-70	39-55-77	45-59-83	51-62-89	57-70-99	62-77-108	68-83-117
			2.24		22 1/2°	14-23-44	21-31-50	26-38-56	31-44-62	36-47-66	41-50-71	46-56-79	50-62-86	54-66-94
			1.95		45°	9-15-28	13-20-31	17-24-35	20-28-39	23-30-42	26-31-45	29-35-50	31-39-54	34-42-59
36 x 18	32 x 20 40 x 16 46 x 14	4.29		**CFM**		**1287**	**1716**	**2145**	**2574**	**3003**	**3432**	**4290**	**5148**	**6006**
				Noise Criteria		–	15	22	27	32	36	42	48	53
				Throw	0°	19-31-58	28-42-68	35-52-75	2-58-83	48-63-89	55-68-95	61-75-106	68-83-117	73-89-125
					22 1/2°	15-25-46	22-34-54	28-42-60	34-46-66	38-50-71	44-54-76	49-60-85	54-66-94	58-71-100
					45°	10-16-29	14-21-34	18-26-38	21-29-42	24-32-45	28-34-48	31-38-53	34-42-59	37-45-63
26 x 26	28 x 24 48 x 14	4.47		**CFM**		**1341**	**1788**	**2235**	**2682**	**3129**	**3576**	**4470**	**5364**	**6258**
				Noise Criteria		–	15	22	27	32	36	42	48	53
			3.04	**Throw**	0°	19-32-59	28-43-69	35-53-77	43-59-85	49-65-91	56-69-98	63-77-109	69-85-120	75-91-129
			2.64		22 1/2°	15-26-47	22-34-55	28-42-62	34-47-68	39-52-73	45-55-78	50-62-87	55-68-96	60-73-103
			2.30		45°	10-16-30	14-22-35	18-27-32	22-30-43	25-33-46	28-35-49	32-39-55	35-43-60	38-46-65
30 x 24	32 x 22 36 x 20 40 x 18	4.77		**CFM**		**1431**	**1908**	**2385**	**2862**	**3339**	**3816**	**4770**	**5724**	**6678**
				Noise Criteria		–	15	22	27	32	36	42	48	53
			3.24	**Throw**	0°	20-33-61	29-44-71	36-54-79	44-61-87	51-67-94	58-71-101	65-79-112	71-87-123	77-94-133
			2.81		22 1/2°	16-26-49	23-35-57	29-43-63	35-49-70	41-54-75	46-57-81	52-63-90	57-70-98	62-75-106
			2.46		45°	10-17-31	15-22-36	18-27-40	22-31-44	26-34-47	29-36-51	33-40-56	36-44-62	39-47-67
42 x 18	28 x 26	4.99		**CFM**		**1497**	**1997**	**2495**	**2994**	**3493**	**3992**	**4990**	**5988**	**6986**
				Noise Criteria		–	16	23	28	33	37	43	49	54
			3.39	**Throw**	0°	20-33-62	30-44-72	37-55-80	44-62-88	52-67-95	59-72-102	66-80-114	72-88-125	77-95-135
			2.94		22 1/2°	16-26-50	24-35-58	30-44-64	35-50-70	42-54-76	47-58-82	53-64-91	58-70-100	62-76-108
			2.57		45°	10-17-31	15-22-36	19-28-40	22-31-44	26-34-48	30-36-51	33-40-57	36-44-63	39-48-68
28 x 28	30 x 26 36 x 22 40 x 20	5.20		**CFM**		**1560**	**2080**	**2600**	**3120**	**3640**	**4160**	**5200**	**6240**	**7280**
				Noise Criteria		–	16	23	28	33	37	43	49	54
			3.54	**Throw**	0°	21-34-63	30-45-74	38-56-82	45-63-90	53-69-97	60-74-104	67-82-116	74-90-128	79-97-137
			3.07		22 1/2°	17-27-50	24-36-59	30-45-66	36-50-72	42-55-78	48-59-83	54-66-93	59-72-102	63-78-110
			2.68		45°	11-17-32	15-23-37	19-28-41	23-32-45	27-35-49	30-37-52	34-41-58	37-45-64	40-49-69
42 x 20	30 x 28	5.57		**CFM**		**1671**	**2228**	**2785**	**3342**	**3899**	**4456**	**5570**	**6684**	**7798**
				Noise Criteria		–	16	23	28	33	37	43	49	54
			3.79	**Throw**	0°	22-35-66	31-47-76	39-58-84	47-66-93	55-71-100	62-76-107	70-84-120	76-93-131	82-100-142
			3.29		22 1/2°	18-28-53	25-38-61	31-46-67	38-53-74	44-57-80	50-61-86	56-67-96	61-74-105	66-80-114
			2.87		45°	11-18-33	16-24-38	20-29-42	24-33-47	28-36-50	31-38-54	35-42-60	38-47-66	41-50-71
36 x 24	40 x 22 44 x 20	5.74		**CFM**		**1722**	**2296**	**2870**	**3444**	**4018**	**4592**	**5740**	**6888**	**8036**
				Noise Criteria		–	16	23	28	33	37	43	49	54
			3.90	**Throw**	0°	23-36-68	32-49-78	41-60-88	49-68-96	57-74-104	64-78-112	72-88-124	78-96-137	85-104-148
			3.39		22 1/2°	18-29-54	26-39-62	33-48-70	39-54-77	46-59-83	51-62-90	58-70-99	62-77-110	68-83-118
			2.96		45°	12-18-34	16-25-39	21-30-44	25-34-48	29-37-52	32-39-56	36-44-62	39-48-69	43-52-74
30 x 30	34 x 26 38 x 24 48 x 20	5.99		**CFM**		**1797**	**2396**	**2995**	**3594**	**4193**	**4792**	**5990**	**7188**	**8386**
				Noise Criteria		–	16	23	28	33	37	43	49	54
			4.07	**Throw**	0°	23-36-69	33-49-80	41-61-89	49-69-98	57-75-106	65-80-113	73-89-126	80-98-138	86-106-150
			3.53		22 1/2°	18-29-55	26-39-64	33-49-71	39-55-78	46-60-85	52-64-90	58-71-101	64-78-110	69-85-120
			3.08		45°	12-18-35	17-25-40	21-31-45	25-35-49	29-38-53	33-40-57	37-45-63	40-49-69	43-53-75
42 x 24	36 x 28 42 x 24 46 x 22	6.72		**CFM**		**2016**	**2688**	**3360**	**4032**	**4704**	**5376**	**6720**	**8064**	**9408**
				Noise Criteria		–	17	24	29	34	38	44	50	55
			4.57	**Throw**	0°	24-39-72	34-51-84	43-64-93	51-72-102	60-78-111	68-84-118	77-93-132	84-102-144	90-111-157
			3.96		22 1/2°	19-31-58	27-41-67	34-51-74	41-58-82	48-62-89	54-67-94	62-74-106	67-82-115	72-89-126
			3.46		45°	12-20-36	17-26-42	22-32-47	26-36-51	30-39-56	34-42-59	39-47-66	42-51-72	45-56-79

For performance data notes, see F156.

PERFORMANCE DATA:

STEEL HEAVY DUTY SUPPLY GRILLES AND REGISTERS • GYMNASIUM

MODELS: 61DH-HD, 61DV-HD, 61SH-HD, 61SV-HD

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity / Velocity Pressure		300 .006	400 .010	500 .016	600 .022	700 .031	800 .040	1000 .062	1200 .090	1400 .122
				Total Pressure	0°	.015	.026	.041	.059	.081	.106	.165	.238	.324
					22 1/2°	.017	.030	.047	.068	.093	.122	.190	.274	.373
					45°	.026	.046	.072	.103	.142	.186	.289	.417	.567
32 x 32	40 x 26	6.84		CFM		2052	2736	3420	4104	4788	5472	6840	8208	9576
				Noise Criteria		–	17	24	29	34	38	44	50	55
			4.65	Throw	0°	24-39-73	34-52-84	43-65-94	52-73-103	61-79-112	69-84-119	77-94-133	84-103-146	91-112-15873-90-126 46-56-79
			4.04		22 1/2°	19-31-58	27-42-67	34-52-75	42-58-82	49-63-90	55-67-95	62-75-106	67-82-117	
			3.52		45°	12-20-37	17-26-42	22-33-47	26-37-52	31-40-56	35-42-60	39-47-67	42-52-73	
36 x 30	38 x 28	7.22		CFM		2166	2888	3610	4332	5054	5776	7220	8664	10108
				Noise Criteria		–	17	24	29	34	38	44	50	55
			4.91	Throw	0°	25-40-76	36-54-87	45-68-98	54-76-108	63-82-116	71-87-124	80-98-139	87-108-151	94-116-164
			4.26		22 1/2°	20-32-61	29-43-70	36-54-78	43-61-86	50-66-93	57-70-99	64-78-111	70-86-121	75-93-131
			3.72		45°	13-20-38	18-27-44	23-34-49	27-38-54	32-41-58	36-44-62	40-49-70	44-54-76	47-58-82
48 x 24	34 x 34 36 x 32 38 x 30 42 x 28	7.69		CFM		2307	3076	3845	4614	5383	6152	7690	9228	10766
				Noise Criteria		–	18	25	30	35	39	45	51	56
			5.23	Throw	0°	26-41-77	37-55-90	46-69-100	55-77-109	64-84-118	73-90-127	82-100-142	90-109-155	97-118-167
			4.54		22 1/2°	21-33-62	30-44-72	37-55-80	44-62-87	51-67-94	58-72-102	66-80-114	72-87-124	78-94-134
			3.96		45°	13-22-39	19-28-45	23-45-50	28-39-55	32-42-59	37-45-64	41-50-71	45-55-78	49-59-84
36 x 34	38 x 32 40 x 30 48 x 26	8.20		CFM		2460	3280	4100	4920	5740	6560	8200	9840	11480
				Noise Criteria		–	18	25	30	35	39	45	51	56
			5.58	Throw	0°	26-42-79	37-57-91	47-70-102	57-79-111	65-85-121	75-91-129	84-102-144	91-111-158	98-121-171
			4.84		22 1/2°	21-34-63	30-46-73	38-56-82	46-63-89	52-68-97	60-73-103	67-82-115	73-89-126	78-97-137
			4.22		45°	13-21-40	19-29-	24-35-51	29-40-56	33-43-61	38-46-65	42-51-72	46-56-79	49-61-86
36 x 36	38 x 34 42 x 30 46 x 28	8.69		CFM		2607	3476	4345	5214	6083	6952	8690	10428	12166
				Noise Criteria		–	18	25	30	35	39	45	51	56
			5.91	Throw	0°	28-45-84	36-60-96	49-74-108	60-84-117	69-90-127	78-96-136	88-108-152	96-117-166	104-127-180
			5.13		22 1/2°	22-36-67	31-48-77	39-59-86	48-67-94	55-72-102	62-77-109	70-86-122	77-94-133	83-102-144
			4.48		45°	14-23-42	20-30-48	25-37-54	30-42-59	35-45-64	39-48-68	44-54-76	48-59-83	52-64-90
38 x 38	42 x 34	9.70		CFM		2910	3880	4850	5820	6790	7760	9700	11640	13580
				Noise Criteria		–	19	26	31	36	40	46	52	57
			6.60	Throw	0°	28-47-88	42-62-101	53-78-114	62-88-125	73-95-134	83-101-143	93-114-161	101-125-176	109-134-190
			5.72		22 1/2°	22-38-70	34-50-81	42-62-91	50-70-100	58-76-107	66-81-114	74-91-129	81-100-141	87-107-152
			5.00		45°	14-24-44	21-31-51	27-39-57	31-44-63	37-48-67	42-51-72	47-57-81	51-63-88	55-67-95
42 x 36	44 x 34 48 x 30	10.16		CFM		3048	4064	5080	6096	7112	8128	10160	12192	14224
				Noise Criteria		–	19	26	31	36	40	46	52	57
			6.91	Throw	0°	29-48-90	43-64-104	53-80-117	64-90-127	75-97-138	85-104-147	95-117-165	104-127-180	112-138-195
			5.99		22 1/2°	23-38-72	34-51-83	42-64-94	51-72-102	60-78-110	68-83-118	76-94-132	83-102-144	90-110-156
			5.23		45°	15-24-45	22-32-52	27-40-59	32-45-64	38-49-69	43-52-74	48-59-83	52-64-90	56-69-98
40 x 40	42 x 38 46 x 34 48 x 32	10.77		CFM		3231	4308	5385	6462	7539	8616	10770	12924	15078
				Noise Criteria		–	19	26	31	36	40	46	52	57
			7.32	Throw	0°	31-50-94	44-67-108	56-84-121	67-94-132	77-102-143	88-108-153	99-121-171	108-132-187	117-143-203
			6.35		22 1/2°	25-40-75	35-54-86	45-67-97	54-75-106	62-82-114	70-86-122	79-97-137	86-106-150	94-114-162
			5.55		45°	16-25-47	22-34-54	28-42-61	34-47-66	39-51-72	44-54-77	50-61-86	54-66-94	59-72-102
42 x 42	44 x 40 46 x 38 48 x 36	11.89		CFM		3567	4756	5945	7134	8323	9512	11890	14268	16646
				Noise Criteria		–	20	27	32	37	41	47	53	58
			8.09	Throw	0°	32-52-97	46-69-112	58-86-125	69-97-138	81-105-149	92-112-159	102-125-178	112-138-195	122-145-210
			7.02		22 1/2°	26-42-78	37-55-90	46-69-100	55-78-110	65-84-119	74-90-127	82-100-142	90-110-156	98-119-168
			6.12		45°	16-26-49	23-35-56	29-43-63	35-49-69	41-53-75	46-56-80	51-63-89	56-69-98	61-75-105
44 x 44	46 x 42	13.07		CFM		3921	5228	6535	7842	9149	10456	13070	15684	18298
				Noise Criteria		–	20	27	32	37	41	47	53	58
			8.89	Throw	0°	34-55-104	49-74-120	61-92-133	74-104-146	86-112-158	97-120-168	109-133-189	120-146-207	129-158-223
			7.71		22 1/2°	27-44-83	39-59-96	49-74-106	59-83-117	69-90-126	78-96-134	87-106-151	96-117-166	103-126-178
			6.73		45°	17-28-52	25-37-60	31-46-67	37-52-73	43-56-79	49-60-84	55-67-95	60-73-104	65-79-112
46 x 46		14.30		CFM		4290	5720	7150	8580	10010	11440	14300	17160	20020
				Noise Criteria		–	20	27	32	37	41	47	53	58
			9.72	Throw	0°	35-57-107	51-76-124	63-95-138	76-107-151	89-116-163	101-124-174	113-138-195	124-151-214	134-163-231
			8.44		22 1/2°	28-46-86	41-61-99	50-76-110	61-86-121	71-93-130	81-99-139	90-110-156	99-121-171	107-130-185
			7.36		45°	18-29-54	26-38-62	32-48-69	38-54-76	45-58-82	51-62-87	57-69-98	62-76-107	62-82-116
48 x 48		15.59		CFM		4677	6236	7795	9354	10913	12472	15590	18708	21826
				Noise Criteria		–	21	28	33	38	42	48	54	59
			10.60	Throw	0°	37-60-113	53-80-131	67-100-146	80-113-159	94-122-173	106-131-185	119-146-206	131-159-226	140-173-244
			9.20		22 1/2°	30-48-90	42-64-105	54-80-117	64-90-127	75-98-138	85-105-148	95-117-165	105-127-181	112-138-195
			8.03		45°	19-30-57	27-40-66	34-50-73	40-57-80	47-61-87	53-66-93	60-73-103	62-80-113	70-87-122

Performance Notes:

1. Performance data is based on double deflection grille with opposed blade damper (register).
2. 0°, 22 1/2° and 45° represent vertical blade deflection angles and horizontal spread.
3. Throw values are given for terminal velocities of 150, 100 and 50 fpm under isothermal conditions.
4. Additional performance notes and correction factors for various models and settings may be found on page F152.
5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2023.