

SD, DD & MDD – All Grilles & Registers

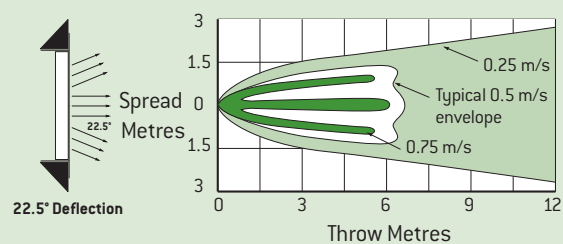
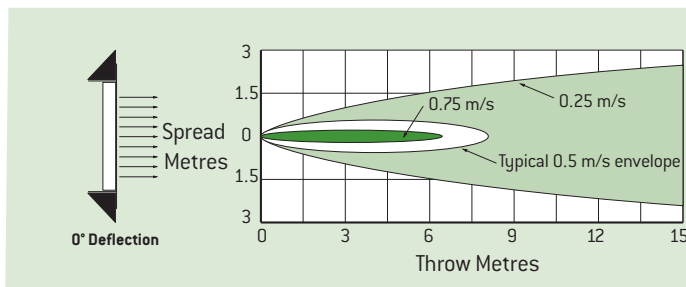
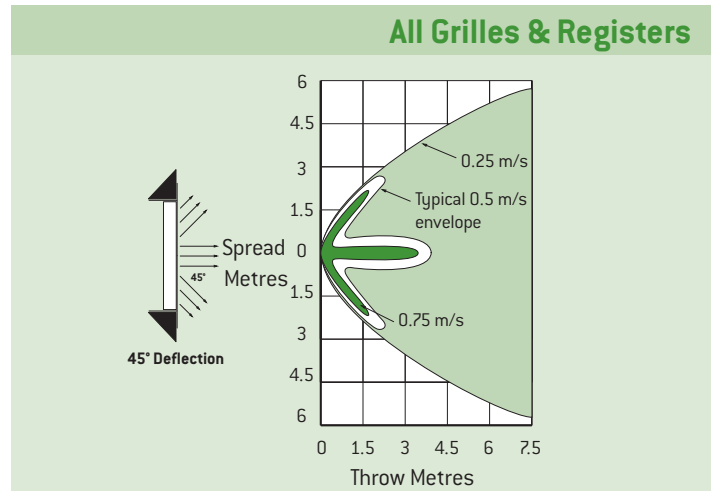
Horizontal Deflection (SPREAD)

The accompanying diagrams are based on actual tests. They show the relationship of spread to throw for a typical high sidewall supply outlet selection.

Notice that the outer Light Green shaded area represents the 0.25 m/s envelope, the White area the 0.5 m/s envelope and the Dark Green area the 0.75 m/s envelope.

The angle of spread also affects the angle of drop of the air stream. For a given temperature, volume and core velocity, the wider the deflection the smaller the drop.

Holyoake grilles and registers can be selected with a single set of louvers (single deflection) for adjusting horizontal, or vertical deflection, or with two sets of louvers (double deflection) for adjusting both horizontal and vertical deflections.



General Notes On Performance

Grilles & Registers shown in this section.

- Pressure: All pressures are in Pascals.
- Throw: Maximum throws are to a terminal velocity of 0.25 m/s, middle to 0.5 m/s and minimum to 0.75 m/s.
- Sound: The NC values are based on a room absorption of 10 dB, re 10^{-12} watts, with a single register operating at a 0 degree deflection setting. For deflection settings of 22.5 and 45 degrees, increase the stated sound levels by 1 and 7 NC respectively.
- Deflection: The stated deflection settings refer to horizontal deflection as shown in the spread diagrams. For a 20 degree upward deflection, use the throw rating for a 0 degree setting and the total pressure for a 22.5 degree horizontal setting.

NOTE: The capacity tables shown on Pages 206E - 209E are based on registers with Model DD – 20 cores and opposed blade dampers.

The performance of other cores, with or without dampers, can be obtained from the correction table below.

CORRECTIONS FOR VARIOUS CORE STYLES

CORE STYLE	DAMPER	Ak/Ac	THROW	TOT. PRESS	NC	VEL.
SD - 20 & DD - 20	With Damper	0.78	1.00	1.00	0	1.00
	No Damper	0.83	0.97	0.88	-4	0.94
SD - 32 & DD - 32	With Damper	0.87	0.95	0.81	0	0.90
	No Damper	0.92	0.92	0.72	-5	0.85

Ak = Net Jet Area

NC = Corrections are Adders

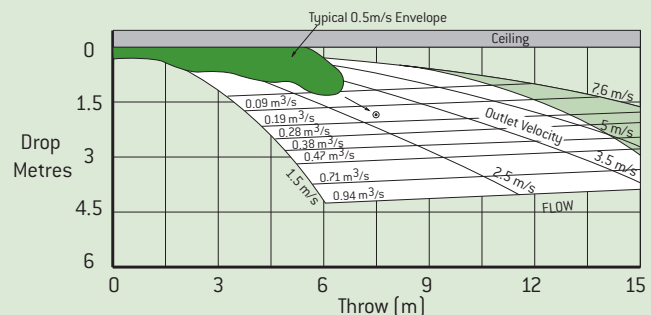
Ac = Core or Neck Area

Throw and Total Pressure = Corrections are Multipliers

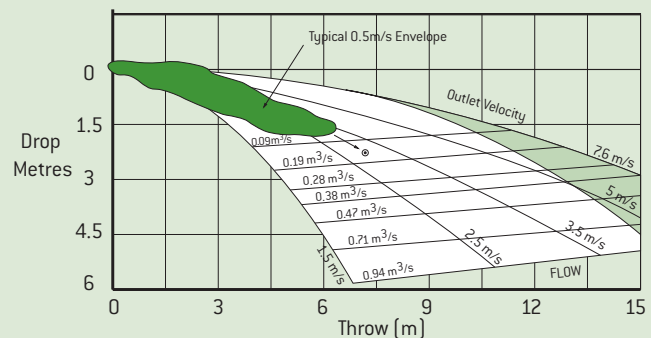
Variable Volume Applications

ALL Holyoake supply grilles and registers, when properly selected, can be used on variable air volume applications with excellent results. Selection methods and application data are discussed in the Engineering Section of this catalogue.

Drop Versus Throw



Mounted within 300mm of Ceiling. Vertical & Horizontal Deflection = 0°



No Ceiling. Vertical & Horizontal Deflection = 0°

Notes

1. Light green shading to the right of each of the two 'Drop Versus Throw' charts above indicates N.C. levels above 30.
2. Small circle in white area of each chart shows comparative performances of one size grille at 0.140 m³/s and 3.0 m/s outlet velocity.
3. Drop and throw values are based upon:
 - (a) $V_t = 0.25$ m/s.
 - (b) Cooling $\Delta t = 12^\circ$ K.
 - (c) Core style DDL & SDL - 20. See corrections this page for other styles.

All Aluminium. 20mm Airfoil Louvers

Grille - One Set of Louver Blades

Model: **SDL-20**

One set of louver blades parallel to long dimension and individually adjustable for any degree of deflection.

Model: **SDS-20**

Same as SDL-20 except louver blades parallel to short dimension.

Register - One Set of Louver Blades

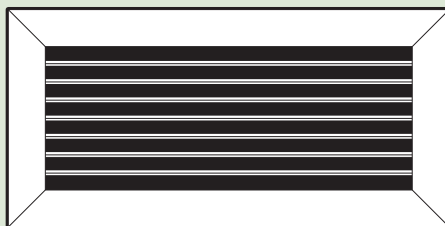
Model: **SDL-20/OBD**

One set of louver blades parallel to long dimension and individually adjustable for any degree of deflection. Opposed blade damper, screwdriver operated from face.

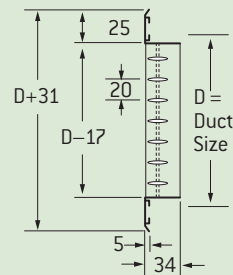
Model: **SDS-20/OBD**

Same as SDL-20/OBD except louver blades parallel to short dimension.

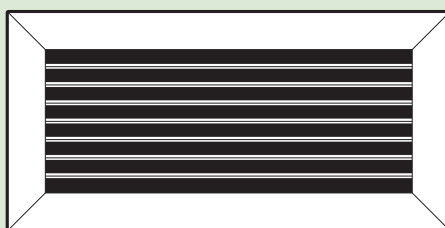
Face View, SDL20



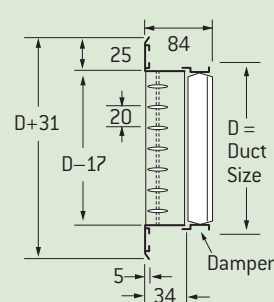
End View, SDL20



Face View, SDL20/OBD



End View, SDL20/OBD



All Aluminium. 32mm Airfoil Louvers

Grille - One Set of Louver Blades

Model: **SDL-32.**

One set of louver blades parallel to long dimension and individually adjustable for any degree of deflection.

Model: **SDS-32.**

Same as SDL-32 except louver blades parallel to short dimension.

Register - One Set of Louver Blades

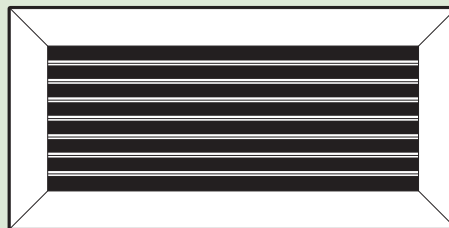
Model: **SDL-32/OBD.**

One set of louver blades parallel to long dimension and individually adjustable for any degree of deflection. Opposed blade damper, screwdriver operated from face.

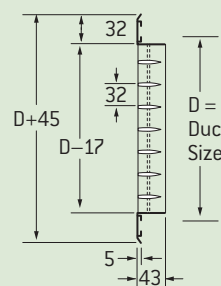
Model: **SDS-32/OBD.**

Same as SDL-32/OBD except louver blades parallel to short dimension.

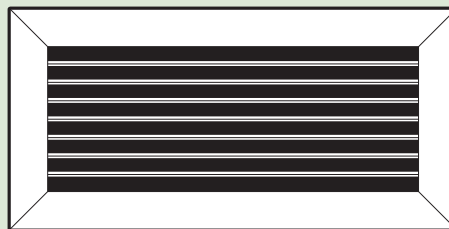
Face View, SDL32



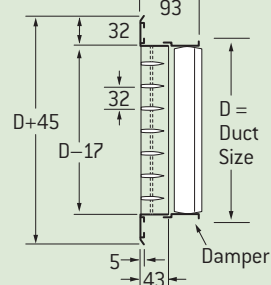
End View, SDL32



Face View, SDL32/OBD



End View, SDL32/OBD



SUPPLY PERFORMANCE DATA

See Notes and Tables on Page 202E.

Size W X H	Vel. m/s	Vel. Press (Pa)	Tot Press (Pa)	1.52	2.03	2.54	3.05	3.56	4.06	NC 20			NC 30			NC 40			
										5.08	6.10	7.11	8.13	9.14	5.08	6.10	7.11	8.13	9.14
185 x 100 145 x 125 Ac = 0.014m ²	0.020	0.028	0.035	0.042	0.050	0.057	0.071	0.085	0.099	0.113	0.127	0.153	0.186	0.222	0.255	0.288	0.337	0.41	
	NC	-	-	-	13	17	23	29	34	38	41	43	44	45	46	47	48	49	
	Throw	1.2-1.8-3.7	1.5-2.4-4.3	2.1-3.4-4.9	2.4-3.7-5.2	2.7-4.0-5.8	3.4-4.3-6.1	4.0-4.9-6.7	4.3-5.2-7.3	4.6-5.8-7.9	4.9-6.1-8.5	5.2-6.7-9.2	5.8-7.3-10.2	6.4-7.9-11.0	7.0-8.2-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6
	In	0.9-1.5-3.1	1.2-1.8-3.4	1.8-2.4-4.0	1.8-3.1-4.9	2.1-3.1-4.3	2.7-3.4-5.9	2.1-4.0-5.5	3.4-4.3-5.8	3.7-4.6-6.4	4.0-4.9-6.7	4.3-5.2-7.3	4.6-5.8-7.9	4.9-6.1-8.5	5.2-6.4-8.8	5.5-6.7-9.8	5.8-7.3-10.4	6.1-7.3-10.4	6.4-7.9-11.0
220 x 100 175 x 125 145 x 150 Ac = 0.017m ²	0.026	0.033	0.042	0.052	0.059	0.068	0.085	0.101	0.118	0.137	0.153	0.186	0.222	0.255	0.288	0.337	0.41	43	
	NC	-	-	10	15	19	25	31	36	40	43	44	45	46	47	48	49	50	
	Throw	1.2-2.1-4.0	1.8-2.4-4.6	2.1-3.4-5.2	2.7-4.0-5.8	3.1-4.6-6.1	3.4-4.9-6.7	4.0-5.8-8.2	4.3-5.2-7.3	4.6-5.8-7.9	4.9-6.1-8.5	5.2-6.4-8.8	5.8-7.3-10.2	6.4-7.9-11.0	7.0-8.2-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6
	In	0.9-1.8-3.1	1.5-1.8-3.7	1.8-2.7-4.3	2.1-3.1-4.3	2.4-3.7-4.9	2.7-4.0-5.5	3.4-4.3-5.8	3.7-4.6-6.4	4.0-4.9-6.7	4.3-5.2-7.3	4.6-5.8-7.9	4.9-6.1-8.5	5.2-6.4-8.8	5.5-6.7-9.8	5.8-7.3-10.4	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6
260 x 100 205 x 125 170 x 150 Ac = 0.020m ²	0.031	0.042	0.052	0.061	0.073	0.083	0.104	0.125	0.146	0.165	0.186	0.222	0.255	0.288	0.337	0.41	43	44	
	NC	-	-	10	16	20	26	32	37	41	44	45	46	47	48	49	50	51	
	Throw	1.2-2.1-4.3	2.1-3.1-5.2	2.4-3.7-5.8	3.1-4.9-7.0	3.7-5.2-7.3	4.3-5.8-7.9	5.2-6.4-8.8	5.8-7.3-10.2	6.4-7.9-11.0	7.0-8.2-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5	9.2-12.8-17.7	9.6-13.7-19.2	10.0-14.6-20.1
	In	0.9-1.8-3.4	1.8-2.4-4.3	1.8-3.1-4.6	2.1-3.7-5.2	2.7-4.5-5.0	4.0-4.6-6.7	4.3-5.2-7.0	4.6-5.5-7.9	4.9-6.1-9.2	5.2-6.4-8.8	5.5-6.7-9.8	5.8-7.3-10.4	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6	7.0-8.2-12.2	7.3-8.8-12.2	7.6-9.2-12.8
305 x 100 240 x 125 195 x 150 Ac = 0.024m ²	0.038	0.050	0.061	0.073	0.085	0.099	0.123	0.146	0.172	0.196	0.222	0.255	0.288	0.337	0.41	43	44	45	
	NC	-	-	11	16	20	26	32	37	41	44	45	46	47	48	49	50	51	
	Throw	1.5-2.4-4.9	2.1-3.4-5.8	2.7-4.0-6.4	3.1-4.9-7.0	3.7-5.2-7.3	4.3-5.8-7.9	5.2-6.4-8.8	5.8-7.3-10.2	6.4-7.9-11.0	7.0-8.2-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5	9.2-12.8-17.7	9.6-13.7-19.2	10.0-14.6-20.1
	In	1.2-1.8-4.0	1.8-3.1-4.6	2.1-3.1-5.2	2.4-4.0-5.5	3.1-4.3-5.8	3.4-4.6-6.4	4.3-5.2-7.0	4.6-5.5-7.9	4.9-6.1-8.5	5.2-6.4-8.8	5.5-6.7-9.8	5.8-7.3-10.4	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6	7.0-8.2-12.2	7.3-8.8-12.2	7.6-9.2-12.8
345 x 100 270 x 125 220 x 150 Ac = 0.024m ²	0.042	0.057	0.071	0.085	0.099	0.113	0.142	0.170	0.188	0.227	0.255	0.288	0.337	0.41	43	44	45	46	
	NC	-	-	11	16	20	26	32	37	41	44	45	46	47	48	49	50	51	
	Throw	1.5-2.7-5.2	2.4-3.4-6.1	2.7-4.3-6.7	3.4-5.2-7.3	4.0-5.8-7.9	4.6-6.1-8.5	5.5-7.0-9.5	6.1-7.6-10.4	6.7-8.2-11.3	7.3-8.8-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5	9.2-12.8-17.7	9.6-13.7-19.2	10.0-14.6-20.1
	In	1.2-2.1-4.3	1.8-2.7-4.9	2.1-3.4-5.5	2.7-4.3-5.8	3.1-4.6-6.4	3.7-4.9-6.7	4.3-5.5-7.6	4.9-6.1-8.2	5.5-6.7-9.2	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6	7.0-8.2-12.2	7.3-8.8-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6
380 x 100 295 x 125 240 x 150 Ac = 0.030m ²	0.047	0.064	0.080	0.097	0.113	0.127	0.161	0.194	0.224	0.257	0.288	0.337	0.41	43	44	45	46	47	
	NC	-	-	12	17	21	27	33	38	42	45	46	47	48	49	50	51	52	
	Throw	1.5-2.7-5.5	2.4-3.4-6.4	3.1-4.6-7.3	3.7-5.8-7.9	4.3-6.1-8.5	4.9-6.7-9.2	6.1-7.3-10.1	6.7-7.9-11.3	7.0-8.5-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5	9.2-12.8-17.7	9.6-13.7-19.2	10.0-14.6-20.1	10.4-15.5-21.6
	In	1.2-2.1-4.3	1.8-3.1-5.2	2.4-3.7-5.8	3.1-4.6-6.4	3.4-4.9-6.7	4.0-5.5-7.3	4.9-5.8-7.9	5.5-6.4-9.2	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6	7.0-8.2-12.2	7.3-8.8-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5
450 x 100 350 x 125 285 x 150 215 x 200 Ac = 0.036m ²	0.054	0.073	0.092	0.111	0.130	0.146	0.184	0.222	0.257	0.295	0.337	0.41	43	44	45	46	47	48	
	NC	-	-	13	18	22	28	34	39	43	46	47	48	49	50	51	52	53	
	Throw	1.8-2.7-5.7	2.7-4.0-7.0	3.4-4.9-7.6	4.0-5.8-8.5	4.6-6.7-9.2	5.2-7.0-9.8	6.4-7.9-11.0	7.0-8.2-12.2	7.6-9.2-12.8	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5	9.2-12.8-17.7	9.6-13.7-19.2	10.0-14.6-20.1	10.4-15.5-21.6	10.8-16.6-23.1	11.2-17.7-24.2
	In	1.5-2.1-4.6	2.1-3.1-5.5	2.7-4.0-6.1	3.1-4.6-6.7	3.7-5.5-7.3	4.3-5.5-7.9	5.2-6.4-8.8	5.5-6.7-9.8	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6	7.0-8.2-12.2	7.3-8.8-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5
215 x 200 Ac = 0.036m ²	0.09-1.5-3.1	1.2-1.8-3.4	1.5-2.4-4.0	2.1-3.1-4.3	2.4-3.4-4.6	2.7-3.7-4.9	3.4-4.0-5.5	3.7-4.3-6.1	4.0-4.9-6.7	4.3-5.2-7.3	4.6-5.8-7.9	4.9-6.1-8.5	5.2-6.4-8.8	5.5-6.7-9.8	5.8-7.3-10.4	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6	7.0-8.2-12.2
	NC	-	-	13	18	22	28	34	39	43	46	47	48	49	50	51	52	53	54
	Throw	1.8-2.7-5.7	2.7-4.0-7.0	3.4-4.9-7.6	4.0-5.8-8.5	4.6-6.7-9.2	5.2-7.0-9.8	6.4-7.9-11.0	7.0-8.2-12.2	7.6-9.2-12.8	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5	9.2-12.8-17.7	9.6-13.7-19.2	10.0-14.6-20.1	10.4-15.5-21.6	10.8-16.6-23.1	11.2-17.7-24.2
	In	1.5-2.1-4.6	2.1-3.1-5.5	2.7-4.0-6.1	3.1-4.6-6.7	3.7-5.5-7.3	4.3-5.5-7.9	5.2-6.4-8.8	5.5-6.7-9.8	6.1-7.3-10.4	6.4-7.9-11.0	6.7-8.5-11.6	7.0-8.2-12.2	7.3-8.8-12.2	7.6-9.2-12.8	7.9-9.8-13.7	8.2-10.1-13.7	8.5-10.7-14.6	8.8-11.6-15.5

Sidewall Supply Grilles

SUPPLY PERFORMANCE DATA

See Notes and Tables on Page 202E.

Size WXH	Vel. m/s	Vel. Press [Pa]	Tot Press [Pa]	NC 20					NC 30					NC 40										
				1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10	7.11	8.13	9.14	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10	7.11	8.13
535 x 100 415 x 125 340 x 150 250 x 200 Ac = 0.043m ²	0°	0.066	0.087	0.109	0.130	0.151	0.175	0.217	0.260	0.305	0.347	0.392	0.441	0.490	0.539	0.588	0.637	0.686	0.735	0.784	0.833	0.882	0.931	0.980
	22.5°	0.073	0.099	0.123	0.146	0.172	0.196	0.246	0.295	0.345	0.382	0.441	0.490	0.539	0.588	0.637	0.686	0.735	0.784	0.833	0.882	0.931	0.980	1.029
	45°	0.085	0.113	0.142	0.170	0.198	0.227	0.283	0.340	0.397	0.453	0.510	0.567	0.624	0.681	0.738	0.795	0.852	0.909	0.966	1.023	1.080	1.137	1.194
	Throw	0°	2.1-3.1-6.7	2.7-4.3-7.6	3.7-5.2-8.2	4.3-6.7-9.2	4.9-7.0-9.8	5.8-7.6-10.7	7.0-8.2-11.9	7.6-9.5-13.1	8.2-10.1-14.0	8.8-10.7-14.9	9.5-11.6-15.9	10.1-12.2-17.1	10.7-13.1-18.0	11.3-13.7-19.2	11.9-14.3-20.7	12.5-14.9-21.6	13.1-15.5-22.5	13.7-16.1-23.4	14.3-16.7-24.1	14.9-17.3-24.9	15.5-17.9-25.7	16.1-18.5-26.5
535 x 125 440 x 150 325 x 200 260 x 250 Ac = 0.056m ²	0°	0.085	0.113	0.142	0.170	0.198	0.227	0.283	0.340	0.397	0.453	0.510	0.567	0.624	0.681	0.738	0.795	0.852	0.909	0.966	1.023	1.080	1.137	1.194
	22.5°	0.097	0.130	0.163	0.196	0.229	0.260	0.326	0.392	0.456	0.519	0.585	0.648	0.711	0.774	0.837	0.900	0.963	1.026	1.089	1.152	1.215	1.278	1.341
	45°	0.113	0.153	0.191	0.229	0.267	0.307	0.382	0.458	0.534	0.614	0.689	0.764	0.839	0.914	0.989	1.064	1.139	1.214	1.289	1.364	1.439	1.514	1.589
	Throw	0°	2.4-4.0-7.9	3.7-5.2-9.2	4.6-6.7-10.4	5.5-7.9-11.3	6.4-8.8-12.2	7.3-9.5-13.1	8.5-10.4-14.3	9.2-11.6-15.9	10.1-12.2-17.1	10.7-13.1-18.3	11.3-13.7-19.2	11.9-14.3-20.7	12.5-14.9-21.6	13.1-15.5-22.5	13.7-16.1-23.4	14.3-16.7-24.1	14.9-17.3-24.9	15.5-17.9-25.7	16.1-18.5-26.5	16.7-19.1-27.3	17.3-20.7-28.1	17.9-20.7-29.5
650 x 150 475 x 200 380 x 250 315 x 300 Ac = 0.084m ²	0°	0.127	0.170	0.212	0.225	0.297	0.340	0.425	0.510	0.595	0.680	0.765	0.850	0.935	1.020	1.105	1.190	1.275	1.360	1.445	1.530	1.615	1.700	1.785
	22.5°	0.151	0.203	0.253	0.302	0.354	0.404	0.505	0.604	0.708	0.807	0.911	1.015	1.119	1.223	1.327	1.431	1.535	1.639	1.743	1.847	1.951	2.055	2.159
	45°	0.170	0.233	0.296	0.359	0.422	0.485	0.596	0.705	0.814	0.923	1.032	1.141	1.250	1.359	1.468	1.577	1.686	1.795	1.904	2.013	2.122	2.231	2.340
	Throw	0°	2.7-4.6-9.2	4.3-6.1-10.4	5.2-7.6-11.9	6.4-9.2-12.8	7.3-10.1-13.7	8.2-10.7-14.6	9.2-11.9-16.8	10.7-13.1-18.0	11.3-14.0-19.2	12.2-14.9-20.7	12.8-15.9-22.0	13.7-16.7-23.4	14.3-17.3-24.1	14.9-17.9-24.9	15.5-18.5-25.7	16.1-19.1-26.5	16.7-19.7-27.3	17.3-20.3-28.1	17.9-20.7-29.5	18.5-21.6-30.9	19.1-22.1-31.7	19.7-22.7-32.5
765 x 150 440 x 250 365 x 300 Ac = 0.099m ²	0°	0.151	0.203	0.253	0.302	0.354	0.404	0.505	0.604	0.708	0.807	0.911	1.015	1.119	1.223	1.327	1.431	1.535	1.639	1.743	1.847	1.951	2.055	2.159
	22.5°	0.170	0.233	0.296	0.359	0.422	0.485	0.596	0.705	0.814	0.923	1.032	1.141	1.250	1.359	1.468	1.577	1.686	1.795	1.904	2.013	2.122	2.231	2.340
	45°	0.185	0.258	0.321	0.384	0.447	0.510	0.621	0.730	0.839	0.948	1.057	1.166	1.275	1.384	1.493	1.602	1.711	1.820	1.929	2.038	2.147	2.256	2.365
	Throw	0°	3.1-4.9-9.8	4.6-6.7-11.6	5.5-8.5-12.8	6.7-10.1-14.0	7.6-11.0-14.9	8.8-11.6-16.2	10.7-13.1-18.0	11.6-14.0-19.1	12.5-15.3-21.0	13.1-16.2-22.6	14.0-17.4-24.1	14.9-18.5-26.5	15.5-19.1-27.3	16.1-20.3-28.1	16.7-20.7-29.5	17.3-21.6-30.9	17.9-21.6-31.7	18.5-22.1-32.5	19.1-22.7-33.3	19.7-23.3-34.1	20.3-24.1-34.9	20.9-24.9-35.7

SUPPLY PERFORMANCE DATA

See Notes and Tables on Page 202E.

Size	Vel. m/s	Vel. Press (Pa)	Tot Press (Pa)	m³/s	NC 20				NC 30				NC 40				9.14
					1.52	2.04	2.54	3.05	3.56	4.06	5.08	6.10	7.11	8.13			
620 x 200	0	0.168	0.222	0.279	0.335	0.390	0.446	0.557	0.670	0.779	0.892	1.000					
490 x 250	0	-	-	12	17	22	26	32	38	43	47	50					
345 x 350	0°	3.1-5.2-10.4	4.6-7.0-12.2	5.8-8.5-13.4	7.0-10.7-14.6	8.2-11.6-15.9	9.5-12.2-17.1	11.0-13.7-18.9	12.2-14.6-20.4	13.1-15.9-22.3	13.7-17.1-23.8	14.6-18.0-25.3					
Ac = 0.11 m²	22.5°	2.4-4.3-8.2	3.7-5.5-9.8	4.6-6.7-10.7	5.5-8.5-11.6	6.7-9.2-12.8	7.6-9.8-13.7	8.8-11.0-15.3	9.8-11.6-16.5	10.4-12.8-17.7	11.0-13.7-18.9	11.6-14.3-20.1					
	45°	1.5-2.4-5.2	2.4-3.4-6.1	3.1-4.3-6.7	3.7-5.2-7.3	4.0-5.8-7.9	4.6-6.1-8.5	5.5-6.7-9.5	6.1-7.3-10.4	6.4-7.9-11.0	7.0-8.5-11.9	7.3-9.2-12.5					
920 x 150	0	0.189	0.253	0.316	0.380	0.444	0.505	0.633	0.760	0.888	1.010	1.140					
670 x 200	0	-	-	13	18	23	27	33	39	44	48	51					
530 x 250	0°	3.4-5.5-11.0	4.9-7.3-12.8	6.1-9.2-14.3	7.3-11.3-15.6	8.5-12.2-17.1	9.8-13.1-18.0	11.9-14.3-19.8	12.8-15.9-22.0	13.7-17.1-23.8	14.6-18.3-25.3	15.6-19.2-27.2					
440 x 300	22.5°	2.7-4.3-8.8	4.0-5.8-10.4	4.9-7.3-11.6	5.8-9.2-12.5	6.7-9.8-13.7	7.9-10.4-14.3	9.5-11.6-15.9	10.4-12.8-17.7	11.0-13.7-18.9	11.6-14.6-20.1	12.5-15.3-21.7					
375 x 350	45°	1.8-2.7-5.5	2.4-3.7-6.4	3.1-4.6-7.0	3.7-5.5-7.6	4.3-6.1-8.5	4.9-6.4-8.8	5.8-7.0-10.1	6.4-7.9-11.0	7.0-8.5-11.9	7.3-9.2-12.9	7.9-9.8-13.4					
Ac = 0.12 m²	0	0.227	0.302	0.378	0.453	0.529	0.604	0.756	0.907	1.060	1.210	1.360					
620 x 250	0	-	-	13	18	23	27	33	39	44	48	51					
540 x 300	0°	4.0-6.1-12.2	5.5-7.9-14.0	6.7-9.8-15.6	8.2-11.9-17.1	9.5-13.1-18.3	10.7-14.0-19.5	12.8-15.6-22.0	14.0-17.1-24.1	14.9-18.6-25.9	16.2-19.8-27.8	17.1-21.0-29.6					
435 x 350	22.5°	3.1-4.9-9.8	4.3-6.4-11.3	5.5-7.9-12.5	6.7-9.5-13.7	7.6-10.4-14.6	8.5-11.3-15.6	10.4-12.5-17.7	11.3-13.7-19.2	11.9-14.9-20.7	12.8-15.9-22.3	13.7-16.8-23.8					
380 x 400	45°	1.8-3.1-6.1	2.7-4.0-7.0	3.4-4.9-7.6	4.0-6.1-8.5	4.6-6.7-9.2	5.2-7.0-9.8	6.4-7.9-11.0	7.0-8.5-11.9	7.6-9.2-13.1	7.9-9.8-14.0	8.5-10.7-14.6					
Ac = 0.14 m²	0	0.255	0.340	0.425	0.510	0.595	0.680	0.850	1.020	1.190	1.360	1.530					
705 x 250	0	-	-	14	19	24	28	34	40	45	49	52					
580 x 300	0°	4.0-6.4-12.8	5.8-8.5-14.6	7.3-10.7-16.8	8.8-13.1-18.0	9.8-14.0-19.2	11.3-14.9-20.7	13.7-16.8-23.2	14.6-18.3-25.6	15.9-19.8-27.5	17.1-21.0-29.6	18.3-22.3-31.4					
495 x 350	22.5°	3.1-5.2-10.4	4.6-6.7-11.6	5.8-8.5-13.4	7.0-10.4-14.3	7.9-11.3-15.3	9.2-11.9-16.5	11.0-13.4-18.6	11.6-14.6-20.4	12.8-15.9-22.0	13.7-16.8-23.8	14.6-17.7-25.0					
435 x 400	45°	2.1-3.4-6.4	2.7-4.3-7.3	3.7-5.2-8.2	4.3-6.4-8.8	4.9-7.0-9.8	5.8-7.3-10.4	6.7-8.2-11.6	7.3-9.2-11.8	7.9-9.8-13.7	8.5-10.7-14.6	9.2-11.3-15.6					
Ac = 0.16 m²	0	0.295	0.392	0.491	0.590	0.689	0.784	0.982	1.180	1.370	1.570	1.770					
875 x 250	0	-	-	14	19	24	28	34	40	45	49	52					
725 x 300	0°	4.3-7.0-13.7	6.1-9.2-15.9	7.9-11.6-17.7	9.2-13.4-19.2	10.7-14.9-20.7	12.2-16.2-22.3	14.6-18.0-25.0	15.9-19.5-27.5	17.1-21.0-29.6	18.3-22.9-31.7	19.5-24.1-33.6					
615 x 350	22.5°	3.4-5.5-11.0	4.9-7.3-12.8	6.4-9.2-14.0	7.3-10.7-15.3	8.5-11.9-16.5	9.8-12.8-17.7	11.6-14.3-20.1	12.8-15.6-21.7	14.0-17.1-23.8	14.9-18.6-25.9	15.9-19.8-27.5					
540 x 400	45°	2.1-3.4-7.0	3.1-4.6-7.9	4.0-5.8-8.8	4.6-6.7-9.8	5.2-7.6-10.4	6.1-11.0-11.3	7.3-8.8-12.5	7.9-9.8-13.7	8.5-10.7-14.9	9.8-11.6-16.7	10.1-12.8-17.1					
Ac = 0.20 m²	0	0.347	0.463	0.576	0.694	0.812	0.925	1.160	1.390	1.620	1.850	2.080					
795 x 300	0	-	-	15	20	25	29	35	41	46	50	53					
675 x 350	0°	4.6-7.6-14.9	6.7-10.1-17.4	8.2-12.2-18.9	9.8-14.6-20.7	11.6-16.5-22.6	13.1-17.4-24.4	15.9-19.5-27.2	17.4-21.4-29.6	18.6-23.2-32.3	19.8-24.7-34.5	21.4-26.5-36.6					
590 x 400	22.5°	3.7-6.1-11.9	5.5-7.9-14.0	6.7-9.8-15.3	7.9-11.6-16.5	9.2-13.1-18.0	10.4-14.0-19.5	12.8-15.6-21.7	14.0-17.1-23.8	14.9-18.6-25.9	15.9-19.8-27.5	17.1-21.4-29.3					
525 x 450	45°	2.1-3.7-7.3	3.4-4.9-8.5	4.3-6.1-9.5	4.9-7.3-10.4	5.8-8.2-11.3	6.7-8.5-12.2	7.9-9.8-13.7	8.5-10.7-14.9	9.8-11.6-16.7	10.1-12.8-17.1	10.7-13.1-18.3					
Ac = 0.22 m²	0	0.390	0.524	0.656	0.788	0.921	1.050	1.310	1.580	1.840	2.100	2.360					
900 x 300	0	-	-	16	21	26	30	36	42	47	51	54					
670 x 400	0°	4.9-7.9-15.9	7.0-10.4-18.3	8.8-12.8-20.4	10.7-15.3-22.2	12.2-17.4-24.1	13.7-18.6-25.9	16.8-20.7-29.0	20.1-22.9-31.7	19.8-24.7-34.2	21.4-26.5-37.2	22.6-28.4-39.0					
595 x 450	22.5°	4.0-6.4-12.8	5.5-8.2-14.6	7.0-10.4-16.5	8.5-12.2-17.7	9.8-14.0-19.2	11.0-14.9-20.7	13.4-16.5-23.2	14.6-18.3-25.3	15.9-19.8-27.5	17.1-21.4-29.9	18.0-22.6-31.1					
535 x 500	45°	2.4-4.0-7.9	3.7-5.2-9.2	4.3-6.4-10.1	5.2-7.6-11.3	6.1-8.5-12.2	7.0-9.2-12.8	8.5-10.4-14.3	9.2-11.3-15.9	10.1-12.2-17.1	10.7-13.1-18.6	11.3-14.0-19.5					
Ac = 0.25 m²	0	0.427	0.561	0.693	0.825	0.957	1.089	1.350	1.620	1.890	2.160	2.430					

Sidewall Supply Grilles

SUPPLY PERFORMANCE DATA

See Notes and Tables on Page 202E.

Size W X H	Vel. m/s	Vel. Press (Pa)	Tot Press (Pa)	1.52	2.03	2.54	NC 20			NC 30			NC 40			NC 50		
							3.05	3.56	4.06	5.08	6.10	7.11	8.13	9.14				
750 x 400		0.441	0.585	0.747	0.883	1.030	1.180	1.470	1.760	2.050	2.350	2.640						
665 x 450	NC	-	-	16	21	26	30	36	42	47	51	54						
595 x 500	Throw	0°	7.3-11.0-19.2	10.4-13.7-21.7	12.5-16.2-23.8	14.3-18.3-25.6	14.6-19.5-27.5	17.7-22.0-30.5	19.5-24.1-33.6	21.0-26.2-36.0	22.6-28.1-39.0	24.1-29.6-41.2						
540 x 550	in	22.5°	3.1-8.8-15.3	8.2-11.0-17.4	10.1-12.8-18.9	11.6-14.6-20.4	11.6-15.6-22.0	14.0-17.7-24.4	15.6-19.2-26.8	16.8-21.0-28.7	18.0-22.6-31.1	19.2-23.8-32.9						
Ac = 0.28m ²	m	45°	2.4-4.3-8.5	3.7-5.5-9.5	5.2-6.7-10.7	7.0-9.2-12.8	7.3-9.8-12.7	8.8-11.0-15.3	9.8-12.2-16.8	10.7-13.1-18.0	11.3-14.0-19.5	12.2-14.9-20.4						
880 x 400	m ³ /s	0.510	0.680	0.850	1.020	1.190	1.360	1.700	2.040	2.380	2.730	3.070						
780 x 450	NC	-	10	17	22	27	31	37	43	48	52	55						
700 x 500	Throw	0°	7.9-11.6-20.7	9.8-14.3-23.2	11.6-17.1-25.6	13.4-19.8-27.5	15.6-21.0-29.6	19.2-23.8-32.9	21.0-26.2-36.0	22.9-28.4-39.0	24.4-30.2-41.8	26.2-32.0-44.5						
585 x 600	in	22.5°	4.3-7.0-14.3	6.4-9.2-16.5	7.9-11.6-18.6	10.7-15.9-22.0	12.5-16.8-23.8	15.3-18.9-26.2	16.8-21.0-28.7	18.3-22.6-31.1	18.3-24.1-33.6	19.2-23.8-32.9						
Ac = 0.33m ²	m	45°	2.7-4.3-8.8	4.0-5.8-10.4	4.9-7.0-11.6	6.7-9.8-13.7	7.6-10.7-14.6	9.5-11.9-16.5	10.7-13.1-18.0	11.6-14.3-19.8	12.2-15.3-21.0	12.2-14.9-20.4						
920 x 450	m ³ /s	0.610	0.812	1.010	1.210	1.420	1.620	2.030	2.430	2.890	3.240	3.640						
825 x 500	NC	-	11	18	23	28	32	38	44	49	53	56						
750 x 550	Throw	0°	8.5-12.5-22.6	10.7-15.3-25.3	12.8-18.3-27.8	14.9-21.7-29.9	17.1-23.2-32.3	21.0-25.9-36.0	23.2-28.4-39.0	25.0-31.1-42.7	26.8-32.9-45.4	28.1-35.1-48.2						
660 x 650	in	22.5°	4.6-7.6-15.6	6.7-10.1-18.0	8.5-12.2-20.1	11.9-17.4-23.8	13.7-18.6-25.9	16.8-20.7-28.7	18.6-22.6-31.7	20.1-25.0-34.2	21.4-26.2-36.3	22.6-28.1-38.4						
Ac = 0.39m ²	m	45°	3.1-4.6-9.8	4.3-6.1-11.3	5.2-7.6-12.8	7.3-10.7-14.9	8.5-11.6-16.2	10.4-13.1-18.0	11.6-14.3-19.8	12.5-15.6-21.4	13.4-16.5-22.9	14.0-17.4-24.1						
885 x 500	m ³ /s	0.660	0.878	1.100	1.320	1.540	1.760	2.200	2.630	3.070	3.510	3.950						
740 x 600	NC	-	11	18	23	28	32	38	44	49	53	56						
660 x 650	Throw	0°	6.1-10.1-20.4	8.8-13.1-23.8	11.0-16.5-26.5	13.4-19.8-29.0	15.6-22.6-31.4	17.7-24.1-33.6	22.0-27.2-37.5	24.1-29.6-41.2	26.2-32.0-44.5	27.8-34.5-47.6						
585 x 600	in	22.5°	4.9-7.9-16.5	7.0-10.4-18.9	8.8-13.1-21.4	10.7-15.9-23.2	12.5-18.0-25.0	14.0-19.2-26.8	17.7-21.7-29.9	19.2-23.8-32.9	21.0-25.9-35.7	22.3-27.5-38.1						
Ac = 0.42 m ²	m	45°	3.1-4.9-10.1	4.6-6.7-11.9	5.5-8.2-13.1	6.7-9.8-14.6	7.6-11.3-15.9	8.8-12.2-16.8	11.0-13.4-18.6	11.9-14.9-20.4	13.1-15.9-22.3	14.0-17.1-23.8						
1195 x 450	m ³ /s	0.788	1.050	1.320	1.580	1.850	2.110	2.630	3.160	3.690	4.220	4.720						
895 x 600	NC	-	12	19	24	29	33	39	45	50	54	57						
660 x 650	Throw	0°	6.7-11.0-22.3	9.5-14.3-25.9	12.2-18.0-29.0	14.3-22.0-31.7	16.8-24.7-34.5	19.2-26.5-37.2	24.1-29.6-39.6	26.5-32.6-45.1	28.4-35.4-48.8	30.5-38.1-52.2						
585 x 600	in	22.5°	5.5-8.8-17.7	7.6-11.6-20.7	9.8-14.4-23.3	11.6-17.7-25.3	13.4-19.8-27.5	15.3-21.4-29.9	19.2-23.8-32.9	21.4-26.2-36.0	22.6-28.4-39.7	24.4-30.5-41.8						
Ac = 0.51m ²	m	45°	3.4-5.5-11.3	4.9-7.0-13.1	6.1-9.2-14.6	7.0-11.0-15.9	8.5-12.5-17.4	9.5-13.4-18.6	11.9-14.9-20.4	13.1-16.2-22.6	14.3-17.7-24.4	15.3-18.9-26.2						
1175 x 500	m ³ /s	0.888	1.180	1.470	1.770	2.070	2.360	2.950	3.540	4.130	4.720	5.290						
780 x 750	NC	-	13	20	25	30	34	40	46	51	55	58						
660 x 650	Throw	0°	7.0-11.3-23.8	10.1-14.9-27.5	12.8-18.9-30.5	15.3-22.9-31.4	17.7-26.2-36.3	20.4-28.4-39.0	25.6-31.7-43.6	28.1-34.5-47.6	29.9-37.5-51.5	32.3-40.3-54.9						
585 x 600	in	22.5°	5.5-9.2-18.9	7.9-11.9-22.0	10.4-15.3-24.4	12.2-18.3-25.0	14.0-21.0-29.0	16.5-22.6-31.1	20.4-25.3-34.8	22.6-27.5-38.1	23.8-29.9-41.2	25.9-32.0-42.7						
Ac = 0.56m ²	m	45°	3.7-5.8-11.9	5.2-7.6-13.7	6.4-9.5-15.3	8.8-13.1-18.3	10.4-14.0-19.5	12.8-15.9-22.0	14.0-17.4-23.8	14.9-18.6-25.9	16.2-20.1-29.3	17.1-21.4-29.3						

Sidewall Supply Grilles

SD, DD, TLC & MDD

Grille Description Code Examples and Suggested Specifications

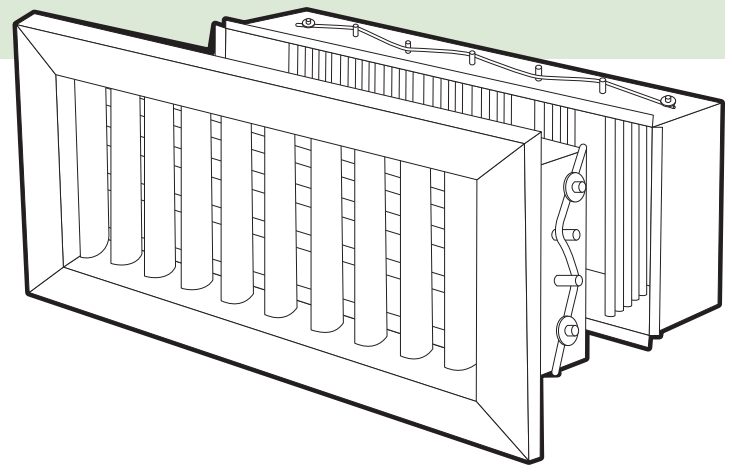
SD	L or S	20 or 32	RC	25	OBD-1	– W x H (DUCT)	FINISH
DD	L or S	20 or 32	RC	50			
TLC-SD	L	20	–	CMF			
TLC-DD	L	20	–				
MDD	–	20 or 32	RC (Screw)				

Single Deflection. Double Deflection. Curved Frame, Single Deflection. Curved Frame, Double Deflection. Modular Double Deflection.	Direction of Front Blades, (L - Parallel to long dimension, S - Parallel to short dimension).	Blade Spacing (mm).	Removable Core Frame*.	Optional Frame Styles.	Opposed Blade Damper.	Width x Height Dimensions.	Holyoake White. Mill Aluminium. Powder Coat.
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All Holyoake sidewall supply registers shall be of extruded aluminium construction, with true airfoil shaped single, or double deflection blades. Optional opposed blade volume control damper, which can be screw driver operated through the face of the grille. All shall be as manufactured by Holyoake.

* = See page 228E (For MDD, see page 210E).

Guide Product Weights	
Description	Approximate Weight in Kg.
MDD	SUBJECT TO CORE ELEMENTS
Contact your local Holyoake Branch	



Note
Where appropriate, seismic restraints may be required, but are not supplied.