

SD, DD & MDD – All Grilles & Registers

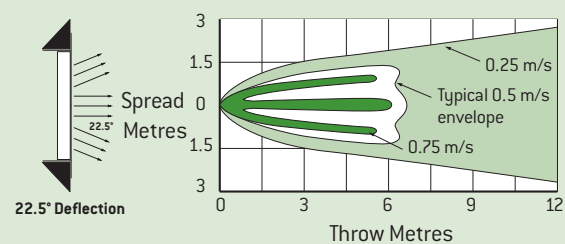
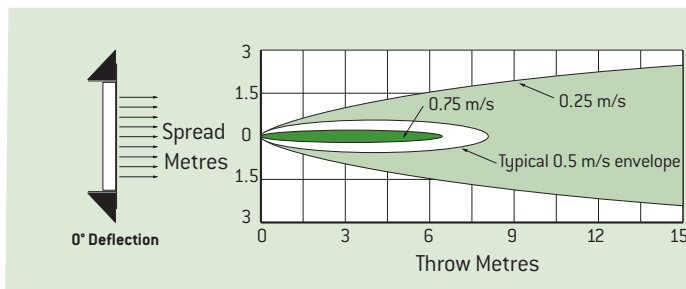
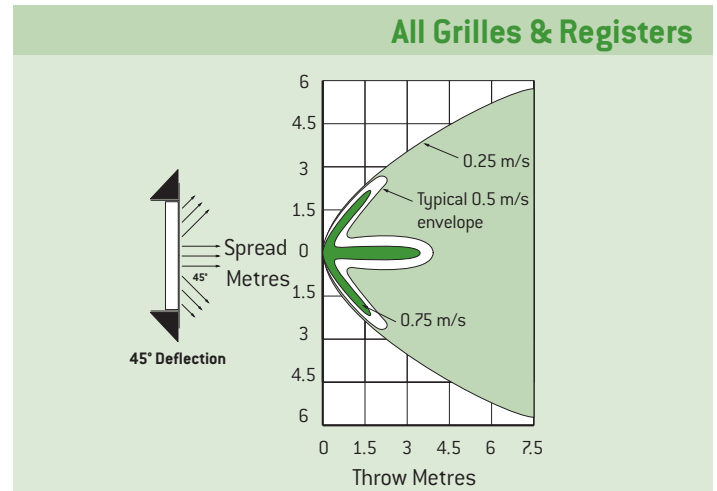
Horizontal Deflection (SPREAD)

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

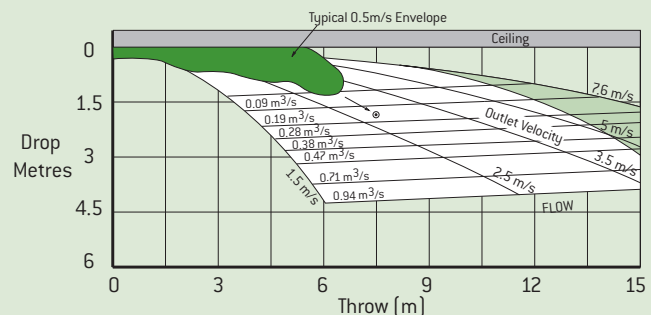
Ac = Core or Neck Area

Throw and Total Pressure = Corrections are Multipliers

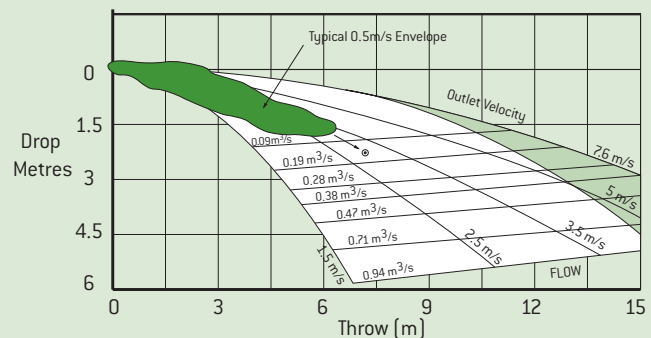
Variable Volume Applications

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

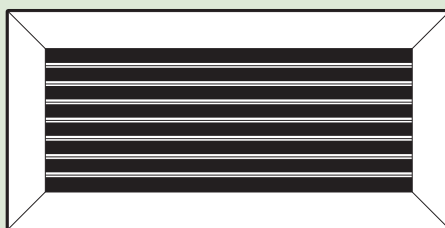
Model: **SDL-20/OBD**

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

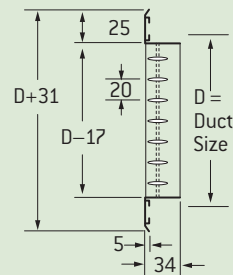
Model: **SDS-20/OBD**

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

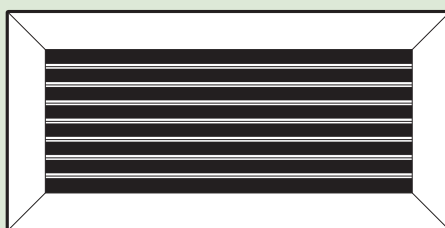
Face View, SDL20



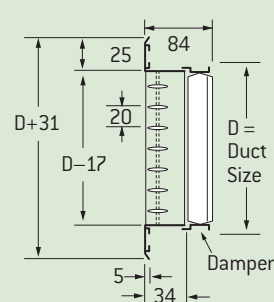
End View, SDL20



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.

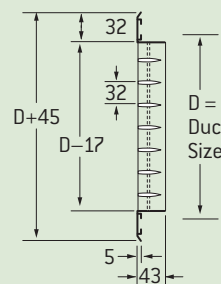
Model: **SDS-32/OBD.**

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

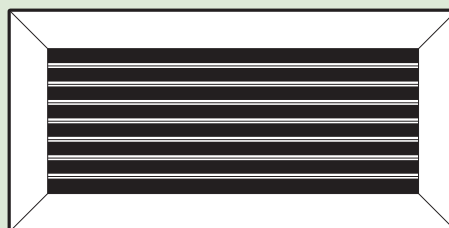
Face View, SDL32



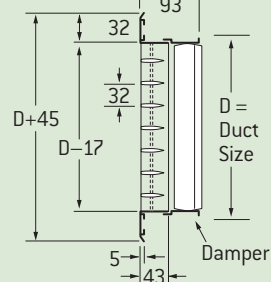
End View, SDL32



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)	m ³ /s	NC 20			NC 30			NC 40		
					1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10	7.11
175 x 100 150 x 125 Ac = 0.014m ²	2	0°	2	8	10	17	27	39	53	69	87	51	87
	3	22.5°	3	11	14	19	30	44	59	77	98	98	98
	4	45°	4	16	22	29	45	66	89	116	147	147	147
	NC			0.042	0.050	0.057	0.071	0.085	0.099	0.113	0.127	0.153	0.153
200 x 100 175 x 125 150 x 150 Ac = 0.017m ²	2	0°	2	13	17	27	39	53	69	87	107	107	107
	3	22.5°	3	14	19	30	44	59	77	98	121	121	121
	4	45°	4	22	29	45	66	89	116	147	181	181	181
	NC			0.052	0.059	0.068	0.085	0.101	0.118	0.137	0.153	0.186	0.186
250 x 100 200 x 125 175 x 150 Ac = 0.020m ²	2	0°	2	15	19	30	44	59	77	98	121	121	121
	3	22.5°	3	16	22	34	49	66	89	116	147	147	147
	4	45°	4	25	34	53	77	107	147	197	251	251	251
	NC			0.061	0.073	0.083	0.104	0.125	0.146	0.165	0.186	0.222	0.222
300 x 100 250 x 125 200 x 150 Ac = 0.024m ²	2	0°	2	16	20	32	49	70	98	133	171	171	171
	3	22.5°	3	17	24	38	56	81	111	147	197	197	197
	4	45°	4	26	38	61	91	133	197	281	371	371	371
	NC			0.073	0.085	0.099	0.123	0.146	0.172	0.196	0.222	0.255	0.255
350 x 100 Ac = 0.027m ²	2	0°	2	18	23	36	56	81	111	147	197	197	197
	3	22.5°	3	19	26	41	61	89	121	161	211	211	211
	4	45°	4	28	41	66	107	161	241	341	451	451	451
	NC			0.085	0.104	0.123	0.146	0.172	0.196	0.222	0.255	0.288	0.288
400 x 100 300 x 125 250 x 150 Ac = 0.030m ²	2	0°	2	20	26	41	61	89	121	161	211	211	211
	3	22.5°	3	21	29	45	66	98	133	181	241	241	241
	4	45°	4	32	49	77	116	171	251	351	461	461	461
	NC			0.097	0.113	0.127	0.153	0.186	0.222	0.255	0.288	0.337	0.337
450 x 100 350 x 125 300 x 150 200 x 200 Ac = 0.036m ²	2	0°	2	22	29	45	66	98	133	181	241	241	241
	3	22.5°	3	23	32	53	77	111	151	201	271	271	271
	4	45°	4	34	53	89	133	201	291	401	521	521	521
	NC			0.111	0.130	0.146	0.184	0.222	0.257	0.295	0.337	0.371	0.371

SUPPLY PERFORMANCE DATA

See Notes and Tables on Page 202E.

Size	Vel. Press [Pa]	Vel. m/s	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	
WXH	2	3	5	6	8	10	16	23	31	40	51			
	2	4	7	10	13	17	27	39	53	69	87			
	3	5	8	11	14	19	30	44	59	77	98			
	4	7	12	16	22	29	45	66	89	116	147			
500 x 100	0.066	0.087	0.109	0.130	0.151	0.175	0.217	0.260	0.305	0.347	0.392			
400 x 125	-	-	-	13	18	22	28	34	39	43	46			
350 x 150	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			
250 x 200	1.8-2.4-5.5	2.1-3.4-6.1	3.1-4.3-6.7	3.4-5.5-7.3	4.0-5.5-7.9	4.6-6.1-8.5	5.5-6.7-9.5	6.1-7.6-10.4	6.7-7.9-11.3	7.0-8.5-11.9	7.6-9.2-12.8			
Ac = 0.043m ²	0.9-1.5-3.4	1.5-2.1-3.7	1.8-2.7-4.3	2.1-3.4-4.6	2.4-3.4-4.9	3.1-4.0-5.2	3.4-4.3-6.1	3.7-4.6-6.4	4.3-5.2-7.0	4.3-5.5-7.3	4.6-5.8-7.9			
600 x 100	0.073	0.099	0.123	0.146	0.172	0.196	0.246	0.295	0.345	0.382	0.441			
450 x 125	-	-	-	14	19	23	29	35	40	44	47			
400 x 150	2.1-3.4-7.0	3.1-4.6-7.9	4.0-5.9-8.8	4.6-6.7-9.8	5.5-7.6-10.7	6.1-7.9-11.3	7.3-9.2-12.5	8.2-10.1-13.7	8.8-10.7-14.9	9.5-11.6-15.9	9.8-12.2-16.8			
Ac = 0.048m ²	1.8-2.7-5.5	2.4-3.7-6.4	3.1-4.6-7.0	3.7-5.5-7.9	4.3-6.1-8.5	4.9-6.4-9.2	5.8-7.3-10.1	6.7-7.9-11.0	7.0-8.5-11.9	7.6-9.2-12.8	7.9-9.8-13.4			
	0.9-1.5-3.4	1.5-2.1-4.0	1.8-2.7-4.6	2.4-3.4-4.9	2.7-3.7-5.2	3.1-4.0-5.5	3.7-4.6-6.4	4.0-4.9-7.0	4.3-5.5-7.3	4.6-5.8-7.9	4.9-6.1-8.5			
	0.085	0.113	0.142	0.170	0.198	0.227	0.283	0.340	0.397	0.453	0.510			
	-	-	10	15	20	24	30	36	41	45	48			
300 x 200	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	6.7-8.8-12.2	7.9-9.8-13.7	8.8-10.7-14.6	9.5-11.6-15.9	10.7-12.2-17.1	10.7-13.1-18.0			
250 x 250	1.8-3.1-5.8	2.7-4.0-6.7	3.4-4.9-7.6	4.0-5.8-8.2	4.6-6.7-9.2	5.5-7.0-9.8	6.4-7.9-11.0	7.0-8.5-11.6	7.6-9.2-12.8	7.9-9.8-13.7	8.5-10.4-14.3			
Ac = 0.056m ²	1.2-1.8-3.7	1.5-2.4-4.3	2.1-3.1-4.9	2.4-3.7-5.2	3.1-4.0-5.8	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	5.2-6.4-8.8			
600 x 125	0.097	0.130	0.163	0.196	0.229	0.260	0.326	0.392	0.456	0.519	0.585			
500 x 150	-	-	10	15	20	24	30	36	41	45	48			
350 x 200	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			
300 x 250	1.8-3.1-6.4	3.1-4.3-7.3	3.7-5.5-8.2	4.3-6.4-9.2	5.2-7.0-9.8	5.8-7.6-10.4	6.7-8.2-11.6	7.3-9.2-12.8	7.9-9.8-13.7	8.5-10.4-14.6	9.2-11.0-15.3			
Ac = 0.064m ²	1.2-1.8-4.0	1.8-2.7-4.6	2.1-3.4-5.2	2.7-4.0-5.5	3.1-4.3-6.1	3.7-4.6-6.4	4.3-5.2-7.3	4.6-5.8-7.9	4.9-6.1-8.5	5.5-6.7-9.2	5.8-7.0-9.5			
550 x 150	0.113	0.153	0.191	0.229	0.267	0.307	0.382	0.458	0.534	0.614	0.689			
400 x 200	-	-	11	16	21	25	31	37	42	46	49			
Ac = 0.069m ²	2.4-4.3-8.5	4.0-5.8-10.1	4.9-7.0-11.3	5.8-8.5-12.2	7.0-9.5-13.1	7.9-10.1-14.0	9.2-11.3-15.6	10.1-12.5-17.1	11.0-13.4-18.3	11.6-14.0-19.5	12.2-14.9-20.7			
	1.8-3.4-6.7	3.1-4.6-7.9	4.0-5.9-9.2	4.6-6.7-9.8	5.5-7.6-10.4	6.4-7.9-11.3	7.3-9.2-12.5	7.9-10.1-13.7	8.8-10.7-14.6	9.2-11.3-15.6	9.8-11.9-16.5			
	1.2-2.1-4.3	1.8-2.7-4.9	2.4-3.7-5.5	3.1-4.3-6.1	3.4-4.6-6.7	4.0-5.2-7.0	4.6-5.8-7.9	5.2-6.1-8.5	5.5-6.7-9.2	5.8-7.0-9.8	6.1-7.6-10.4			
	0.127	0.170	0.212	0.225	0.297	0.340	0.425	0.510	0.595	0.680	0.765			
650 x 150	-	-	11	16	21	25	31	37	42	46	49			
450 x 200	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			
400 x 250	2.1-3.7-7.3	3.4-4.9-8.2	4.3-6.1-9.5	5.2-7.3-10.4	5.8-7.9-11.0	6.7-8.5-11.6	7.9-9.5-13.4	8.5-10.4-14.3	9.2-11.3-15.3	9.8-11.9-16.5	10.4-12.8-17.7			
300 x 300	1.5-2.4-4.6	2.1-3.1-5.2	2.7-4.0-5.8	3.1-4.6-6.4	3.7-4.9-7.0	4.3-5.2-7.3	4.9-6.1-8.2	5.2-6.4-8.8	5.8-7.0-9.8	6.1-7.3-10.4	6.4-7.9-11.0			
Ac = 0.084m ²	0.151	0.203	0.253	0.302	0.354	0.404	0.505	0.604	0.708	0.807	0.911			
750 x 150	-	-	11	16	21	25	31	37	42	46	49			
450 x 250	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			
350 x 300	2.4-4.0-7.9	3.7-5.5-9.2	4.3-6.7-10.4	5.5-7.9-11.3	6.4-8.8-11.9	7.0-9.2-12.8	8.5-10.4-14.3	9.2-11.3-15.6	10.1-12.2-16.8	10.4-12.8-18.0	11.3-14.0-19.2			
Ac = 0.099m ²	1.5-2.4-4.9	2.1-3.4-5.8	2.7-4.3-6.4	3.4-5.2-7.0	4.0-5.5-7.6	4.3-5.8-7.9	5.2-6.4-8.8	5.8-7.0-9.8	6.1-7.6-10.7	6.7-8.2-11.3	7.0-8.5-12.2			

SUPPLY PERFORMANCE DATA

See Notes and Tables on Page 202E.

Size	Vel. m/s	Vel. Press (Pa)	Tot Press (Pa)	m ³ /s	NC 20				NC 30				NC 40				
					1.52	2.04	2.54	3.05	3.56	4.06	5.08	6.10	7.11	8.13	9.14		
600 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					
500 x 250	0	-	-	12	17	22	26	32	38	43	47	50					
350 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	13.7-17.1-23.81	14.6-18.0-25.3					
Ac = 0.11 m ²	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					
	NC 50	0.189	0.253	0.316	0.380	0.444	0.505	0.633	0.760	0.888	1.010	1.140					
900 x 150	0	-	-	13	18	23	27	33	39	44	48	51					
700 x 200	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					
500 x 300	0°	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					
450 x 300	22.5°	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					
400 x 350	45°	0.227	0.302	0.378	0.453	0.529	0.604	0.756	0.907	1.060	1.210	1.360					
Ac = 0.12 m ²	0°	-	-	13	18	23	27	33	39	44	48	51					
	22.5°	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					
	45°	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					
600 x 250	0°	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					
550 x 300	0°	0.255	0.340	0.425	0.510	0.595	0.680	0.850	1.020	1.190	1.360	1.530					
450 x 350	0°	-	-	14	19	24	28	34	40	45	49	52					
400 x 400	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					
Ac = 0.16 m ²	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					
	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					
	NC 50	0.295	0.392	0.491	0.590	0.689	0.784	0.982	1.180	1.370	1.570	1.770					
750 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					
900 x 250	0°	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					
500 x 400	22.5°	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					
600 x 350	45°	0.347	0.463	0.576	0.694	0.812	0.925	1.160	1.390	1.620	1.850	2.080					
Ac = 0.20 m ²	0°	-	-	15	20	25	29	35	41	46	50	53					
	22.5°	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					
	45°	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					
650 x 350	0°	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					
600 x 400	0°	0.390	0.524	0.656	0.788	0.921	1.050	1.310	1.580	1.840	2.100	2.360					
Ac = 0.22 m ²	22.5°	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					
	45°	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					
	NC 50	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°	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					
650 x 400	0°	-	-	16	21	26	30	36	42	47	51	54					
600 x 450	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					
550 x 500	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					
Ac = 0.25 m ²	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					
	NC 50	0.390	0.524	0.656	0.788	0.921	1.050	1.310	1.580	1.840	2.100	2.360					

SUPPLY PERFORMANCE DATA

See Notes and Tables on Page 202E.

Size W X H	Vel. m/s	Vel. Press (Pa)	Tot Press (Pa)	0° 22.5° 45°	NC 20					NC 30					NC 40					NC 50																		
					2.54	2.03	1.52	3.05	3.56	4.06	5.08	6.10	7.11	8.13	9.14	2.54	2.03	1.52	3.05	3.56	4.06	5.08	6.10	7.11	8.13	9.14	2.54	2.03	1.52	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																										
650 x 450	NC	-	-	16	21	26	30	36	42	47	51	54																										
600 x 500	Throw	0°	73-11.0-19.2	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																										
550 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																										
900 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																										
750 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																										
600 x 600	In	22.5°	4.3-7.0-14.3	6.4-9.2-16.5	7.9-11.6-18.6	9.2-13.7-20.4	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	19.2-23.8-32.9																										
Ac = 0.39m ²	m	45°	2.7-4.3-8.8	4.0-5.8-10.4	4.9-7.0-11.6	5.8-8.5-12.8	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																										
900 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																										
800 x 500	NC	-	11	18	23	28	32	38	44	49	53	56																										
700 x 550	Throw	0°	5.8-9.5-19.5	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																										
600 x 650	In	22.5°	4.6-7.6-15.6	6.7-10.1-18.0	8.5-12.2-20.1	10.4-14.6-22.3	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																										
Ac = 0.39m ²	m	45°	3.1-4.6-9.8	4.3-6.1-11.3	5.2-7.6-12.8	6.4-9.2-14.0	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	14.0-17.4-24.1																										
900 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																										
750 x 600	NC	-	11	18	23	28	32	38	44	49	53	56																										
700 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																										
600 x 750	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 = 0.42m 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																										
1200x 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																										
900 x 600	NC	-	12	19	24	29	33	39	45	50	54	57																										
750 x 750	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																										
600 x 850	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																										
1200 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																										
750 x 750	NC	-	13	20	25	30	34	40	46	51	55	58																										
600 x 950	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																										
550 x 1050	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	7.6-11.3-15.6	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																										

SD, DD, TLC & MDD

Grille Description Code Examples and Suggested Specifications

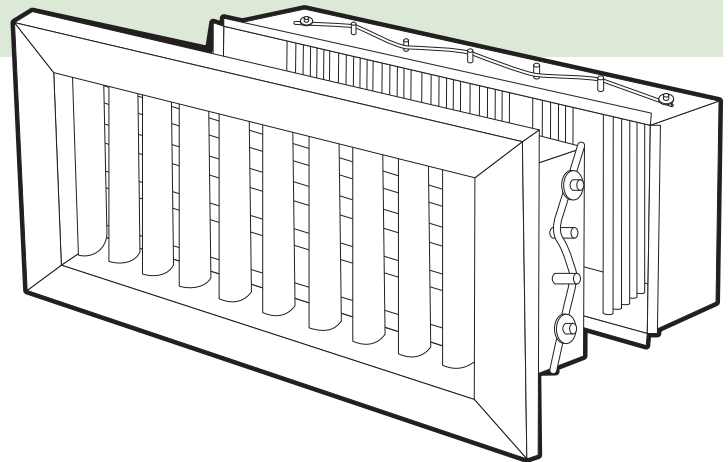
SD	L or S	20 or 32	RC	25	OBD-1	– W x H (DUCT)	FINISH
DD	L or S	20 or 32	RC	50			
TLC-SD	L	20	–	CMF			
TLC-DD	L	20	–				
MDD	–	20 or 32	RC (Screw)				

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.