SD, DD & MDD – All Grilles & Registers

Horizontal Deflection (SPREAD)

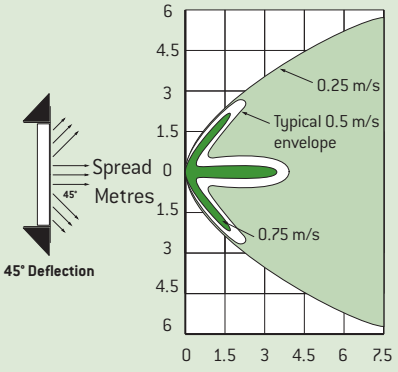
The accompanying diagrams are based on actual tests. They show the relationship of spread to throw for a typical high sidewall supply outlet selection.

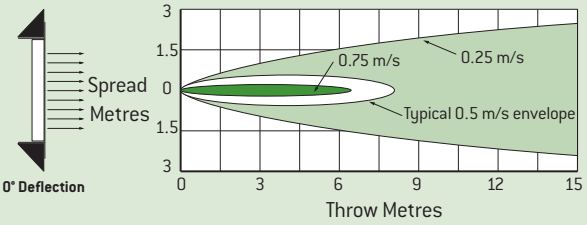
Notice that the outer Light Green shaded area represents the 0.25 m/s envelope, the White area the 0.5 m/s envelope and the Dark Green area the 0.75 m/s envelope.

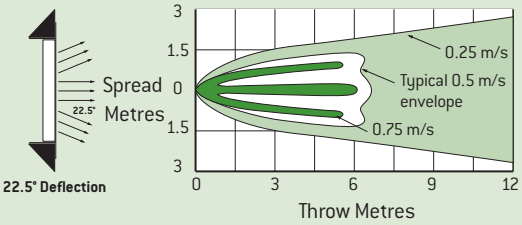
The angle of spread also affects the angle of drop of the air stream. For a given temperature, volume and core velocity, the wider the deflection the smaller the drop.

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.

All Grilles & Registers







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

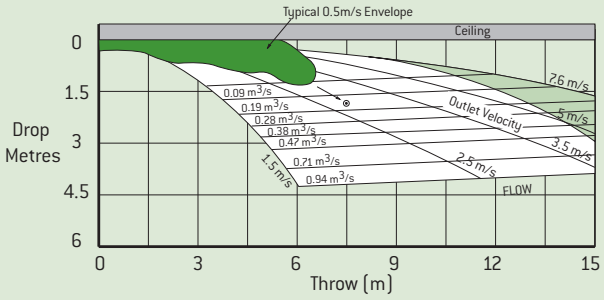
CORE STYLE	DAMPER	Ak/Ac	THROW	TOT. PRESS	NC	VEL.
SD - 20 & DD - 20	With Damper	0.78	1.00	1.00	0	1.00
	No Damper	0.83	0.97	0.88	-4	0.94
SD - 32 & DD - 32	With Damper	0.87	0.95	0.81	0	0.90
	No Damper	0.92	0.92	0.72	-5	0.85

Ak = Net Jet Area
Ac = Core or Neck Area
NC = Corrections are Adders
Throw and Total Pressure = Corrections are Multipliers

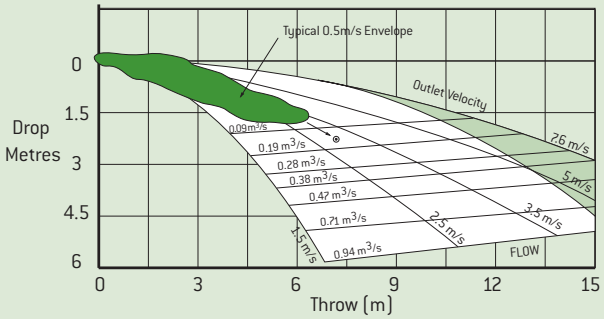
Variable Volume Applications

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 m^3/s and 3.0 m/s outlet velocity.
3. Drop and throw values are based upon:
   (a) Vt = 0.25 m/s.
   (b) Cooling $\Delta t = 12°K$. See corrections this page for other styles.
   (c) Core style DDL & SDL - 20.

Sidewall Supply Grilles

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**

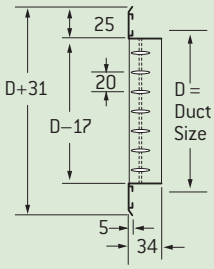
One set of louver blades parallel to long dimension and individually adjustable for any degree of deflection. Opposed blade damper, screwdriver operated from face.

Model: **SDS -20/OBD**

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

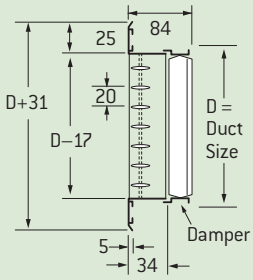
Face View, SDL20

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

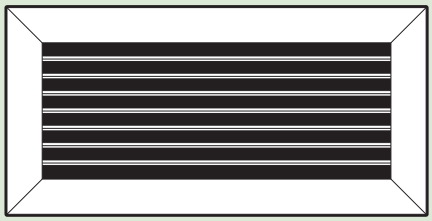
Model: **SDL-32/OBD.**

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

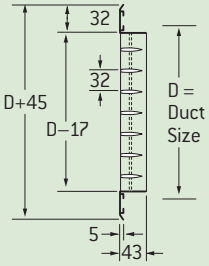
Model: **SDS-32/OBD.**

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

Face View, SDL32

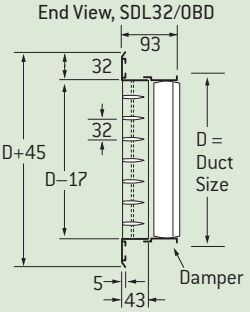


End View, SDL32



Face View, SDL32/OBD

End View, SDL32/OBD



SD, DD, TLC & MDD

Grille Description Code Examples and Suggested Specifications

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

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.

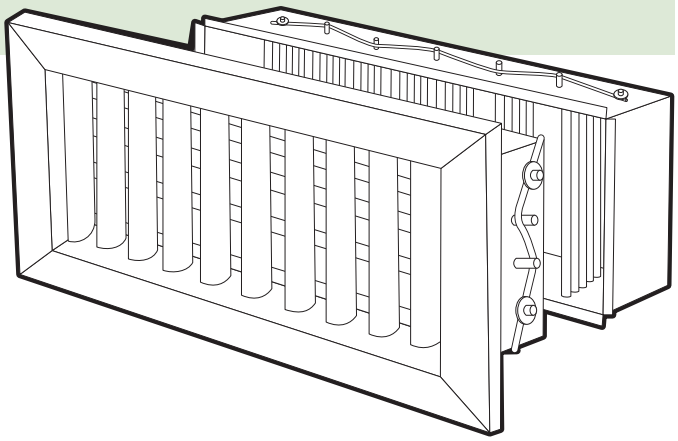
Opposed Blade Damper.

Width x Height Dimensions.

Holyoake White. Mill Aluminium. Powder Coat.

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.