

SD, DD & MDD – All Grilles & Registers

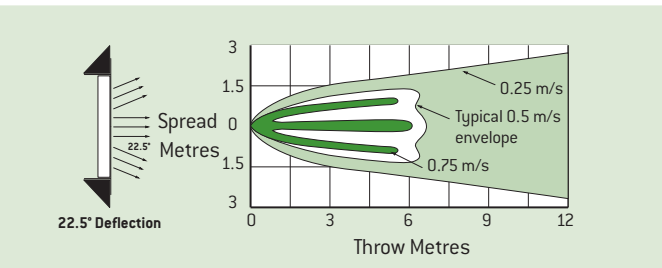
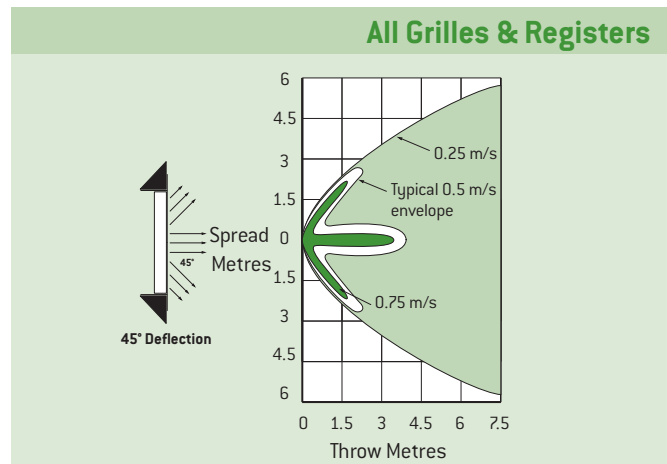
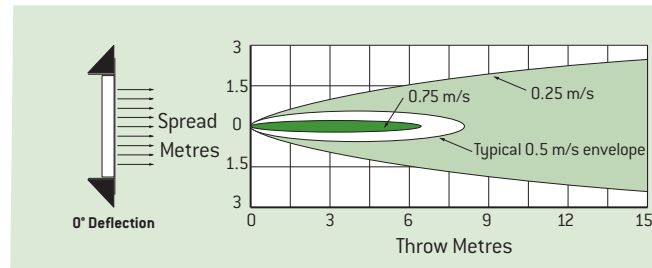
Horizontal Deflection (SPREAD)

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

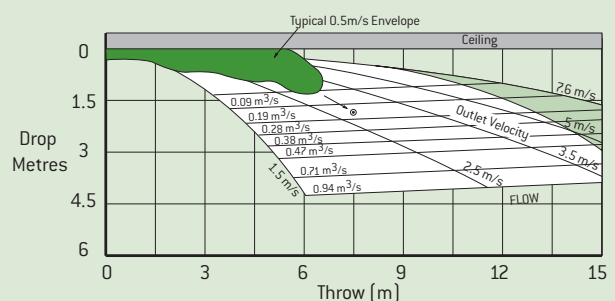
Ac = Core or Neck Area

Throw and Total Pressure = Corrections are Multipliers

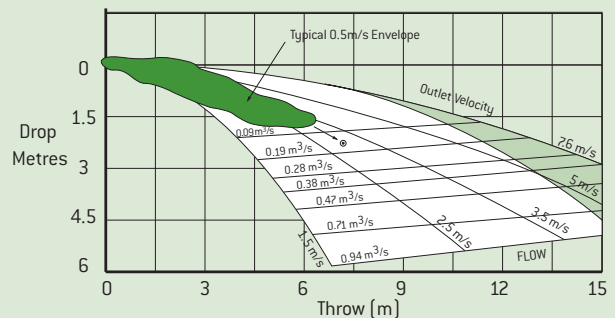
Variable Volume Applications

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 $\Delta t = 12^\circ\text{K}$. |
| (c) Core style DDL & SDL - 20. | See corrections this page for other styles. |

DD-20 & 32 – Supply Grilles & Registers

Grille - Two Sets of Louver Blades

Model: DDL-20

Two sets of louver blades. Front set parallel to long dimension. Rear set parallel to short dimension. All louver blades individually adjustable for any degree of deflection.

Model: DDS-20

Same as DDL-20 except front louver blades parallel to short dimension, rear parallel to long dimension.

Register - Two Sets of Louver Blades

Model: DDL-20/OBD

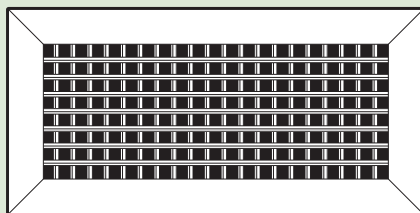
Two sets of louver blades. Front set parallel to long dimension. Rear set parallel to short dimension. All louver blades individually adjustable for any degree of deflection. Opposed blade damper, screwdriver operated from face.

Model: DDS-20/OBD

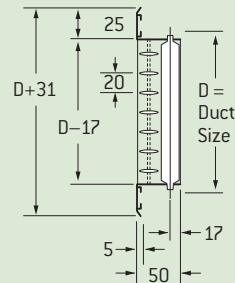
Same as DDL-20/OBD except front louver blades parallel to short dimension, rear parallel to long dimension.

All Aluminium. 20mm Airfoil Louvers

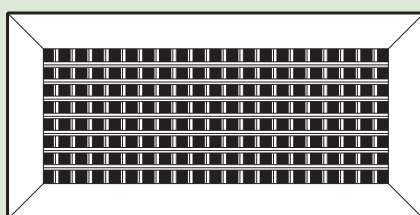
Face View, DDL20



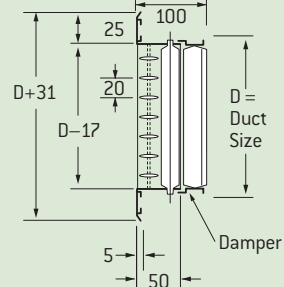
End View, DDL20



Face View, DDL20/OBD



End View, DDL20/OBD



All Aluminium. 32mm Airfoil Louvers

Grille - Two Sets of Louver Blades

Model: DDL-32

Two sets of louver blades. Front set parallel to long dimension. Rear set parallel to short dimension. All louver blades individually adjustable for any degree of deflection.

Model: DDS-32

Same as DDL-32 except front louver blades parallel to short dimension, rear parallel to long dimension.

Register - Two Sets of Louver Blades

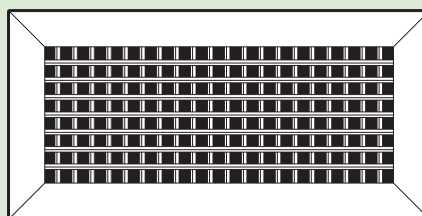
Model: DDL-32/OBD

Two sets of louver blades. Front set parallel to long dimension. Rear set parallel to short dimension. All louver blades individually adjustable for any degree of deflection. Opposed blade damper, screwdriver operated from face.

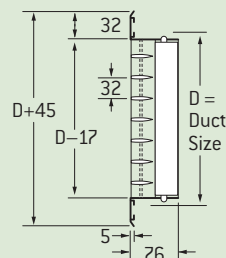
Model: DDS-32/OBD

Same as DDL-32/OBD except front louver blades parallel to short dimension, rear parallel to long dimension.

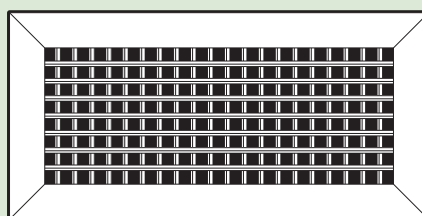
Face View, DDL32



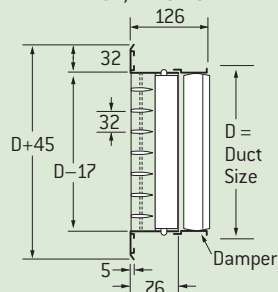
End View, DDL32



Face View, DDL32/OBD



End View, DDL32/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. |
| | SUBJECT TO CORE |
| MDD | ELEMENTS |
| Contact your local Holyoake Branch | |

Note

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

Sidewall Supply Grilles

212E

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