

# SD, DD & MDD – All Grilles & Registers

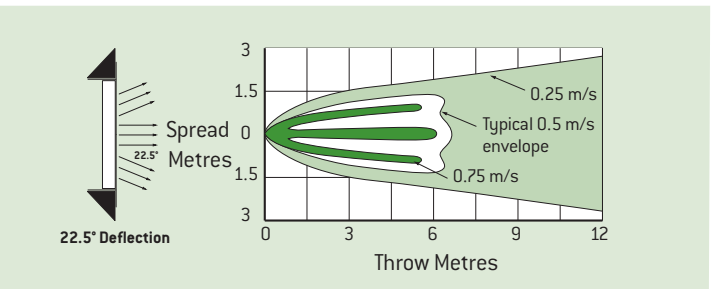
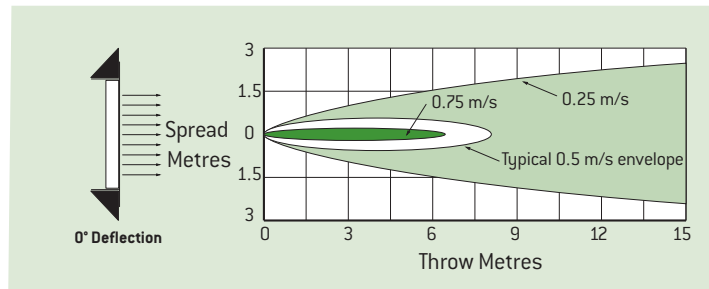
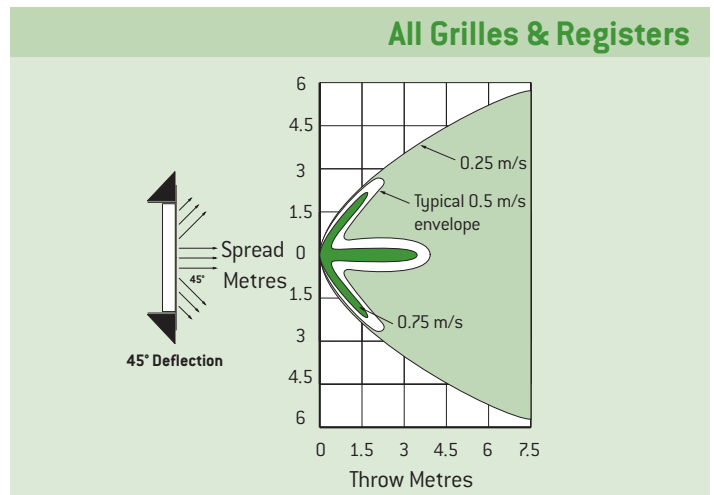
## Horizontal Deflection (SPREAD)

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.**

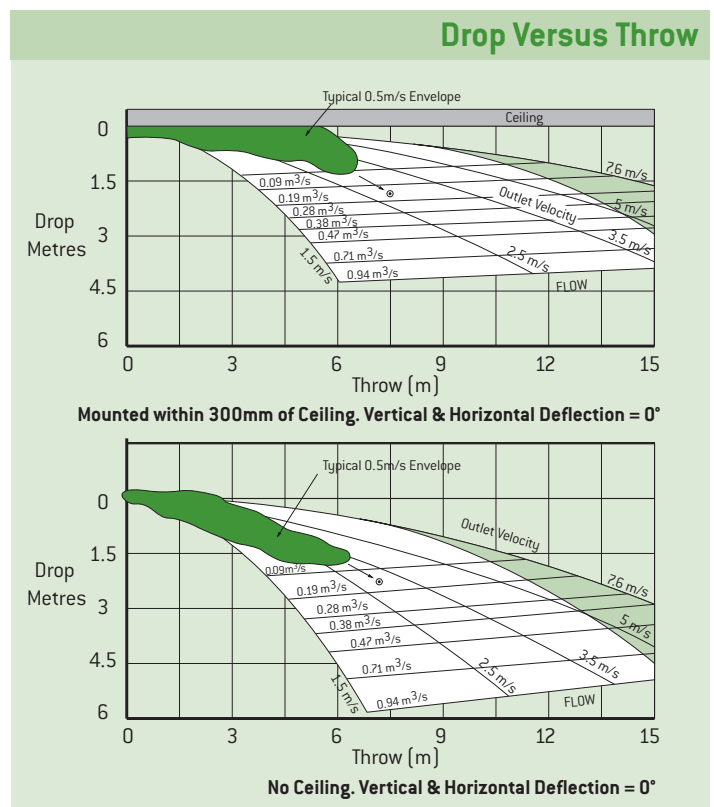
**The performance of other cores, with or without dampers, can be obtained from the correction table below.**

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.



## 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<sup>3</sup>/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.