

Sources

How should I define initial vertical and lateral dimensions for volume sources?

When a volume source is chosen, the initial dimensions of the volume source plume must be determined. The table below from ["Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised" \(EPA-454/R-92-019, October 1992\)](#) provides a summary of the Suggested Procedures for Estimating Initial Lateral Dimension (syo) and Initial Vertical Dimension (szo) for Single Volume Sources.

Description of Source	Initial Lateral Dimension	Initial Vertical Dimension
Surface based source ($h_e \sim 0$)	$s_{yo} = \text{side length} / 4.3$	$s_{zo} = \text{vertical dimension}$
Elevated source ($h_e > 0$) on or adjacent to building	$s_{yo} = \text{side length} / 4.3$	$s_{zo} = \text{building height} / 2$
Elevated source ($h_e > 0$) not on or adjacent to building	$s_{yo} = \text{side length} / 4.3$	$s_{zo} = \text{vertical dimension}$

Unique solution ID: #11020

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Last update: 2010-06-02 16:34