

ELEVATOR BUCKET VENTING GUIDE

Venting patterns, hole sizing, and application-specific recommendations for elevator bucket venting.

1. Why Vent Buckets?

As an elevator bucket passes through the boot, it displaces air. Without venting, this trapped air prevents complete filling — reducing capacity by up to 30%. Venting allows air to escape, enabling full bucket fill and smoother discharge.

2. Venting Decision Matrix

MATERIAL TYPE	BUCKET TYPE	VENTING	PATTERN
Fine powder	Continuous (LF/MF)	Required – high	9-hole or slotted
Granular	Continuous (MF/HF)	Required – medium	6-hole
Lumps / coarse	Centrifugal (AA)	Optional	3-hole or none
Sticky / wet	Any	Required	Slotted (prevents clog)
Hot material	HFO	Required	6-hole (also cools)

3. Standard Vent Patterns

3-Hole Pattern (Light Venting)

Holes	3 – evenly spaced across back wall
Diameter	3/16" (5mm)
Application	Coarse material, low-speed elevator
Capacity loss	Minimal (<2%)

6-Hole Pattern (Medium Venting)

Holes	6 – two rows of three, staggered
Diameter	3/16" – 1/4" (5-6mm)
Application	Granular material, standard speed
Capacity loss	Slight (2-3%)

9-Hole Pattern (Heavy Venting)

Holes	9 – three rows of three, staggered
Diameter	1/4" (6mm)

Application	Fine powder, high-speed elevator
Capacity loss	Moderate (3-5%) – offset by better fill

Slotted Pattern (Maximum Venting)

Slots	2-4 horizontal slots in back wall
Size	1/8" × 1/2" (3 × 13mm)
Application	Fine powder, sticky material, maximum air flow
Capacity loss	Moderate – but prevents clogging

4. Custom Venting

Custom vent patterns available for specialized applications. Common custom options include:

- Screen-covered vents (prevents fine material loss)
- Lip venting (V-notches at bucket lip corners)
- Side venting (holes in bucket sides rather than back)
- Variable hole sizes (larger holes near center, smaller at edges)

IMPORTANT

Vent holes should be drilled in the back wall **ONLY** — never in the bucket lip or sides, as this compromises structural integrity and dig efficiency.

NEED CUSTOM VENTING?

Uniking Canada supplies pre-vented buckets in any pattern.

info@unikingcanada.com