

# AGRICULTURAL BUCKET SPEED CHARTS

Speed and capacity reference charts for agricultural elevator bucket applications.

## AGRICULTURAL ELEVATOR BUCKET SPEED CHARTS

### 1. Optimal Speed by Bucket Size

| BUCKET SIZE | MIN SPEED (FT/MIN) | OPTIMAL SPEED (FT/MIN) | MAX SPEED (FT/MIN) |
|-------------|--------------------|------------------------|--------------------|
| 4×4         | 100                | 200 – 250              | 350                |
| 5×4         | 100                | 200 – 275              | 375                |
| 6×4         | 100                | 225 – 300              | 400                |
| 7×4         | 125                | 250 – 325              | 425                |
| 8×5         | 125                | 250 – 350              | 450                |
| 9×5         | 150                | 275 – 375              | 475                |
| 10×6        | 150                | 300 – 400              | 500                |
| 12×7        | 175                | 325 – 425              | 525                |
| 14×7        | 175                | 350 – 450              | 550                |
| 16×8        | 200                | 375 – 475              | 575                |

### 2. Capacity by Material (bushels/hour)

| BUCKET | SPACING (IN) | WHEAT | CORN  | SOYBEANS | OATS  | BARLEY |
|--------|--------------|-------|-------|----------|-------|--------|
| 5×4    | 8            | 850   | 950   | 780      | 580   | 720    |
| 6×4    | 9            | 1,100 | 1,200 | 1,000    | 750   | 920    |
| 7×4    | 10           | 1,400 | 1,550 | 1,280    | 950   | 1,170  |
| 8×5    | 11           | 1,900 | 2,100 | 1,750    | 1,300 | 1,600  |
| 9×5    | 12           | 2,400 | 2,650 | 2,200    | 1,650 | 2,030  |
| 10×6   | 13           | 3,100 | 3,400 | 2,850    | 2,120 | 2,620  |
| 12×7   | 15           | 4,500 | 4,950 | 4,150    | 3,100 | 3,820  |
| 14×7   | 16           | 5,800 | 6,400 | 5,350    | 3,990 | 4,930  |
| 16×8   | 18           | 7,200 | 7,950 | 6,640    | 4,950 | 6,120  |

Capacities based on 75% bucket fill factor. Actual capacity varies with material condition, moisture content, and elevator configuration.

3. Head Shaft RPM Calculation

Head shaft RPM = (Belt speed ft/min × 12) ÷ (π × Head pulley diameter in inches)

| HEAD PULLEY DIA. | RPM AT 200 FT/MIN | RPM AT 300 FT/MIN | RPM AT 400 FT/MIN |
|------------------|-------------------|-------------------|-------------------|
| 12 "             | 64                | 96                | 127               |
| 16 "             | 48                | 72                | 96                |
| 20 "             | 38                | 57                | 76                |
| 24 "             | 32                | 48                | 64                |
| 30 "             | 25                | 38                | 51                |
| 36 "             | 21                | 32                | 42                |

NEED SPEED CALCULATIONS?

Uniking Canada provides complete elevator sizing and speed calculations.

[info@unikingcanada.com](mailto:info@unikingcanada.com)