Bucket Elevator Capacity Formulas

Please follow our step by step instructions to make calculating bucket elevator capacity quick and easy! Should you have any troubles please don't hesitate to contact our sales staff at any time (877-326-4704).

Capacity of my bucket elevator in Bushels / Hr.

Bucket Capacity (cu.in @ WL)	x	Spacing Mulitplier	x	Number of Rows	x	FPM	x	Minutes in a Hour	÷	cu.in./bu.	=	bu./hr. @ WL	x	+10% Actual	=	bu./hr. Actual
_____	x	_____	x	_____	x	_____	x	60	÷	2,150	=	_____	x	1.10*	=	_____

*Low Profile buckets use +5% (1.05) in place of +10% (1.10) for accurate capacity!

Capacity of my bucket elevator in Cubic Feet / Hr.

Bucket Capacity (cu.in @ WL)	x	Spacing Mulitplier	x	Number of Rows	x	FPM	x	Minutes in a Hour	÷	cu.in./cu.ft.	=	cu.ft./hr. @ WL	x	+10% Actual	=	cu.ft../hr. Actual
_____	x	_____	x	_____	x	_____	x	60	÷	1,728	=	_____	x	1.10*	=	_____

*Low Profile buckets use +5% (1.05) in place of +10% (1.10) for accurate capacity!

Capacity of my bucket elevator in Short Tons / Hr. (Need to figure cubic feet / hr. at WL first before using this formula so you will need to consult the "Capacity of my bucket elevator in Cubic Feet / Hr. formula for the data.)

cu.ft./hr. @ WL	x	Product Weight (lbs. per cu.ft.)	÷	lbs./ton	=	tons/hr. @ WL	x	+10% Actual	=	tons/hr. Actual
_____	x	_____	÷	2,000	=	_____	x	1.10*	=	_____

*Low Profile buckets use +5% (1.05) in place of +10% (1.10) for accurate capacity!

Capacity of my bucket elevator in Metric Tons / Hr. (Need to figure cubic feet / hr. at WL first before using this formula so you will need to consult the "Capacity of my bucket elevator in Cubic Feet / Hr. formula for the data.)

cu.ft./hr. @ WL	x	Product Weight (lbs. per cu.ft.)	÷	lbs./metric ton	=	metric tons/hr. @ WL	x	+10% Actual	=	metric tons/hr. Actual
_____	x	_____	÷	2,204.62	=	_____	x	1.10*	=	_____

*Low Profile buckets use +5% (1.05) in place of +10% (1.10) for accurate capacity!

The above formulas will help calculate bucket elevator capacity. However, should assistance be needed to help fill in some blanks T.O.P.S. Inc. has provided a couple formulas for the most common questions.

1) What is my spacing multiplier?

ANSWER

12 ÷ Belt or Chain Vertical Centers in Inches = Spacing Multiplier

12 ÷ _____ = _____

2) How do I calculate my belt or chain Feet per Minute (FPM)?

ANSWER

3.1416 (π) × Head Pulley Diameter × RPM (Head Shaft) ÷ 12 (in./ft.) = FPM

3.1416 (π) × _____ × _____ ÷ 12 (in./ft.) = _____

Basic Conversion Formulas:

Bushels:	Divide by 2,150 to convert to bushels.
Cubic Feet:	Divide by 1,728 to convert to cubic feet.
Short Tons:	Multiply cubic feet capacity x weight of product per cubic foot and divide by 2,000.
Metric Tons:	Multiply cubic feet capacity x weight of product per cubic foot and divide by 2,204.62.

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