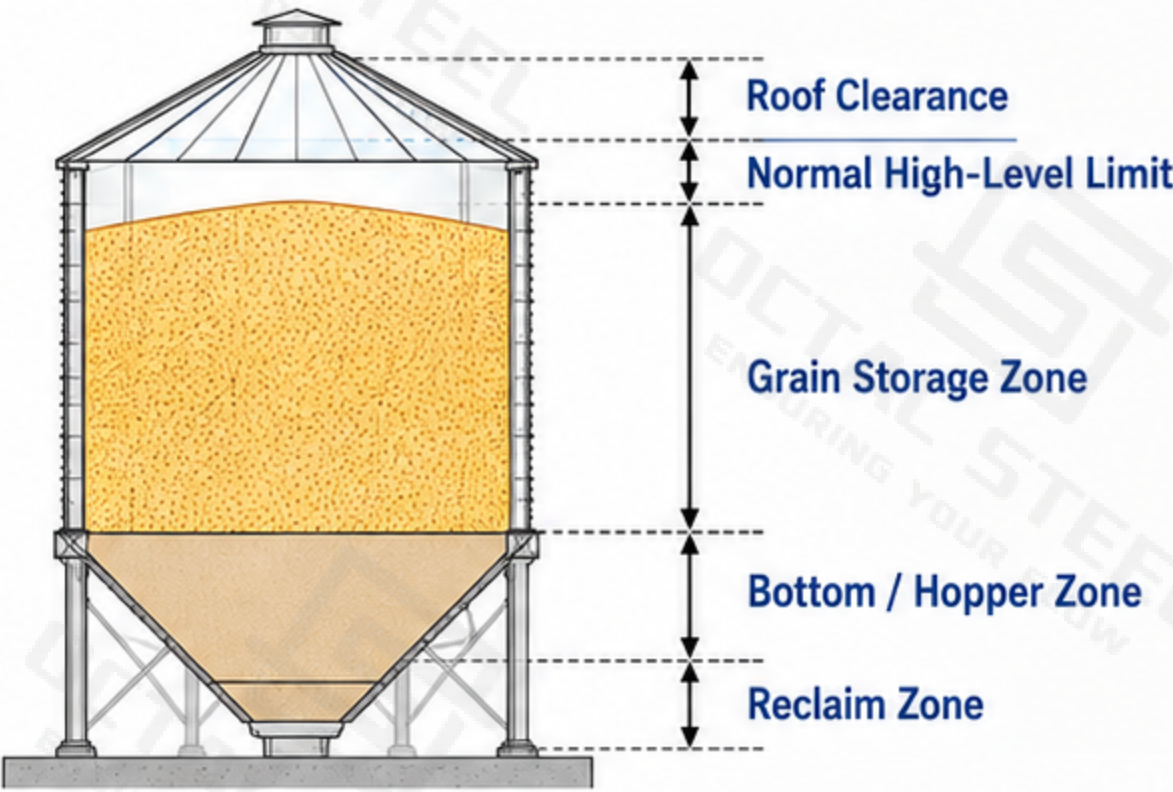


Grain Silo Capacity Calculation and Project Selection Guide

Capacity Calculation Basis

STORED GRAIN MASS

Usable Storage Volume × Confirmed Grain Bulk Density



Capacity Factors

Capacity Item	Engineering Meaning
Geometric Volume	Total calculated internal volume
Usable Storage Volume	Volume available for normal working inventory
Grain Bulk Density	Converts storage volume into stored mass
Roof Clearance	Space not used for normal grain inventory
Bottom / Reclaim Volume	Depends on hopper or flat-floor arrangement
Residual Grain	Material remaining after normal unloading

Reference Density Basis



STANDARD CATALOG REFERENCE

0.75 t/m³

Reference bulk density used for most listed capacity values.



REFERENCED 60° HOPPER SERIES

0.50 t/m³

Separate reference basis for the specified 60° hopper series.



Catalog capacity values explain the reference calculation basis. Final working capacity still requires confirmation of the actual grain, filling level and operating reserve.

Grain Silo Capacity Calculation and Project Selection Guide

Capacity Calculation Examples

1 Example 1 100 T Series



Geometric Volume: **150 m³**



Reference Bulk Density: **0.75 t/m³**



Calculated Mass:
 $150 \times 0.75 = \mathbf{112.5 \text{ t}}$



Catalog Reference Capacity:
112 t

2 Example 2 1,000 T Series



Geometric Volume: **1,468 m³**



Reference Bulk Density: **0.75 t/m³**



Calculated Mass:
 $1,468 \times 0.75 = \mathbf{1,101 \text{ t}}$



Catalog Reference Capacity:
1,101 t

3 Example 3 5,000 T Series



Geometric Volume: **7,082 m³**



Reference Bulk Density: **0.75 t/m³**



Calculated Mass:
 $7,082 \times 0.75 = \mathbf{5,311.5 \text{ t}}$



Catalog Reference Capacity:
5,311 t



These examples explain the catalog capacity basis. Project working capacity still requires confirmation of the actual grain, filling level and operating reserve.

Grain Silo Capacity Calculation and Project Selection Guide

Project Inputs Before Final Silo Selection

Final silo selection cannot be based on nominal tonnage alone. Actual grain properties, required working inventory and project conditions determine the final silo configuration, size, structure, conveying route, aeration system, unloading equipment and foundation arrangement.

Project Inputs

Project Input	Required Information	Design Effect
Stored Grain	Wheat, corn, rice, soybean or confirmed grain	Capacity, flow and aeration
Required Working Inventory	Required tonnes per silo	Diameter, height and silo quantity
Bulk Density	Project-confirmed value	Stored mass and structural load
Incoming Moisture / Temperature	Condition at storage entry	Drying, aeration and monitoring
Storage Duration	Expected residence time	Grain-condition control
Filling Rate	t/h	Elevator and conveyor duty
Unloading Rate	t/h	Outlet and reclaim duty
Site Conditions	Wind, seismic, snow, space	Structural and layout design
Foundation Conditions	Soil and civil constraints	Base and anchor arrangement



Final selection requires the storage structure, conveying route, aeration system, unloading equipment and foundation to be evaluated as one grain silo system.