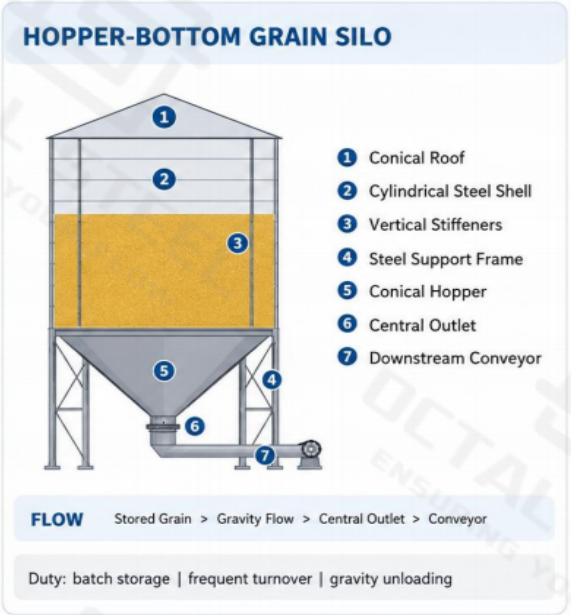
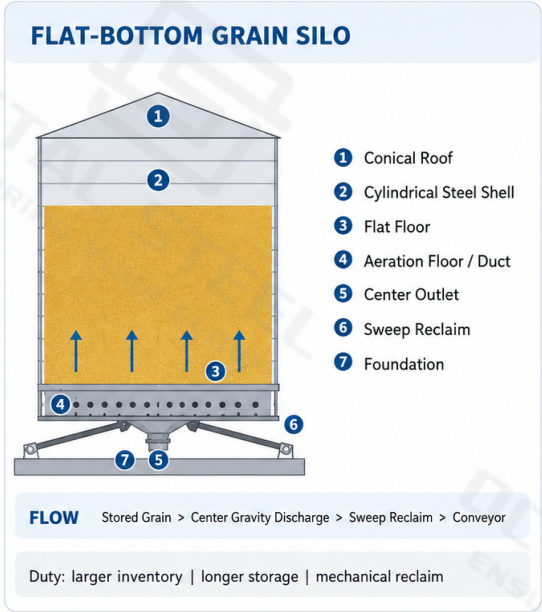
Grain Silo Size, Capacity and Configuration Guide

Configuration and Size Range





Configuration Comparison

Configuration	Unloading Method	Storage Duty	Main Design Control
45° Hopper Bottom	Gravity through central outlet	Batch storage and frequent turnover	Grain flow, outlet size and feeder interface
60° Hopper Bottom	Gravity through steeper hopper	Material requiring steeper flow surface	Hopper geometry, outlet clearance and support frame
Flat Bottom	Gravity discharge + mechanical reclaim	Larger or longer-term storage	Foundation, aeration floor and reclaim coverage

DESIGN NOTE Bottom configuration affects unloading method, silo height, foundation arrangement, aeration layout and conveyor elevation.

Representative Grain Silo Size and Capacity Range

Reference series combine nominal capacity, principal dimensions and geometric volume for preliminary project screening.

Nominal Series	Silo Diameter	Total Silo Height	Cylindrical Shell Height	Geometric Volume	Catalog Maximum Capacity
100 T	4.50 m	12.53 m	7.91 m	150 m³	112 t
300 T	6.417 m	17.33 m	11.27 m	418 m³	313 t
500 T	8.25 m	18.87 m	11.27 m	718 m³	538 t
1,000 T	10.084 m	24.73 m	15.75 m	1,468 m³	1,101 t
1,500 T	11.90 m	27.27 m	16.87 m	2,231 m³	1,673 t
2,000 T	13.75 m	20.87 m	16.87 m	2,701 m³	2,026 t
3,000 T	16.50 m	22.50 m	17.99 m	4,186 m³	3,139 t
5,000 T	20.10 m	25.74 m	20.23 m	7,082 m³	5,311 t
10,000 T	27.50 m	29.98 m	22.47 m	14,918 m³	11,189 t
15,000 T	32.085 m	31.23 m	22.47 m	20,662 m³	15,496 t

DIAMETER

Controls site footprint, grain depth and roof / conveyor arrangement.

HEIGHT

Affects elevator discharge elevation, structural loading and access arrangement.

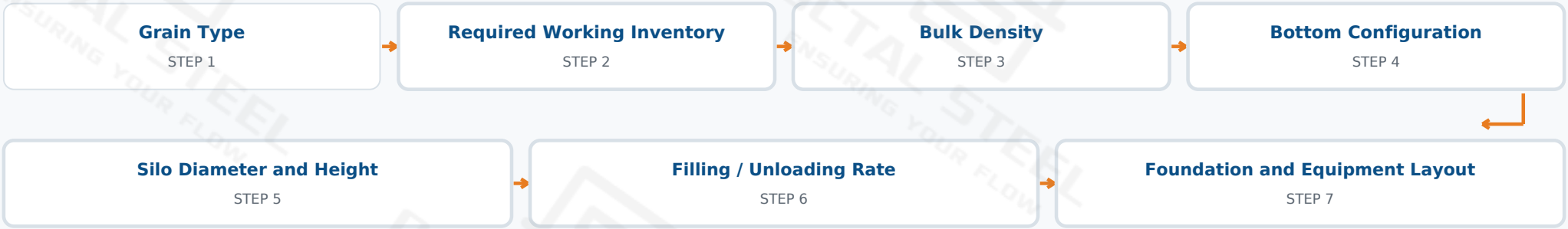
STORAGE VOLUME

Converted into stored mass using the confirmed grain bulk density.

REFERENCE BASIS Nominal series are preliminary selection references. Final stored mass depends on the confirmed grain, bulk density and operating filling level.

Selection Boundary and Project Inputs

Preliminary Selection Sequence



Selection Inputs

Input	What It Controls
Grain Type and Bulk Density	Capacity and stored-grain load
Working Capacity	Preliminary silo size
Storage Duration	Aeration and monitoring requirement
Filling Rate	Elevator, conveyor and roof inlet duty
Unloading Rate	Outlet and reclaim-system duty
Site Conditions	Diameter, height and silo-group arrangement
Foundation Conditions	Base, anchors and civil layout

SELECTION PRINCIPLE **A grain silo should be selected from the required working inventory and actual stored-grain properties rather than from nominal tonnage alone.**