PRODUCT DATASHEET

Cement Silo Engineering Datasheet

Complete technical specifications for Manxing cement silos: dimensions, capacities, materials, discharge systems, and options.

Doc. No.	Version	Issued	Category	Website
MX-DS-001	Rev 1.0	October 2026	Product Datasheets	www.manxingstorage.com

1. Overview

Manxing cement silos are engineered for the storage and dispatch of finished cement in cement plants, grinding stations, terminal warehouses and concrete mixing plants. Capacities range from 50 t to 3,000 t in bolted (panel) or welded construction, with aeration discharge, dust-tight detailing and long-life protective coating.

- Capacities from 50 t to 3,000 t; customized designs for larger units
- Bolted enamel/coated panels or welded steel plate construction
- Aeration floor, cone and flat-bottom discharge options
- Integrated level, temperature, pressure and overload monitoring
- Designed and certified under ISO 9001, with TUV and SGS audited manufacturing
- Engineered for wind, snow and seismic loads per project site

2. Model Range and Principal Dimensions

Dimensions below are indicative and based on a cement bulk density of 1.3-1.5 t/m3. Final geometry is confirmed by Manxing engineering for each project.

Model	Capacity (t)	Silo Dia. (m)	Wall Height (m)	Construction	Discharge
MX-CS-50	50	3.0	7.5	Bolted	Cone + rotary valve
MX-CS-80	80	3.5	9.0	Bolted	Cone + rotary valve
MX-CS-100	100	4.0	10.0	Bolted	Cone + rotary valve
MX-CS-150	150	4.6	11.5	Bolted	Cone + rotary valve
MX-CS-200	200	5.2	12.5	Bolted	Cone + rotary valve
MX-CS-300	300	6.0	14.0	Bolted	Cone + aeration
MX-CS-500	500	7.2	15.5	Bolted / Welded	Cone + aeration
MX-CS-800	800	8.5	17.0	Welded	Flat + aeration
MX-CS-1000	1,000	9.5	18.0	Welded	Flat + aeration
MX-CS-2000	2,000	12.0	21.0	Welded	Flat + aeration
MX-CS-3000	3,000	14.0	23.0	Welded	Flat + aeration

3. Construction and Materials

Component	Material / Specification
Shell plate	Q235B / Q355B carbon steel; corrugated (bolted) or flat plate (welded); thickness 3-8 mm
Cone / bottom	Steel cone 45-60 deg, or flat bottom with aeration floor; wear plate at outlet
Support structure	Welded steel legs with anchor bolts; skirt or column support per design
Bolted panels	Hot-dip galvanized or powder-coated steel panels with EPDM/PVC sealing strips
Roof	Flat or conical roof with manhole, pressure/vacuum relief valve and dust collector nozzle
Access	External spiral or straight ladder, platforms with 1.1 m guardrail, safety cage
Coating	Epoxy primer + polyurethane topcoat, RAL 7035 (custom colors available); internal optional lining

4. Discharge and Aeration Systems

System	Description	Typical Application
Aeration floor + rotary feed valve	Porous ceramic/sintered aeration pads fluidize cement; rotary valve meters discharge	Bolted and welded silos 100-3,000 t
Gravity cone + metering	Free-flowing cement discharged by gravity through cone and rotary valve, no air supply	Small bolted silos 50-150 t
Central cone + multiple outlets	Central draw-off cone with two or more outlets for even extraction	Large welded silos and stockyards
Fluidization air supply	Roots blower with dryer and pressure regulator; air consumption approx. 1.5-2.5 m3/min per m2 of aeration floor	All aerated silos
Load-cell weighing	Load cells under legs/skirt for inventory and batching control	Grinding stations and batching plants

5. Options and Accessories

- Level measurement: radar, ultrasonic, guided-wave or load-cell weighing
- Continuous level and temperature monitoring (top / middle / bottom zones)
- Pulse-jet dust collector, filtration efficiency 99.9%, emission below 20 mg/Nm3
- Pressure and vacuum relief valves with flame arrester option
- Overfill and high-level protection with alarm interlock
- Thermal insulation and heating skirt for cold climates or high-humidity regions
- Explosion protection for coal-fired co-processing areas (vent panels, isolation)
- Internal wear-resistant lining (ceramic or basalt) for abrasive materials
- Automation package: PLC control, touch screen, remote monitoring and data logging
- Lightning and static grounding protection per site code

6. Design Standards and Loads

- Structural design per EN 1991 / EN 1993 (Eurocode) or GB 50017 / GB 50011 (China), as specified
- Bulk solid loads and discharge loads per EN 1991-4 (silos and tanks)
- Wind, snow, seismic and temperature loads based on project site data
- Design internal pressure: -2.0 to +5.0 kPa (aeration and filling conditions)
- Welding codes: EN ISO 5817 / GB 50205; bolted panel interface per Manxing standard
- Explosion venting per NFPA 68 / EN 14491 where combustible dust is present

7. Quality Assurance and Testing

- Material certificates (MTC) for all plates and structural steel
- Ultrasonic testing of shell plates; visual and dye-penetrant testing of key welds
- Factory air-tightness test at 1.25 times design pressure
- Aeration floor resistance and uniformity test before shipment
- Dimensional and verticality inspection; torque verification of all bolted connections
- Pre-shipment inspection (FAT) with customer or third party (SGS / TUV) welcome

Contact Manxing

For quotations, engineering review and site assessment, please contact the Manxing engineering team. Our engineers will respond within one business day.

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