

LOW-PROFILE CARDBOARD BALER



Low-Profile Cardboard Baler - ToronBale™ CB

Low-Profile Cardboard Baler compacts corrugated cardboard, waste paper, and soft plastic scrap in facilities where ceiling clearance rules out a conventional vertical baler. Torontech built the ToronBale™ CB around a cross-cylinder hydraulic layout that moves the rams inside the frame instead of stacking them above the chamber. The machine stands 2,225 mm tall, roughly 7 ft 4 in. That height clears standard retail stockrooms and warehouse mezzanines without structural modification.

Two press-force ratings cover different throughput levels. The 30 ton model produces bales of 200 to 400 kg, while the 50 ton model reaches 300 to 500 kg on the same 1,200 by 800 mm footprint. Both share a 1,050 by 550 mm feed opening sized for flattened shipping cartons, along with a 1,600 mm baling chamber. Bale height adjusts between 500 and 1,000 mm, so operators can match output to their hauler's trailer or container.

Retailers, distribution centers, and packaging plants use the ToronBale™ CB to cut waste haulage costs and recover revenue from baled OCC. PLC control holds bale weight consistent from cycle to cycle. Predictable weight simplifies pricing with recyclers who buy by the ton. An automatic ejector pushes the finished bale clear of the chamber, removing the manual tipping step that slows older vertical machines.

APPLICATIONS

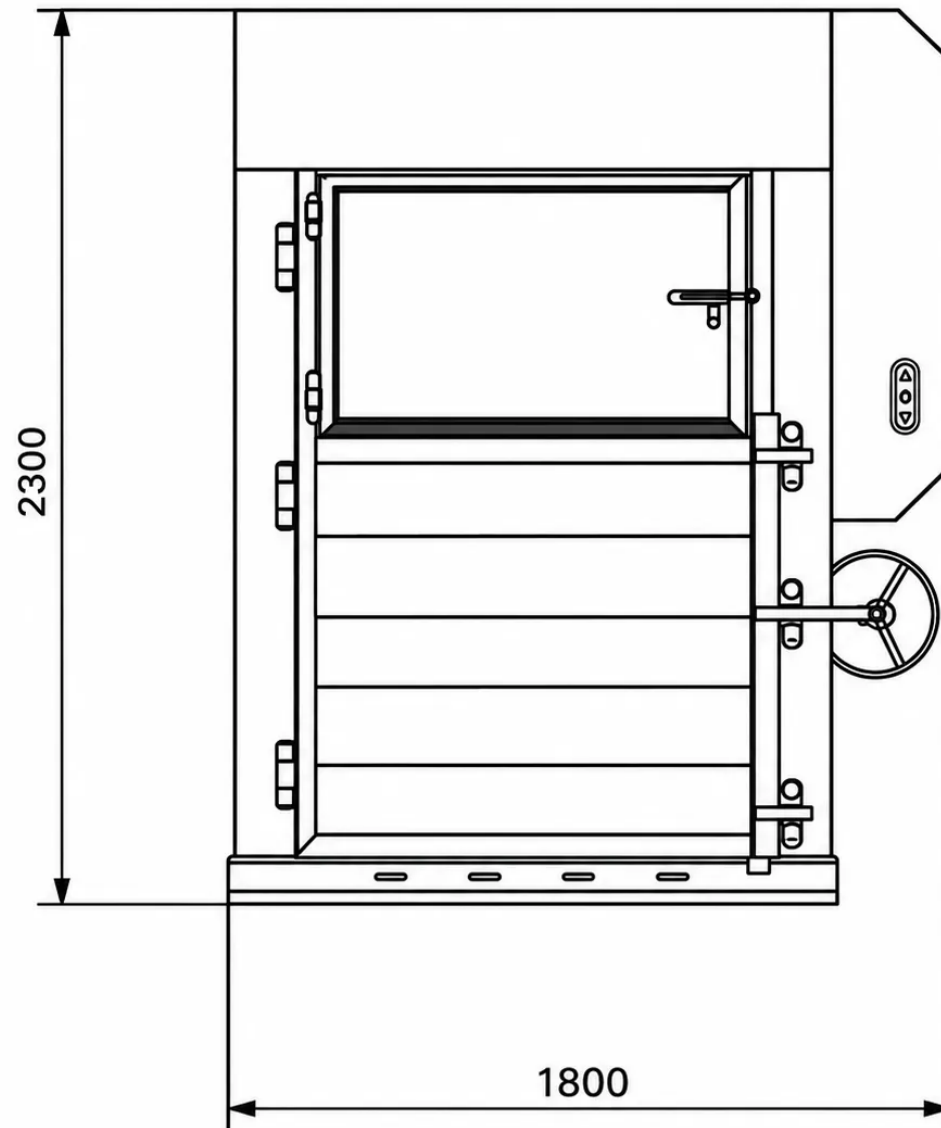
Low-Profile Cardboard Baler - ToronBale™ CB Applications

The ToronBale™ CB suits any operation that generates steady volumes of dry recyclables and has limited overhead clearance.

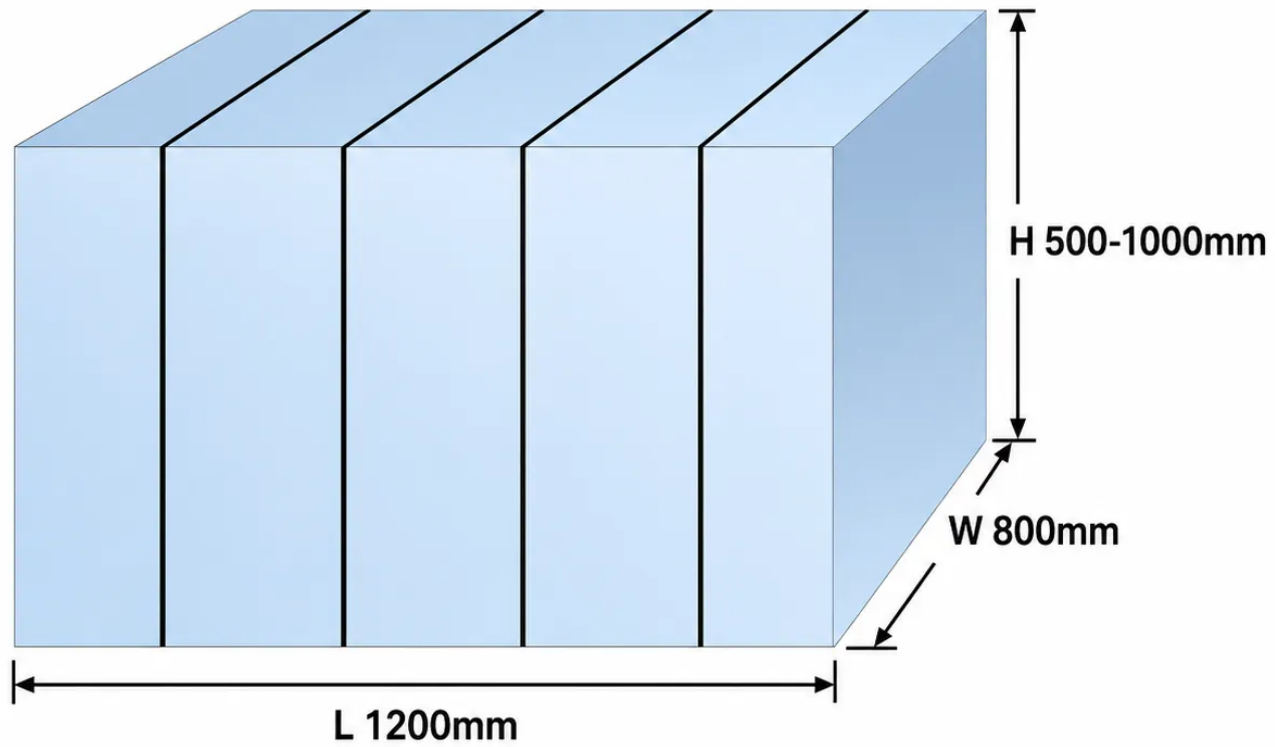
- **Retail Stores and Supermarkets:** compacts flattened shipping cartons in back-of-house stockrooms where ceiling height often falls below 8 ft

- **Distribution Centers and 3PL Warehouses:** handles inbound packaging waste at receiving docks, freeing floor space otherwise lost to loose cardboard
- **Corrugated Packaging Plants:** bales converting scrap, trim, and rejected board for return to the paper mill
- **Printing and Commercial Bindery Operations:** compresses paper offcuts, misprints, and waste stock into mill-ready bales
- **E-Commerce Fulfillment Centers:** processes high volumes of inbound carton and void-fill waste generated by pick-and-pack workflows
- **Manufacturing and Assembly Plants:** consolidates protective packaging, film, and soft plastic scrap arriving with components
- **Hotels, Hospitals, and Institutional Facilities:** reduces the volume of cardboard and paper waste in basement and service-level utility rooms
- **Municipal and Commercial Recycling Depots:** prepares sorted fiber streams into transport-ready bales for onward sale

Diagram (Model ToronBaler™ CB)



Bale Size (Model ToronBaler™ CB)





FEATURES

Low-Profile Cardboard Baler - ToronBale™ CB Key Features

The ToronBale™ CB combines a space-saving press layout with the safety interlocks and component quality that North American buyers expect.

- **Cross-Cylinder Hydraulic Design:** keeps overall machine height at 2,225 mm so the baler fits under low ceilings and ships as standard freight without disassembly
- **Automatic Bale Ejector:** pushes the completed bale out of the chamber on demand, eliminating manual tipping and shortening cycle turnaround
- **PLC Control System:** tracks the compaction sequence and holds bale weight consistent, which stabilizes revenue when selling baled fiber by weight
- **Feed Gate Ram Interlock:** stops downward platen travel the moment the loading gate opens, keeping hands clear of the compaction zone
- **Two-Hand Ejection Control:** requires both operator hands on separate buttons during bale ejection, preventing contact with the moving bale
- **Independent Emergency Stop:** cuts hydraulic function through a dedicated circuit that operates apart from the main control system
- **Anti-Rebound Gate Structure:** built to European and U.S. safety practice, holding compressed material in place and blocking uncontrolled door movement
- **Reinforced Ram Guides:** maintain a square platen face even when cardboard loads sit unevenly in the chamber, protecting cylinder seals from side loading
- **NOK Hydraulic Seals:** Japanese-sourced sealing components extend service intervals and reduce seal replacement downtime
- **A.M.C. Oil Pipe Joints:** Japanese-made fittings hold hydraulic connections leak-free across thermal cycling and vibration

- **Cartridge Valve Hydraulics:** compact valve blocks sourced from a U.S. supplier reduce plumbing volume and simplify troubleshooting
- **Adjustable Bale Height:** bale height sets between 500 and 1,000 mm, letting operators match bale weight to their container or trailer capacity
- **Low Noise Operation:** sound output stays at or below 70 dB, suitable for stockrooms adjacent to customer-facing or occupied areas

THEORY & METHOD

Theory and Method

Vertical baling works by forcing loose material into a confined chamber until the void space between pieces collapses and the fibers lock together. Hydraulic fluid under pressure drives the cylinders, which transmit force through the platen to the material below. Corrugated board behaves elastically at first, springing back as the platen retreats. Once compaction passes the point where flute structures crush and fiber surfaces interlock, the material holds its compressed shape long enough for the operator to tie the bale.

The cross-cylinder arrangement solves a geometry problem specific to low-ceiling sites. A single top-mounted cylinder needs stroke length plus cylinder body plus rod extension stacked above the chamber, which pushes overall height past 3 m on machines with usable capacity. Mounting two cylinders diagonally inside the frame lets the same stroke fit within a 2,225 mm envelope. The crossed geometry also keeps the load path centered on the platen, so uneven material distribution does not tilt the press face.

Ram guides run along the chamber walls and hold the platen square throughout its travel. Anti-rebound dogs on the chamber sides bite into the compressed layer and stop it from expanding when the platen lifts, so each successive charge builds on the last rather than re-compressing recovered material. Bale density therefore accumulates across multiple strokes. The PLC monitors cycle count and pressure, then signals a full chamber, which produces the repeatable bale weight that recyclers pay for.

TECHNICAL SPECIFICATIONS

Low-Profile Cardboard Baler - ToronBale™ CB Technical Specifications

Parameter	ToronBale™ CB-30	ToronBale™ CB-50
Press Force	30 tons (approx. 294 kN)	50 tons (approx. 490 kN)
Feed Opening Size (L × H)	1,050 × 550 mm	1,050 × 550 mm
Baling Chamber Height	1,600 mm	1,600 mm
Bale Size (L × W × H, H adjustable)	1,200 × 800 × (500 to 1,000) mm	1,200 × 800 × (500 to 1,100) mm
Bale Weight	200 to 400 kg	300 to 500 kg
Motor Power	4 kW	4 kW or 5.5 kW
Machine Weight	2,200 kg	2,800 kg
Overall Dimensions (L × W × H)	1,800 × 1,400 × 2,225 mm	1,800 × 1,400 × 2,255 mm
Noise Level	≤ 70 dB	≤ 70 dB
Control System	PLC	PLC
Bale Ejection	Automatic, two-hand control	Automatic, two-hand control
Materials Handled	Cardboard, paper, soft plastic scrap	Cardboard, paper, soft plastic scrap



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