TORONTECH

HEAVY-DUTY VERTICAL BALER

Heavy-Duty Vertical Baler - ToronBale™ HV

Heavy-Duty Vertical Baler compacts natural fiber and light scrap metal at press forces that ordinary recycling balers cannot reach. Torontech offers the ToronBale™ HV at 150 tons and 200 tons, backed by a reinforced frame weighing 6,500 kg to 7,500 kg. The machine handles coir and palm fiber, thin iron sheet, aluminum alloy offcuts, and copper wire in the same chamber. Both models produce bales measuring 1,200 by 800 mm with adjustable height.

Output depends on what goes in the chamber. The 150 ton model yields 100 to 250 kg per bale on fiber and 450 to 550 kg on metal, while the 200 ton model reaches 150 to 300 kg and 500 to 600 kg respectively. Torontech publishes both figures because density varies so widely between the two material classes. Buyers can size the machine against their actual scrap stream rather than a single headline number.

Front and rear doors open on the ToronBale™ HV. Operators pass strapping straight through the chamber instead of working around a single access face. A chain ejector then discharges the tied bale without manual handling. Fiber processors, metal recyclers, and manufacturing plants use the machine to convert bulky low-value scrap into dense, saleable units.

APPLICATIONS

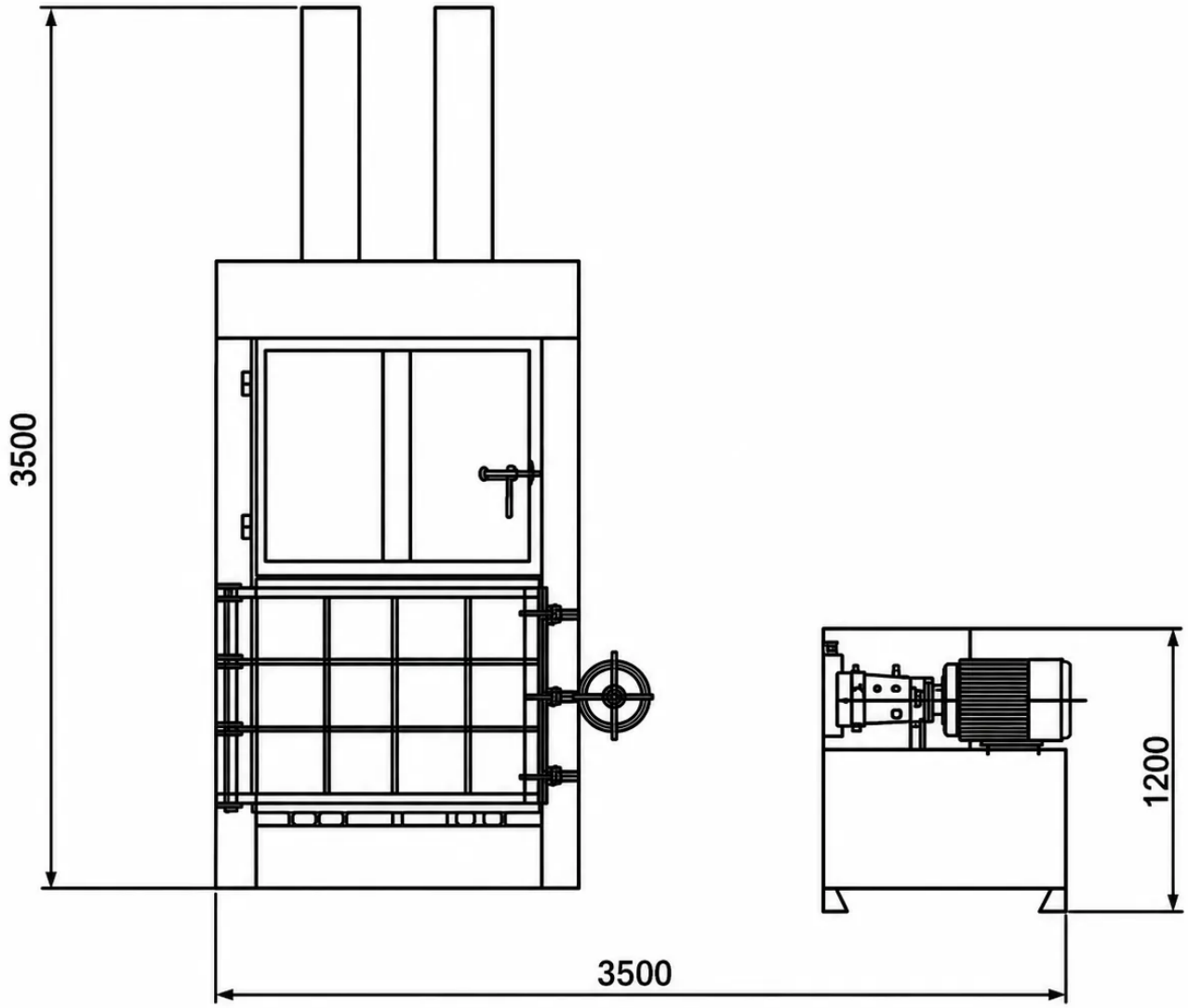
Heavy-Duty Vertical Baler - ToronBale™ HV Applications

The ToronBale™ HV serves operations that handle either fibrous material or light metal scrap, along with mixed facilities that process both.

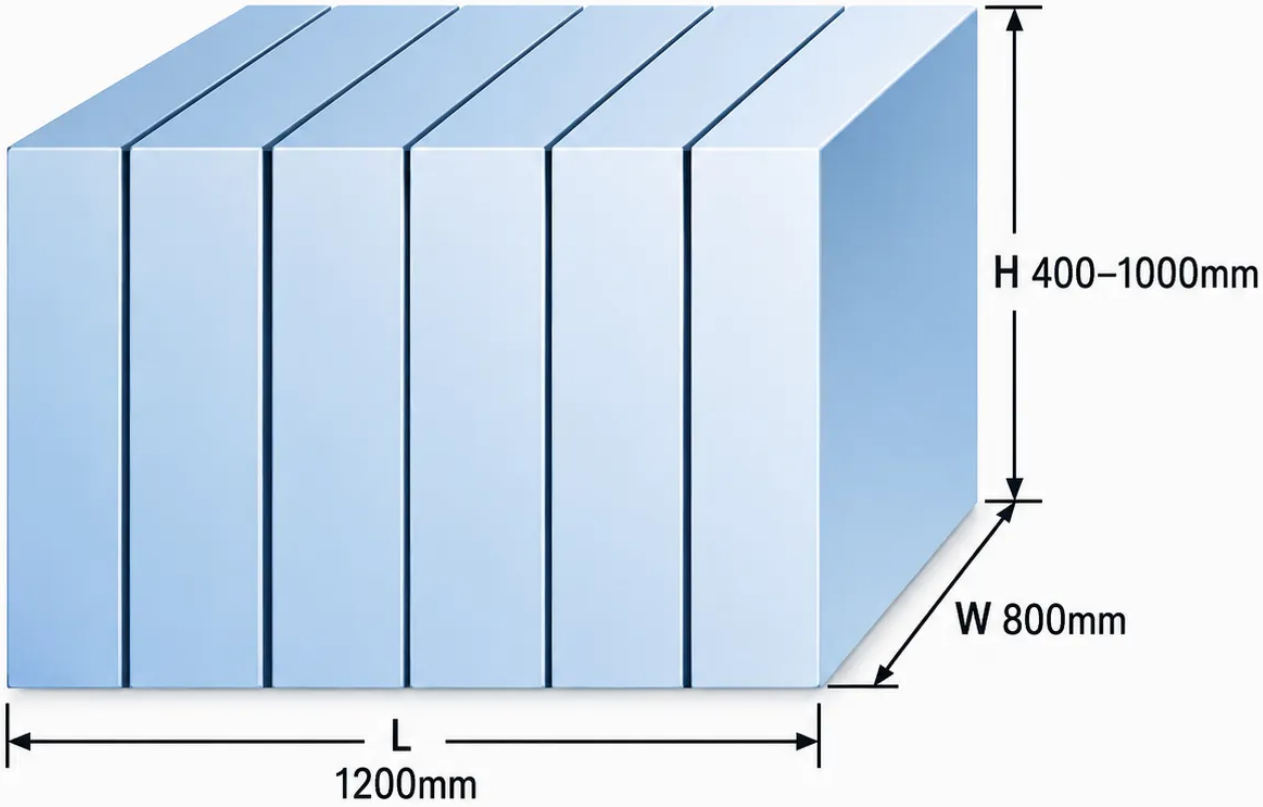
- **Scrap Metal Recycling Yards**: bales thin iron sheet, tinplate, and light ferrous offcuts into dense units that lower transport cost per ton
- **Non-Ferrous Metal Processing**: compacts aluminum alloy scrap, copper wire, and brass turnings for direct sale to smelters

- **Coir and Palm Fiber Processing**: compresses coconut husk fiber and oil palm fiber into export-ready bales after drying and cleaning
- **Sheet Metal Fabrication and Stamping Plants**: consolidates blanking skeletons and press offcuts generated on the production floor
- **Cable and Wire Recycling**: bales stripped copper and aluminum conductor for onward refining
- **Natural Fiber and Textile Mills**: densifies jute, sisal, hemp, and waste fiber for storage and shipment
- **Aluminum Extrusion and Casting Plants**: compacts profile offcuts and runner scrap for return to the melt
- **Appliance and Automotive Dismantling**: bales light gauge body panel and casing scrap recovered during teardown

Diagram (Model ToronBaler™ HV)



Bale Size (Model ToronBaler™ HV)

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ToronBale™ HV
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FEATURES

Heavy-Duty Vertical Baler - ToronBale™ HV Key Features

The ToronBale™ HV combines a high-tonnage hydraulic package with the access design and component sourcing that suit continuous industrial duty.

- **150 or 200 Ton Press Force**: delivers the pressure needed to permanently deform light metal scrap rather than merely compress it
- **Dual-Rated Bale Output**: separate fiber and metal bale weights published for each model, so buyers size the machine against their real scrap mix
- **Front and Rear Opening Doors**: strapping passes through the chamber from both faces, cutting the time and awkward reaching that single-door machines require
- **Automatic Chain Bale Ejector**: discharges the tied bale from the chamber on command, removing manual handling of loads up to 600 kg
- **Feed Gate Ram Interlock**: stops downward platen travel the moment the loading gate opens, keeping hands clear of the compaction zone
- **Independent Emergency Stop**: a dedicated, prominently mounted circuit cuts hydraulic function 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 when metal or fiber loads sit unevenly, protecting cylinder seals from side loading
- **Automatic Load-Balancing Design**: distributes compaction force across the platen so off-center charges do not produce sudden shifts mid-stroke
- **Direct-Coupled Motor and Pump**: a cross-connected direct drive holds full concentricity between motor and pump, replacing conventional couplings and extending pump service life

- **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
- **Adjustable Bale Height**: bale height sets between 400 and 1,000 mm, letting operators match bale weight to container capacity or downstream handling limits
- **Heavy Structural Frame**: 6,500 kg and 7,500 kg build weights absorb reaction loads from repeated high-tonnage strokes

THEORY & METHOD

Theory and Method

Two different mechanisms produce a bale, and the ToronBale™ HV has to handle both. Fibrous material compacts elastically at first, then holds shape through mechanical entanglement once individual fibers bend, tangle, and lock against their neighbors. Metal behaves differently. Thin sheet, wire, and extrusion offcuts stay rigid until applied stress passes the yield point, after which the material deforms permanently and keeps the new shape without rebound.

Press force separates this machine from lighter equipment. A 1,200 by 800 mm platen covers 0.96 square meters, so 150 tons of cylinder force delivers roughly 1.5 MPa across the bale face. That pressure exceeds the yield strength of aluminum foil stock and thin mild steel sheet, letting the platen fold and crush metal rather than simply pressing it. Fiber needs less pressure but more dwell, since trapped air has to escape before the mass will hold density.

Chamber design supports both regimes. Anti-rebound dogs on the chamber walls catch each compacted layer and stop fibrous material from springing back when the platen lifts, so density accumulates across successive strokes. Ram guides carry side loads and hold the platen square when scrap piles unevenly, which matters more with rigid metal than with soft material. An automatic balancing arrangement spreads compaction force across the platen when a charge sits off-center.

TECHNICAL SPECIFICATIONS

Heavy-Duty Vertical Baler - ToronBale™ HV Technical Specifications

Parameter	ToronBale™ HV-150	ToronBale™ HV-200
Press Force	150 tons (approx. 1,472 kN)	200 tons (approx. 1,962 kN)
Motor Power	18.5 kW / 22 kW	22 kW / 30 kW
Feed Opening Size (L × H)	1,200 × 500 mm	1,200 × 500 mm
Baling Chamber Height	1,500 mm	1,500 mm
Bale Size (L × W × H, H adjustable)	1,200 × 800 × (400 to 1,000) mm	1,200 × 800 × (400 to 1,000) mm
Bale Weight, Fiber	100 to 250 kg	150 to 300 kg
Bale Weight, Metal	450 to 550 kg	500 to 600 kg
Machine Weight	6,500 kg	7,500 kg
Overall Dimensions (L × W × H)	3,500 × 1,300 × 3,500 mm	3,600 × 1,400 × 3,600 mm
Bale Ejection	Automatic chain ejector	Automatic chain ejector
Chamber Access	Front and rear opening doors	Front and rear opening doors
Materials Handled	Coir and palm fiber, natural fiber, thin iron sheet, aluminum alloy, copper wire	Coir and palm fiber, natural fiber, thin iron sheet, aluminum alloy, copper wire

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