

VERTICAL PLASTIC FILM BALER



Vertical Plastic Film Baler - ToronBale™ VP

Vertical Plastic Film Baler compresses stretch wrap, LDPE sheeting, shrink film, and mixed soft plastic scrap into tied bales ready for sale to reprocessors. Torontech supplies the ToronBale™ VP in 30 ton and 50 ton press configurations to match different daily volumes. A wide feed door, 1,100 mm or 1,500 mm across, accepts bulky loose film without the pre-cutting that narrow-throat machines demand. The same chamber also handles corrugated cartons and newspaper.

Film resists compaction differently than paper. Low bulk density means each charge occupies a large volume for very little weight, and the material springs back hard once the platen lifts. The ToronBale™ VP answers both problems with high press force relative to chamber size and an anti-rebound gate structure that holds each compressed layer in place. Bale weights reach 150 to 250 kg on the 30 ton model and 300 to 500 kg on the 50 ton model.

Recyclers, distribution centers, and film converters use the machine to convert a bulky waste stream into a saleable commodity. Baled film ships at a fraction of the volume of loose material. Fewer collections mean lower haulage frequency and reduced container rental. An automatic chain ejector lifts the finished bale clear of the chamber, so operators avoid the manual tipping that older vertical presses require.

APPLICATIONS

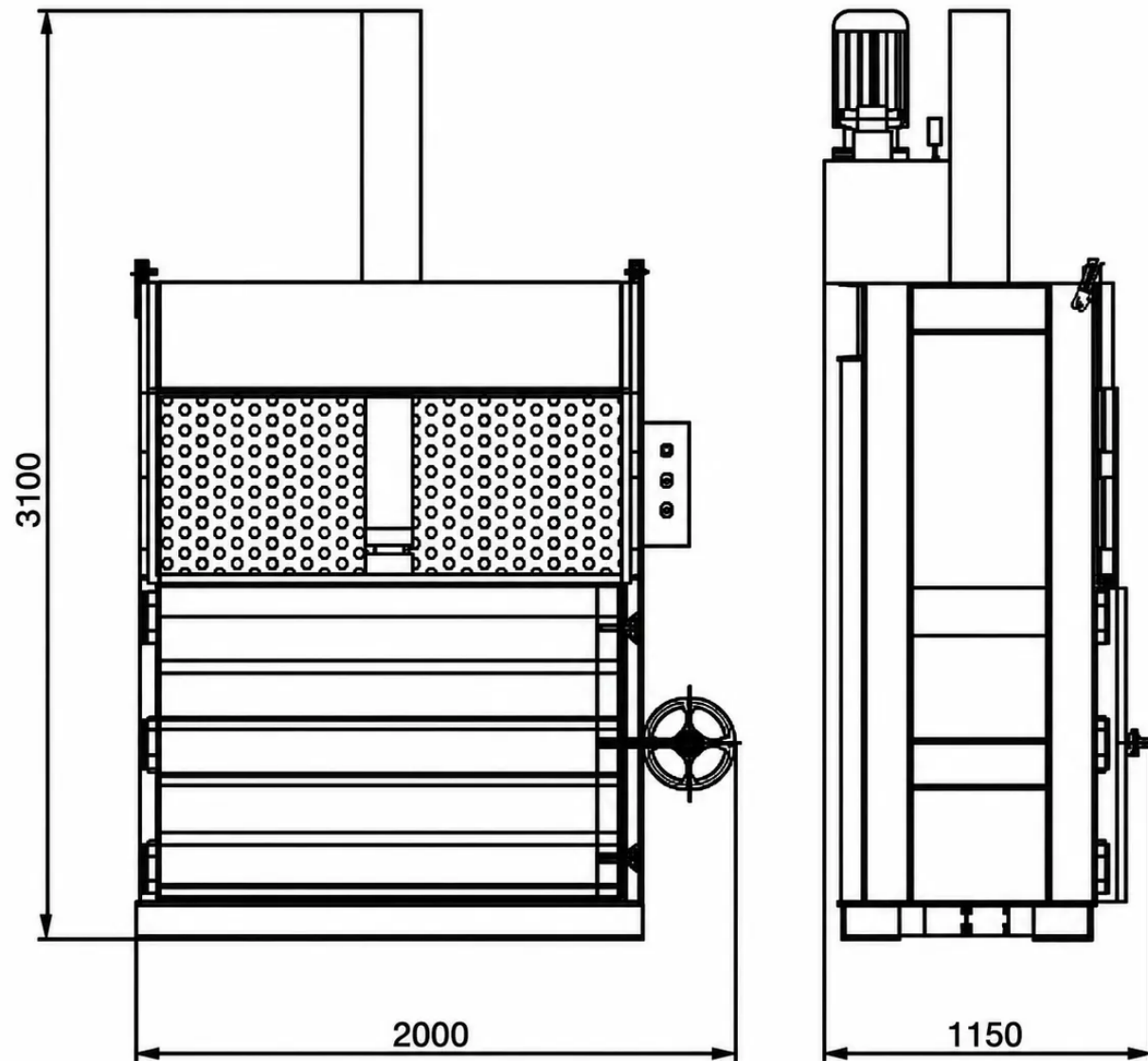
Vertical Plastic Film Baler - ToronBale™ VP Applications

The ToronBale™ VP handles soft plastic waste streams across retail, industrial, and agricultural operations, along with mixed fiber where a single machine serves both materials.

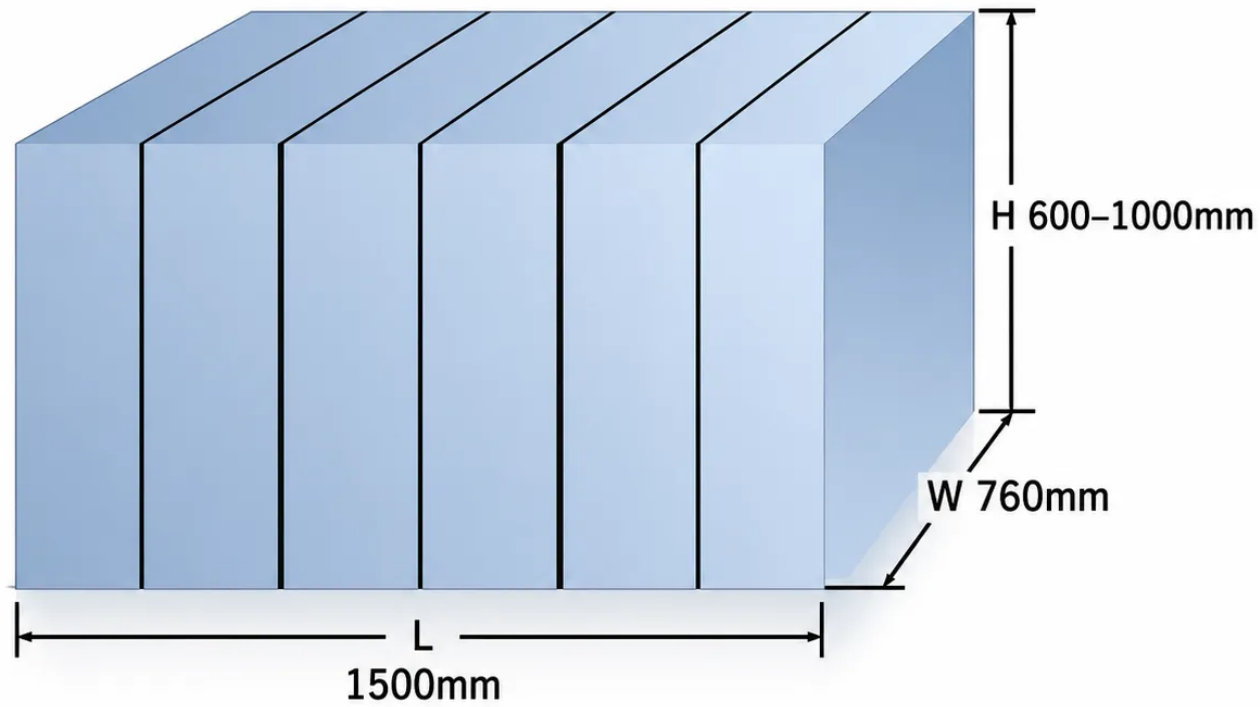
- **Distribution Centers and Warehouses:** bales pallet stretch wrap and shrink hoods stripped from inbound freight at the receiving dock

- **Plastic Film Converters and Extruders:** compacts edge trim, purge, start-up scrap, and rejected reel stock for return to a reprocessor

Diagram (Model ToronBaler™ VP)



Bale Size (Model ToronBaler™ VP)



- **Retail Chains and Supermarkets:** consolidates back-of-house film, produce bags, and carton waste in a single machine
- **Agricultural Operations:** bales silage wrap, greenhouse sheeting, and mulch film after field recovery and rough cleaning
- **Material Recovery Facilities:** densifies the sorted film fraction, which otherwise occupies disproportionate storage space per ton
- **Packaging and Printing Plants:** processes laminate offcuts, poly overwrap, and interleaving film generated during converting runs
- **Textile and Nonwoven Manufacturing:** compresses soft polymer scrap and protective wrap from raw material deliveries
- **Automotive and Electronics Assembly:** bales component protective film, bubble wrap, and poly bagging from kitted parts



FEATURES

Vertical Plastic Film Baler - ToronBale™ VP Key Features

The ToronBale™ VP pairs a wide-mouth loading design with the interlocks and hydraulic components that keep a high-cycle machine running.

- **Automatic Chain Bale Ejector:** lifts and discharges the finished bale from the chamber on command, removing the manual tipping step and shortening cycle turnaround
- **Wide Auto-Lift Feed Door:** the loading door rises with the platen so operators can charge bulky loose film continuously without a separate opening action
- **Oversized Feed Opening:** 1,100 mm or 1,500 mm of clear width accepts full stretch-wrap rolls, shrink hoods, and flattened cartons without pre-cutting
- **Feed Gate Ram Interlock:** stops downward platen travel the moment the loading gate opens, keeping hands clear of the compaction zone
- **Safety Door Start Interlock:** the machine will not start while the safety door sits open, removing a common source of unintended cycling
- **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 film in place and blocking uncontrolled door movement
- **Reinforced Ram Guides:** maintain a square platen face when film 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 during the 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

- **Superposed Valve Block:** Taiwanese-sourced stacked valve assembly occupies less installation volume and simplifies service access
- **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 500 and 1,000 mm depending on model, letting operators match bale weight to container or trailer capacity

THEORY & METHOD

Theory and Method

Baling reduces volume by expelling entrained air and forcing loose material past its elastic limit. Polyethylene film behaves viscoelastically, so a compressed stack recovers much of its thickness once load is removed. The platen therefore has to drive the charge well beyond the point of first resistance, holding pressure long enough for the polymer layers to yield and for trapped air to escape through the chamber gaps. Press force does the work that fiber interlocking performs in a paper bale.

Friction between film layers supplies the retention that paper achieves through fiber entanglement. Compressed sheets press together across a large contact area, and static charge plus surface tack keep them bound. Anti-rebound dogs mounted on the chamber walls bite into each compacted layer and block upward recovery when the platen retreats. Each successive charge then compacts against a stable base rather than re-compressing recovered material, so bale density accumulates stroke by stroke.

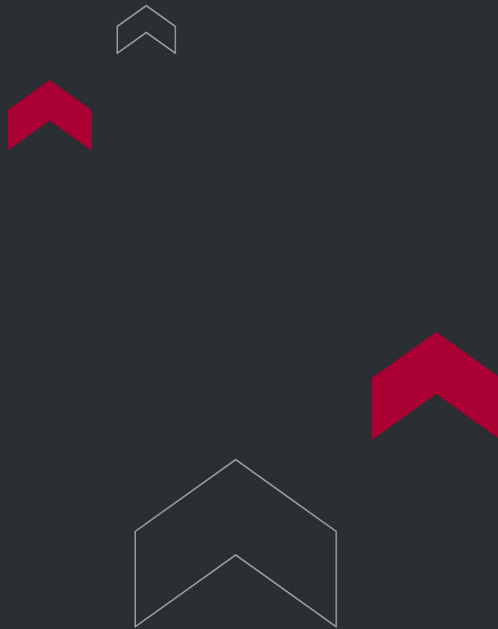
Chamber geometry drives the force requirement. A 1,500 mm wide bale face on the 50 ton model spreads the load across roughly twice the area of a narrow chamber, which lowers unit pressure at any given cylinder force. Matching press force to face area is why the larger chamber pairs with 50 tons and 7.5 kW rather than the 30 ton, 5.5 kW package. Ram guides hold

the platen square through its full stroke, keeping pressure even when film piles unevenly in the chamber.

TECHNICAL SPECIFICATIONS

Vertical Plastic Film Baler - ToronBale™ VP Technical Specifications

Parameter	ToronBale™ VP-30	ToronBale™ VP-50
Press Force	30 tons (approx. 294 kN)	50 tons (approx. 490 kN)
Feed Opening Size (L × H)	1,100 × 500 mm	1,500 × 500 mm
Baling Chamber Height	1,400 mm	1,500 mm
Bale Size (L × W × H, H adjustable)	1,100 × 700 × (500 to 900) mm	1,500 × 760 × (600 to 1,000) mm
Bale Weight	150 to 250 kg	300 to 500 kg
Motor Power	5.5 kW	7.5 kW
Machine Weight	1,900 kg	2,800 kg
Overall Dimensions (L × W × H)	1,500 × 1,050 × 2,900 mm	2,000 × 1,150 × 3,100 mm
Control System	Push-button hydraulic control with safety interlocks	Push-button hydraulic control with safety interlocks
Bale Ejection	Automatic chain ejector	Automatic chain ejector
Materials Handled	Soft plastic film, cardboard, cartons, newspaper	Soft plastic film, cardboard, cartons, newspaper



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