

AutoLoadBaler

Digitise and automate the disposal process



The change becomes measurable

Productivity increase of over 800%

Digitise and automate the disposal process

The **AutoLoadBaler** revolutionises the disposal process of cardboard boxes in all application areas of retail, logistics and manufacturing.

Time-consuming filling work, which previously had to be done manually, is now carried out mechanically and automatically.

It is no longer the operator but the intelligent system that monitors and controls both the filling of the press and the compaction.

Practical experience and studies show a saving in working time of up to 3 hours and 43.5 minutes per bale - **this corresponds to an increase in productivity of over 800%.**

Automation results in consistent, stackable bales weighing over 400 kilograms, direct saleable bales that can be marketed to paper mills.



04:15:00 h



Vertical baler

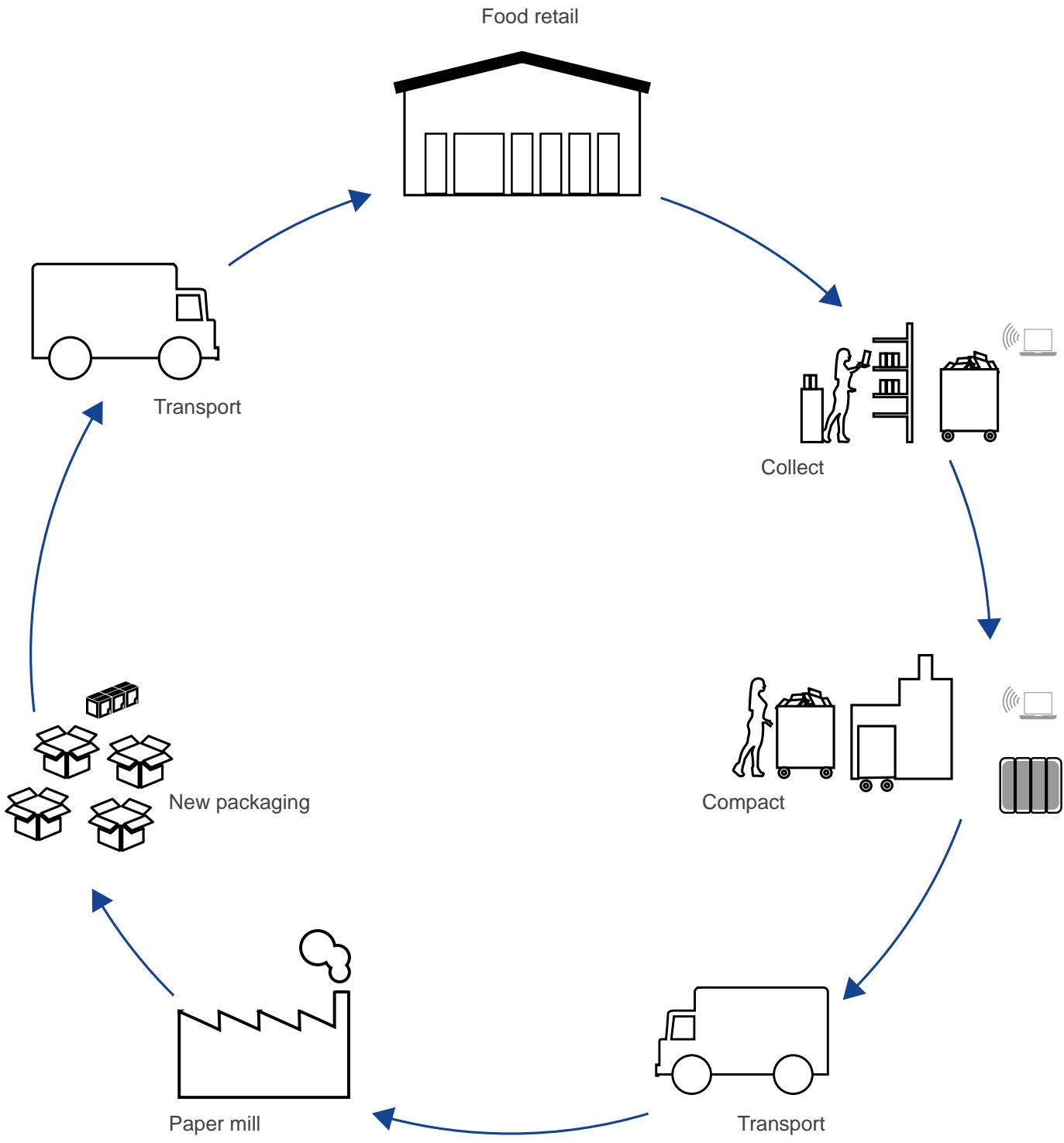


00:31:30 h



AutoLoadBaler

Closed Loop



Cardboard recycling cycle

Save time through automation

The AutoLoadBaler simplifies the disposal process

The AutoLoadBaler creates the following benefits, by relieving the burden of recurring filling activities:

- Work becomes less onerous.
- The well-being of the employees increases.
- The costs for non-customer-oriented work are significantly reduced.

The AutoLoadBaler helps to automate the entire disposal process. This results in significantly less time spent on cardboard.

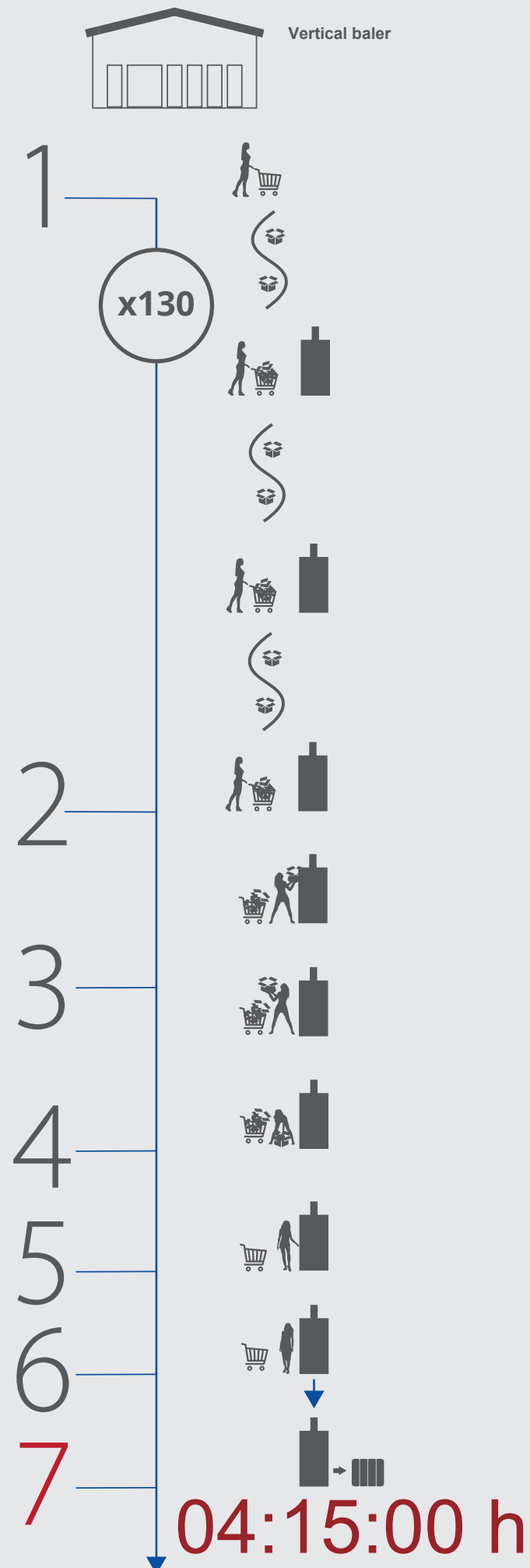
Gaining transparency through digitisation

In its expansion stage as AutoLoadBaler 4.0, it can be equipped with data acquisition that enables detailed process analysis:

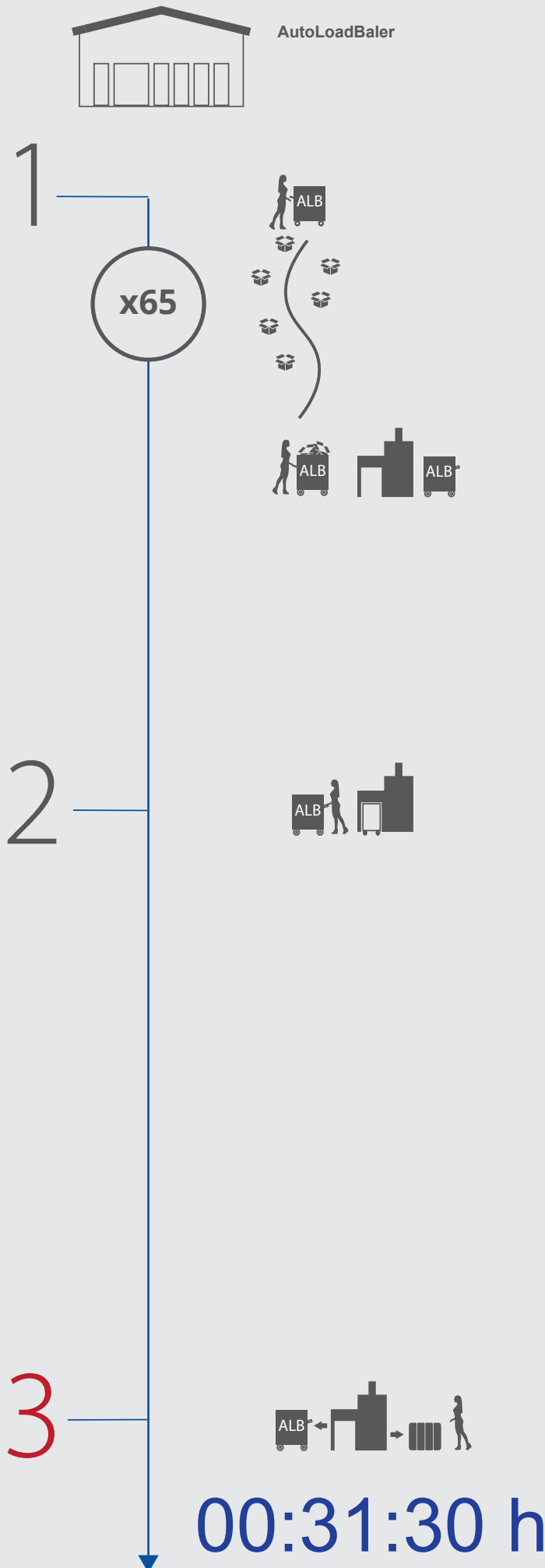
You can precisely **document, analyse and optimise all processes** of internal packaging disposal. With digital time monitoring, you succeed in bringing transparency to the entire disposal process. The processed data documents the work process in detail and gives you the opportunity to quickly and easily initiate optimisations to the existing procedure. The use of AutoLoadBaler 4.0 makes weak points visible and helps to make your business more effective.

The change becomes measurable.

Previous procedure



Digital and automatic disposal process



The AutoLoadBaler

Cardboard disposal in 3 steps

1

The employees collect the cardboard with the large-volume collection carts and bring them to the AutoLoadBaler. Here, the carts are exchanged. The filled one is pushed into the machine, with an empty one the work can continue. Neither does the empty cardboard take up space in the store or warehouse, nor is valuable working time needed for filling the baler.

2

The filling and pressing process of the baler starts automatically and the employee can perform other work. The slowly moving rotors transport the cardboard into the bale chamber. When the chamber is full, the pressing process starts automatically. It takes up to 70 full collection carts, to press a direct saleable bale weighing up to 430 kg.

Labour productivity (LP)

LP vertical baler:	400 kg / 4,25 h = 94 kg/h
LP AutoLoadBaler:	400 kg / 0,525 h = 762 kg/h
	762 / 94 = 8,1

Productivity increase of over 800 %

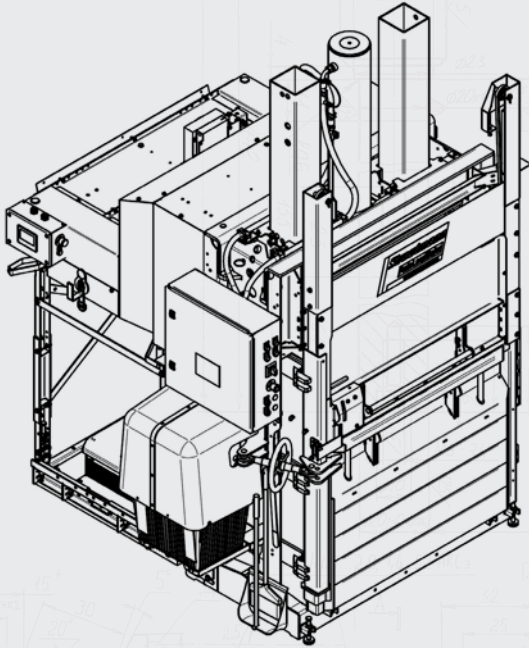
3

Once the bale is ready, it can be tied and placed on a pallet for removal. It is no longer necessary to press over small bales to large bales at the disposal company. The bales are transported directly to the recycler.

The time saver among balers

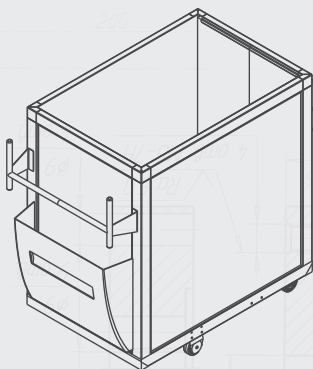
Datasheet

AutoLoadBaler



Material	Cardboard
Press force	530 kN
Press stroke	890 mm
Electrical power	4,37 kW
Power supply	400 V/ 3PH+N+PE/50Hz/16 A
Nois emission	< 68 dB (A)
Weight of the machine	ca. 3100 kg
Ceiling load	7,5 kN/m ²
External dimensions (W L H)	2097 x 2147 x 3050 mm
Transport dimensions (W L H)	
Baler	2097 x 1177 x 2275 mm
Feeding unit	1683 x 1331 x 2256 mm
Bale size (W T H)	1200 x 800 x 1000 -1200 mm*
Bale weight	up to 430 kg*
Bale tying	Strapping with four wires

Collection cart



External dimensions (W T H)	804 x 1469 x 1330 mm
Filling volume per collection cart	6 - 15 kg/0,8 m ³
Number of fillings per bale	60-70

* The bale dimensions and weights depend on the material.
The information refers to cardboard packaging (quality 1.02 and 1.04).

Advantages

At a glance!

+ Time saving

The automated filling and pressing process saves you 3 hours and 43 minutes per 400 kg bale because a large part of the previous manual cardboard handling is completely eliminated. Here is the essential time saving.

+ Space saving and neatness

Direct collection in the large-volume collection carts leads to neatness on the sales area. Space-saving bales are ready on pallets for transportation to the central warehouse or directly to the recycler.

+ Health of the employees

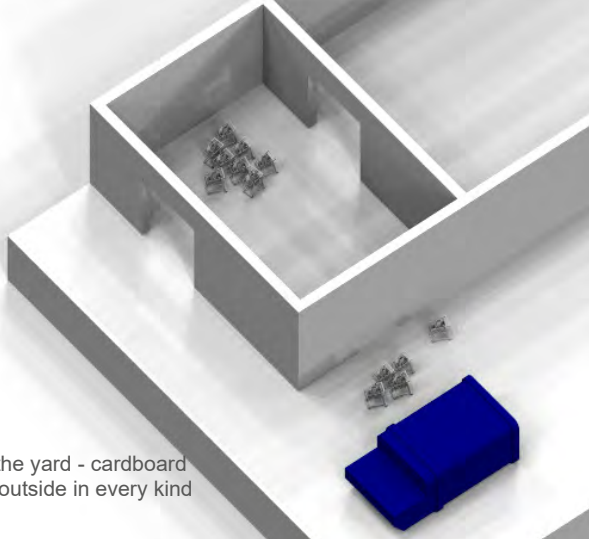
The mechanical filling of the baler increases the well-being of the employees. By avoiding ergonomically stressful movements and minimizing the risk of injury (e.g., no longer need to use cutter knives), the employees' work is made much easier. In addition, there is no need to intervene in the pressing process due to automation. Absolutely safe working is thus achieved.

+ Digitisation of the processes

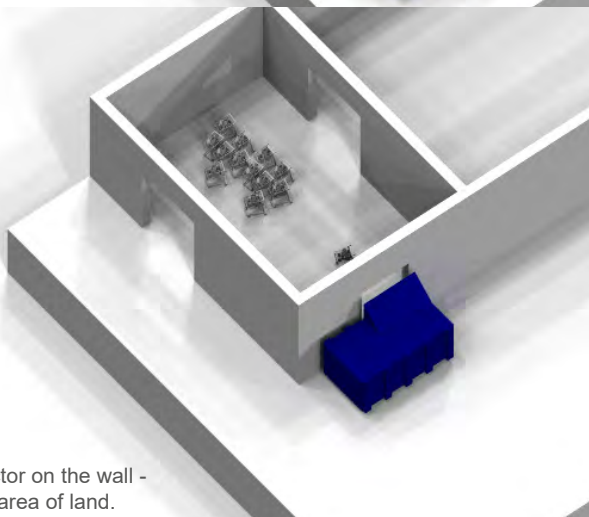
Digital data acquisition enables detailed process analysis: you can thus monitor, analyse as well as optimise the entire process of internal packaging disposal in detail.

▶ Direct saleable bales and sustainability

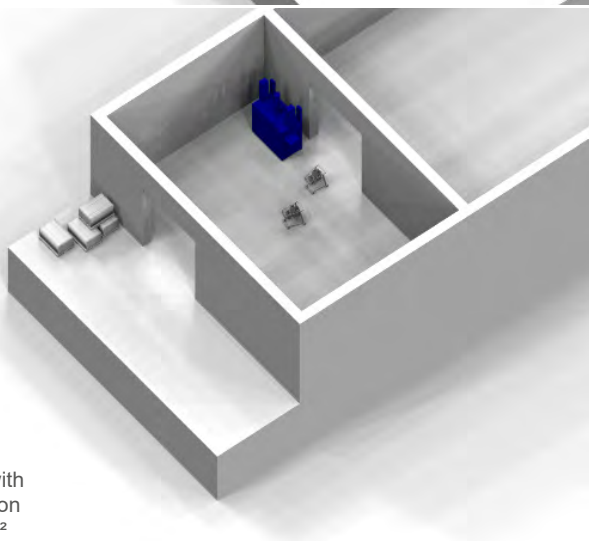
The bales are accepted directly from the paper mill, benefiting the retail trade. Long journeys are eliminated, energy costs are saved. Cardboard disposal is part of a climate-neutral recyclable materials cycle.



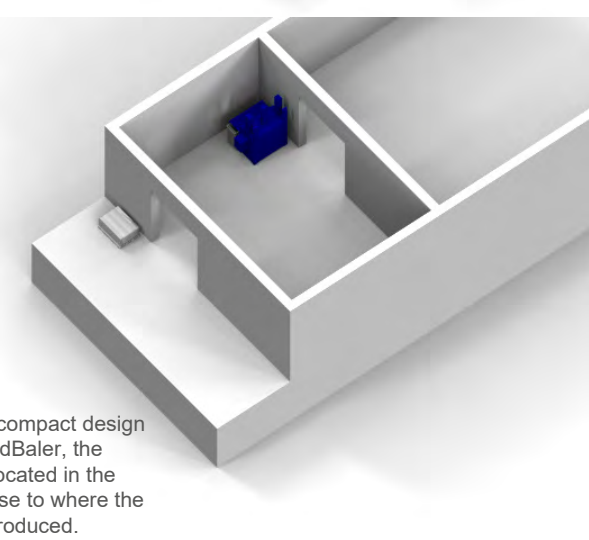
Compactor in the yard - cardboard is disposed of outside in every kind of weather.



Screw compactor on the wall - requires large area of land.



Vertical baler with manual operation
Footprint < 3 m²



Thanks to the compact design of the AutoLoadBaler, the press can be located in the warehouse close to where the cardboard is produced.
Footprint < 5 m²

Service Offers

Consulting - Installation - Training - Checking operational safety - Maintenance

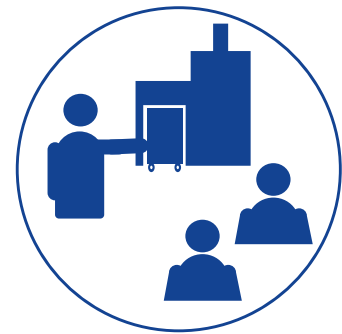
An experienced service team delivers and installs the baler. Neither the installation in basement rooms, nor seemingly too narrow doors are a hurdle for our specialists.

After documented instruction of the personnel in the use of the baler, the AutoLoadBaler is put into operation under expert supervision.

If questions arise after commissioning, the Strautmann Umwelttechnik service team remains personally available.

A dense network of service technicians ensures a fast reaction in case of maintenance and repair work.

Thanks to an existing and growing european service partner network, a required spare part can be delivered and installed within 24 hours.





Our time monitoring in detail

Working time calculation AutoLoadBaler* (for one 400 kg bale)

	Working time employees	Number of cycles	Total time
Collection cart change time	22 s per collection cart	70	≅ 00:25 h
Waiting time in front of the press	0	70	≅ 00:00 h
Setting time	6 min per bale	1	≅ 00:06 h
			≅ 00:31 h

Working time calculation conventional vertical baler* (for one 400 kg bale)

	Working time employees	Number of cycles	Total time
Filling time	85 s per Makeshift collection cart	133	≅ 03:07 h
Waiting time in front of the press	42 s per Makeshift collection cart	91	≅ 01:02 h
Setting time	6 min per bale	1	≅ 00:06 h
			≅ 04:15 h

Time saving per bale: 3 hours and 43.5 minutes

*The data collection was part of a bachelor's thesis at the Osnabrück University of Applied Sciences.

Retail sector. The owner has one's say!



Mr. Bruns is the manager of the EDEKA Bruns store in Friedrichsfehn, near Oldenburg. Every year, 40 tons of cardboard packaging are disposed of here. What used to be done manually with a lot of time spent waiting at the press and a lot of running around is now done by the AutoLoadBaler.

"We want to take care of our customers, not our cardboard."

Strautmann Umwelttechnik (SUT): You have exchanged the compactor in the yard for the AutoLoadBaler. What motivated you to make this decision?

Mr. Bruns: "In the past, cardboard packaging was collected on trolleys. The employees had to walk long distances to the press container. The cardboard often fell off the trolleys on the way to the press container and had to be picked up again. Outside, the cardboard was thrown into the press container in all kinds of weathers. into the press container in all weathers. In search of a better and more effective solution, we came across the AutoLoadBaler. We were able to place it directly behind the door in the warehouse."

SUT: What are your experiences?

Mr. Bruns: "The AutoLoadBaler **solves the problems of cardboard disposal in one fell swoop**: no more shredding the cardboard, the customer is not disturbed by cardboard scraps lying around, and we have a clean appearance. Sensationally, the cardboard only has to be picked up once. The AutoLoadBaler has already paid for itself after about 2.5 years. A better return on investment is unimaginable. Everyone should take a closer look at this ground breaking solution."

SUT: What do you particularly appreciate about the AutoLoadBaler?

Mr. Bruns: "My personal highlight is when I come in in the morning and the fresh food department has put the goods away, there is nothing left in the warehouse, everything has been compressed. The AutoLoadBaler brings us three major advantages: short distances, clean aisles and, thanks to the automatic filling system, more time for high-quality activities, such as putting away merchandise, providing advice and sales. After all, we want to take care of our customers and not our cardboard."

Angelo Rosenberger, Head of Department of REWE Dortmund
Groß-handel eG:

„We work according to the specialist principle“.



„We calculate in one-hundredth of minutes!
Nothing is whitewashed here!“

“Our staff does not have long walkways anymore. The **walkways could have been reduced by 50%** and **tidiness** does prevail. Furthermore, we do have an internal **solution independent of the weather**. The **automatic filling saves additional time**. We did calculate the profitability in advance. Our staff used to be outside for five to ten minutes. The walkway had to be added. Now we are substantially faster. We only do have to change the trolley.”

Customers have their say



REWE

Stenten

Mr. Josef Stenten

Director Rewe Stenten in Aachen

"Crucial for us was that we could reduce our collections from 27,778 to 7,018 times. We do walk 2,000 hours less annually for the disposal and did save enormous costs. Strautmann did offer us a solution with the cardboard collection cart – an outstanding idea. Furthermore, the handling of the collection cart is considerably easier. Also, our customers recognise a substantially calmer and comfortable atmosphere in our market."



REWE

Schulenburg

Mr. Schulenburg

Owner Rewe Schulenburg in Dortmund

"Our core business includes our fresh filled fruit and vegetable counter. The time saving of 1,000 hours with the AutoLoadBaler is very lucrative in this sector. Formerly we had to invest time into the disposal, now we use it for our core business! At first, I did take the AutoLoadBaler to be a gimmick, now I am a fan. It is a time machine!"



EDEKA

Klein-Heßling
Die Welt gewinnt

Mr. Eckert

Store manager, EDEKA Klein-Heßling in Siegburg

"We do really save time. Every day in each department we do have half an hour of additional time for our customers. No cardboard does fall from the trolleys and does pollute the aisles. Nothing drops out of the new collecting cart that belongs to the AutoLoadBaler. The appearance inside the market has also largely improved. Not only because my staff does have more time for the core business, but also because the collection carts do fit better into the store."



& Ergonomics Health

Every employer wishes his staff to be healthy and comfortable while working. However, if they need to carry heavy loads for many years and if they do have to work in ergonomically unfavourable positions, the conservation of health becomes a great challenge. The company **Strautmann Umwelttechnik** therefore places ergonomics, easy handling and physical relief of staff into the centre of their development.

If one compares the AutoLoadBaler with the vertical baler, the advantages of Strautmann Umwelttechnik's innovation are obvious: The **staff hardly has to bend down during the disposal of cardboards**. This reduces the strain of the back muscles and of the spinal column. Furthermore, manual activities are reduced to a minimum: The **emptying of the collecting carts and the compression of the cardboard are now done automatically**. Moreover, it is not necessary anymore to shred the cardboard via hand or with a cutter knife. This **reduces the risk of injury by sharp blades or by paper edges**.

The collecting cart has been designed in a way the staff can push it out of an ergonomically unencumbered position. Even the tying of the heavy bales out of compressed cardboard becomes a quick and simple task for the staff due to quick link wires and a tensioning device.

Conclusion: **The physical strain of staff** caused when using the AutoLoadBaler for the disposal of cardboard only amounts to **a fraction of the strain** caused by filling of a press container or of a vertical baler.

The working environment has also changed to the positive thanks to the AutoLoadBaler: The practical collecting carts do replace the shopping carts filled with cardboard in the aisles. This way a pleasant atmosphere is created in the store thanks to tidy aisles and a better visual appearance. A neat store contributes to comfort of staff and customers.



Success through synergy

Strautmann Umwelttechnik has been founded in 1993 as part of the Strautmann Group.

Since then, bale and briquette presses are produced with the aim of reducing the volume of cardboard, foils, PET bottles, Styrofoam and residual waste as much as possible in advance of the disposal.

Strautmann Umwelttechnik grew to its current size with the idea of enabling retailers to market the pressed cardboard directly on site.

The shops should be able to press their large bales themselves in a quality that is accepted by the paper mills.

Strautmann Umwelttechnik

This has been and still is only possible with specifically powerful presses. Here the know-how and the long-time expertise from the agriculturally machines technology and the hydraulic production of Strautmann particularly kicks in. Thanks to the horizon of experience in the technological development of sturdy agricultural machines, combined with the knowledge of outstanding hydraulic cutting-edge technology for the construction of machinery and vehicles, in 1996 the first cardboard baler with a pressing force of 600 kN could be brought on the market. Until today it counts as ground-breaking innovation for the retail sale.

The broad portfolio and the high vertical range of manufacture of the Strautmann Group enable Strautmann Umwelt-technik to use synergies, to react flexibly to the market and to develop innovatively

Next to the vertical balers who can create bales from 30 to 600 kg the company did develop the automatical baler AutoLoadBaler. In 2012 the automatic feeding system did herald a new era for the retail sale. Thanks to the new machine the filling of the baler and the waiting time for the end of the press cycles during refilling are omitted during the disposal of cardboard. In total, the time saving for a market with approx. 60 tons of cardboard disposal per year lies at approx. 600 hours. Each day up to 7,500 bales out of Strautmann presses are directly delivered to paper mills.

Due to its innovations Strautmann Umwelttechnik, is the technology leader in the field of balers for 25 years.

The recipe for success of Strautmann Umwelttechnik can be summed up in one formula:

Use synergies, act in a future-oriented manner and apply developed know-how.



The (r)evolution to the AutoloadBaler



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