



UPGRADES AND RETROFIT SOLUTIONS

Baling Systems





Upgrades and retrofit solutions

AUTEFA Solutions baling systems are designed and manufactured based on our experience and knowledge, with a strong input from our customers. Our technologies are leading the market since more than 75 years. The positive feedback of the market is underlining our position and give us inspiration for innovation by working very closed with our customers.

AUTEFA balers are strong, solid and performing for decades. We are offering valuable and economic solutions and upgrades to increase the actual running systems enabling our customers to follow the changed marked situation.

Our upgrade modification leads to improved labour safety, less manpower, process safety and less complains due to e.g. hair contaminates fibers bales. The market demands are changing fast, and more and more, fiber producers are searching for solutions to increase their margin and find alternatives for the commodity market. The change of the fiber specifications seems useful.

With our upgrades, machine and line modernization solutions,
your baler is again ready for the next decades:

Capacity increase and operation safety

- Electric updates
- Software updates
- Hydraulic busting

Modification to

- hygiene fiber production
- short-cut fiber production
- low-melt fiber production
- siliconized and conjugated fiber production

Automation targets: bale strapping and wrapping

Bale shape and packing style optimization

Bale transport and warehousing

Service contracts for the entire lifecycle

- 24h Hotline service
- VPN tunnel to PLC
- Remote access
- Data monitoring to optimize and control the production process

SERVICE CONTACT

Our service team offers various improvements, for the AUTEFA baler installed in your workshop.

For your inquiry or more information, please contact:

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Capacity increase and operation safety

WITH SOFTWARE UPDATES AND HYDRAULIC SET UP MODIFICATION

Balers from AUTEFA Solutions are characterised by reliability and durability. With several upgrades and modifications, we increase the production rate of your balers. High capacity for more fiber throughput and higher number of pressed bales per hour, ensure a competitive fiber production.

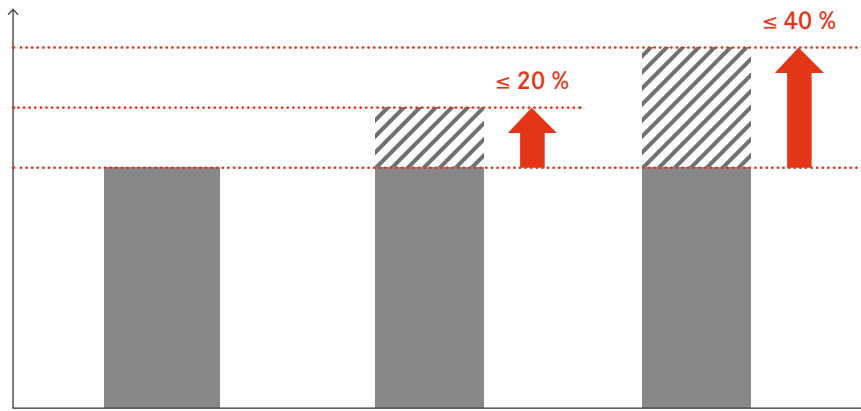
After analysing the pressing sequence, we update your existing software with new setups. The cycle time of the baling process will be optimized and the capacity will be increased. Capacity increases of up to 20 % are possible.

NEW HYDRAULIC SETUP

If Hydraulic power at the pre-press or main press needs to be increased, there are 2 options:

- Some systems that we delivered in the past have still capacities which are not in use and we could use that capacity.
- If more power needed, we increase the hydraulic power by new pumps or additional pumps and advanced hydraulic piping technology.

For bigger capacity increases, if the volume of the existing baler is too small, we can upgrade the fiber production line with a new feeding tower at the pre-press. Capacity increase of up to 40 % and more will be possible.



Possible capacity increase with software updates and hydraulic set up modification or new hydraulic setup



Hydraulic power increase with new installed pumps and advanced hydraulic piping upgrades

Modification to Hygiene fiber production

Setup that could also be used for your exiting baler as modification kit:

The demand for fibers, that need to fulfil the specifications of hygiene industry, have been increasing tremendously. The requirements for such a fiber are very difficult to achieve. To use a hydraulic baler and special machine components is a must to avoid any complains during the baling process.

It is very often that customers complain about contaminations and they might even use this as an excuse to ask

for a price discount and often time it is not clear to prove how to avoid the contamination if you don't have a proper protection system.

The best way to avoid contamination by human hair is an automated packing process. Only one black hair could have a very negative effect in a 400kg fiber bale and there is no doubt you will receive a complain from end-user.

STATIC CONDENSER:

- No abrasion of moving parts (like seals or metal parts)
- No extra filter needed for the exhaust air
- Nearly no maintenance needed

DISCHARGE UNIT:

- Prevents fiber contamination in the area between rotating shaft and walls, due to a special shaft design
- Control the fiber flow and organize an even feeding

FIBER-PUSHER:

- Patented over pressure system
- Most complex part of a baler which caused the main contamination in the past
- Dirty and grinded fiber cannot enter the production process

- With special outside guiding rails
- 100% stainless steel pusher shield,
- No paint at the back of the pusher shield

FILLING BOX:

- Patented over pressure system
- With carbon shield and guiding outside of the fiber chamber
- No friction to the fiber
- No fiber grinding
- No contamination

PRE-PRESS CYLINDER:

- With blowing ring to reduce adhesive fibers
- Fiber will not stay at the moving shaft and will not get contaminated
- Fiber cannot enter in the drive or shaft sealing



Modification to short-cut fiber production

Setup that could also be used for your exiting baler as modification kit:

Industries in Polyester, Viscose and other technical fibers are looking for solutions to process short-cut fiber with their standard baler. It is quite challenging to produce the short-cut fibers with the standard balers. Most of the existing balers are designed for long staple fibers and not useful for a short-cut production. A machine which is not specifically designed and prepared for short-cut fibers will release about 20% of the production to your workshop or to the environment.

Often time we get a call to solve the problem described above. The switch from long staple to short-cut fiber could be very well planned and executed with our immense experience.

RESULT:

- No issues with extra cleaning!
- No disappointing your customers!

We upgrade standard balers and fiber production lines with advanced new components:

CONDENSER FOR SHORT-CUT FIBERS:

With advanced technology, AUTEFA avoids fiber jam within the wire mesh. That ensures that the fiber will not block the system due to constant feeding process.

WIRE MASH PROTECTION

The additional coverings for wire mash, at the perforated metal sheets, protect against flying fibers. These coverings will be placed at the

- Feeding tower
- Weighing bin
- Fiber pusher
- Filling box
- Upper press-box protection at the filling side

ACTIVE VACUUM/ OVER-PRESSURE DEVICE AGAINST FLYING FIBER

Controlled suction devices, at the pre-press and main press, working with over-pressure, will reduce the fiber fly to a minimum. Active vacuum devices, patented by AUTEFA Solutions, will be placed at following areas:

- Feeding tower
- Weighing bin
- Fiber pusher
- Filling box
- Press box



6 mm short-cut fiber



Short-cut baler with professional dust collection system

Modification to low-melt fiber production

Setup that could also be used for your exiting baler as modification kit:

The modification to a low-melt fiber production is quite challenging. Low melt fibers need very gentle treatment. Friction points within the production line need to be eliminated, as they can harm the very sensitive low melt fibers. A constant and even fiber feeding to the batch weigher of a pre-press is very important.

A new feeding unit ensures the even fiber flow to the weighing bin and leads to improved weighing results. The combination of a static condenser and a motor driven feeding unit, eliminate all the disturbing friction points which can harm the very sensitive fiber.

FEEDING UNIT WITH LOW FRICTION DEVICE

- Shafts of the feeding unit is specially designed to avoid fiber wrapping
- Additional air pressure setup keeps the shafts clean, ensure that fiber will not stay in the sensitive areas

FIBER TRANSPORT

- Opening the fiber to reduce the heavy feeding density of LM-fiber
- To avoid fiber damage, no direct contact to the transport fan



Modification to siliconized and conjugated fiber production

Everybody who had experience with the production of a siliconized fiber knows the difficulty of bringing these very active and aggressive fibers in shape. Most of our customers could only make the production process possible by using special machine configurations.

Most important factor to handle such a fiber, with enormous rebound, is to get the max. hydraulic pressure you could get. Some of our client are using 500t AUTEFA baler to produce heavy dense bales.

HOW TO UPGRADE A STANDARD BALER TO A SILICON BALER:

- New pre-press ram with bigger surface
- Higher press box for more volume
- Modification of box retainer
- New main press ram with modified surface which guarantee the bale shape and keep the fiber at place during lifting the main-press box
- Increasing the number of bale straps



Perfect bale shape for siliconized fiber bales after baler modification



Automation targets: Bale strapping and wrapping

Automatic Strapping Unit AUTO-STRAP

The Automatic Strapping Unit AUTO-STRAP is a fast and easy strapping system which can be combined with AUTEFA Solutions Lift-Box-Compact balers or Nonstop-Ultra balers.

The installation of AUTO-STRAP increases the production rate compared to manual packing done by operators. It is also an option for a strapping process, direct on the fiber, followed by a film packing afterwards with our AD-WRAP unit. AUTO-STRAP can be combined with AUTEFA as well as every other double box baler.



Automatic Strapping Unit AUTO-STRAP



External Bale Wrapping AD-WRAP

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AUTEFA Solutions patented Bale Wrapping Machine AD-WRAP, is a high-quality solution for external bale wrapping, providing plenty of utilization concepts of at comparatively low costs. This efficient technology enables a perfect upgrade for manual balers and leads to a fully automatic packing process. It reduces the manpower costs and ensures a safe and clean wrapping process where human hair contamination is avoided.

AD-WRAP increases the capacity of a manual driven main-press. The packing part will be handled outside

the baler and is not effecting the baler cycle time. The retrofitting of a baling press with AD-WRAP increases the production up to 60 bales/h.

AD-WRAP, the external bale wrapping unit, could be pretty flexible in terms of where it could be installed and do not need to be connected to one single machine. It also perfectly suited to be integrated in a packing solution whereas you have wrapping bales from several balers. As a standalone unit, we recommend AD-WRAP for re-packing bales of inferior packing quality.

Bale shape and packing style optimization

with BALE SEALING SYSTEM BSS

AUTEFA Solutions patented Bale Sealing System BSS seals highly sensitive fiber bales for the hygienic industry. Most of the bale packing solutions, for manual bag packing or automated 3-sheet packing, end up with open pockets of the packing material. Therefore, bales are not 100% sealed against contamination.

As high customer demands in the competitive hygiene- and nonwoven market are pushing fiber suppliers to avoid fiber contamination, fiber manufacturers risks having complains, by using unprofessional manual or automated taping solutions to tape the open bale part.



The Bale Sealing System BSS securely seals fiber bales compared to conventional tape sealings. Interval tightening with AUTEFA Solutions Bale Sealing System BSS ensures that the PP-woven bale packing material will not be cut at the bale edges, even with very high strapping tension. Perfect sealed fiber bales meet the need of the highly competitive fiber market.

The Bale Sealing System BSS can be retrofitted individually and is also an excellent supplement for new investment projects. It does not reduce the speed of the baling press and can be integrated into the bale transport system or installed as a stand-alone unit.

BALE SEALING SYSTEM BSS

- Professional, industrial bale sealing against contamination during storage and transportation
- Individual adjustment of the strap tension in several steps
- Strapping does not peel off (like tape solutions) under high mechanical loads or at high temperatures
- No contamination of the packaging material by tape
- Easy unpacking, easy to handle after opening the bale strapping (no disturbing tape, which has a negative effect while unpacking)



Fiber bales for the hygienic industry, sealed with AUTEFA Solutions Bale Sealing System BSS

Bale transport and warehousing

AUTEFA Solutions, automation and logistic specialist is working together with international partners for the realization of modern bales warehouses. The challenge for an

automatic warehouse is the understanding of the logistic needs and requirements related to the continuous production, amount manpower and the replacement period.

Fully automated block storage

A bale block storage enables bale organization and bale stacking on the ground floor. The stacking itself is realized by a special bale clamp which grapes 3 bales in one go, to minimize cycle-time for the operating portal crane. Block storage is much easier in complexity and design than a high rack warehouse. Possible stacking height of AUTEFA's

block storage is related to the bale shape and bale size. We have realized a block storage for the height of 9 bales as well as height for 6 bales.



Automated bale warehouse

Fully automated high rack warehouse

Support cranes and bale handling satellites are the key components of a high rack warehouse.

The engineering of a fully automated high rack warehouse starts with:

- Bale transport
- Bale stacking and sorting
- Bale shape control unit
- Palettizing system
- Rack installation
- Support crane which organize the bale stack to the loading channels
- Satellite system which move the bale stacks in and out from the flexible storage positions

For our storage concepts we realize the complete in-door systems. We are not able to offer or build the necessary building around the storage. Building construction needs to be organized and handled by our customers according to the local regulations. AUTEFA provides space requirements and layout plans as basic for the building design.



Service contracts for the entire lifecycle

Enhance your operating efficiencies

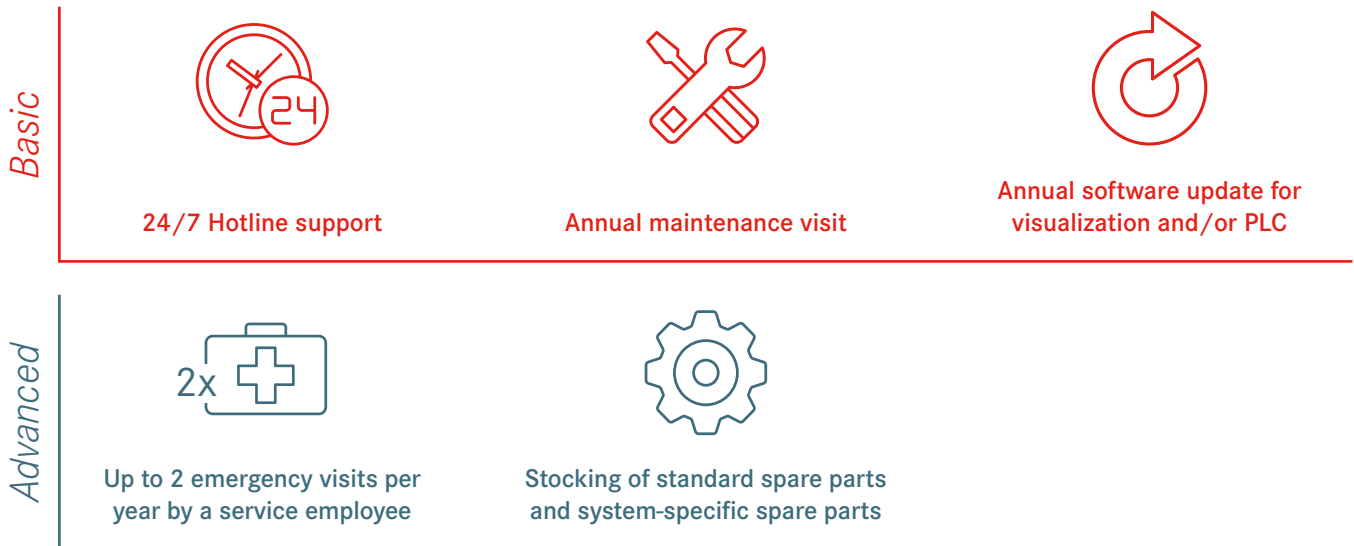
The failure of a single machine can lead to a complete stoppage of a production line. In the event of system malfunctions and downtimes, the specialists required to support the operating personnel for fault analysis and troubleshooting are often not available.

Service contracts from AUTEFA Solutions provide fast and effective support whenever you need it. Our service contracts help to improve cost efficiency for boosting

maintenance, optimization and modernization, minimizing downtime while extending the lifecycle of your system. A service contract with AUTEFA Solutions will enhance your operating efficiencies.

Service contracts from AUTEFA Solutions consist of a range of modules and are individually tailored to the system to be maintained. All costs can therefore be planned and all services are immediately available when required.

OUR SERVICE CONTRACT PROVIDES THE FOLLOWING SERVICES:





24/7 HOTLINE SUPPORT

You will receive our hotline support phone number and can call us 24 hours a day, seven days a week if you have any problems. We are always contactable by your employees and offer service, support and assistance to our customers for all problems affecting our machines and systems. Our service employees are specialists and technicians with many years of professional experience and are extremely familiar with solving production problems caused by issues with mechanics or electronics. With a single call you always receive rapid assistance and downtime of your equipment is effectively minimized.



ANNUAL MAINTENANCE VISIT

Qualified service personnel inspect and maintain your machines and lines, ensuring the safety, availability and value of your investment. Within the scope of our service contract, all machines are checked and maintained in accordance with our checklists. If functional and safety-related components show any abnormalities, you will be informed immediately and we will offer you the recommended spare parts. To ensure that you do not miss any maintenance, the AUTEFA Solutions Maintenance Service will contact you 6-8 weeks before the due maintenance date.



ANNUAL SOFTWARE UPDATE FOR VISUALIZATION AND/OR PLC

A software update ensures that the AUTEFA system software is always up-to-date with the latest technology. In addition, specific PLC adjustments or an adaptation of the visualization program upon the customer's request are made as part of the maintenance contract.



STOCKING OF STANDARD SPARE PARTS AND SYSTEM-SPECIFIC SPARE PARTS

Standard spare parts and system-specific spare parts from AUTEFA Solutions are available for you on site, in order to minimize machine downtime. We deliver the required spare parts from stock within 24-72 hours (Monday to Sunday). Warehouse stock solutions close to the customer ensure even faster access to required spare parts.



UP TO 2 EMERGENCY VISITS PER YEAR BY A SERVICE EMPLOYEE

As a service contract customer, your repair request is our highest priority. A service employee will be on-site within 24-48 hours plus travel time.

CONTACT

For your inquiry or more information please contact us.
We are happy to help.

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