

Rieter-A 11 UNIfloc Automatic Bale Opener



RIETER – YOUR SYSTEMS SUPPLIER

Integrated installations from Rieter offer more than just spinning machinery covering the entire process range from fiber to yarn. Perfect coordination of the machines throughout the process chain ensures economical manufacturing of the required yarn quality. In addition to its machine expertise and as a result of numerous engineering innovations, Rieter offers its customers support from the original business idea right through to the achievement of market success through yarn innovations.

RIETER – YOUR PARTNER FOR THE FUTURE

With Rieter as your partner you benefit from the following supplementary services:

- complete mill planning, spinning schedule computation and cost calculation
- automation options tailored exactly to customer needs
- SPIDERweb data acquisition system for on-line monitoring of the entire spinning mill
- process optimization and technical recommendations derived from broad-based technological expertise covering all spinning process stages right through to downstream processing
- worldwide service network and intensive customer training on-site or at the Rieter Training Center
- spare parts deliveries, a wide range of innovative and technically superior solutions in the sphere of conversions

You can have confidence in solutions from Rieter!

UNCOMPROMISING QUALITY

The foundations for yarn quality and thus the quality of the textile end product are laid in the blowroom process. This is the basis for the successful, worldwide use of Rieter's A 11 UNIfloc automatic bale opener. The A 11 UNIfloc bale opener processes the fiber material gently and efficiently into microtufts, from which impurities can be removed especially readily in the subsequent processes. This effectively supports the quality and economic efficiency of yarn manufacturing. The A 11 UNIfloc is the first element of a complete, self-contained process chain in Rieter's quality- and performance-oriented blowroom system. The distinguishing features of this highly efficient bale opener are:

- bale opening into microtufts for effective cleaning and dust extraction
- uniform take-off of bale lay-down by means of «bale profiling»
- simultaneous processing of up to 4 assortments
- patented, individually interchangeable double teeth on the opening roller
- processing of cotton from all sources and man-made fibers in staple lengths of up to 65 mm
- output of up to 1 400 kg/h (carded sliver)
- bale lay-down over a length of 7.2 to 47.2 meters
- take-off width selectable between 1 700 and 2 300 mm
- graphic interface for easy, intuitive operation at the control panel
- interface to higher-level control and information systems available
- maximum yield due to optimized processes

THE UNIFLOC OPERATING PRINCIPLE

Gentle bale opening

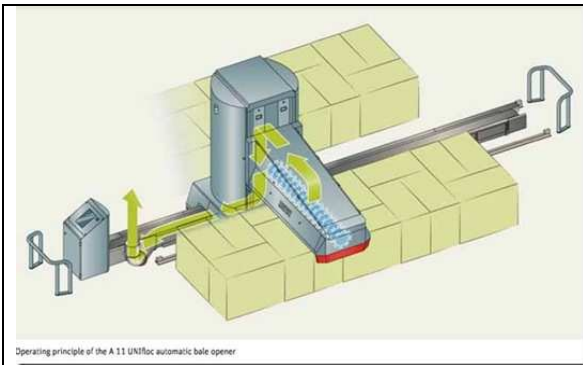
FUNCTIONAL TO THE LAST DETAIL

The A 11 UNIfloc processes cotton from all sources and manmade fibers in staple lengths of up to 65 mm. The bales being opened are placed lengthwise or crosswise on both sides of the bale opener, and the take-off unit can process up to four different assortments.

Reduction of the raw material into microtufts is assured by the patented double teeth on the take-off roller and the grid with closely set clamping rails.

The unique geometry of the double teeth ensures the uniform treatment of the entire bale surface. Retaining rollers traveling with the take-off unit prevent bale layers from sloughing and ensure precise, controlled operation over the entire height of the bale.

The take-off unit is lowered by a preselected or computed distance at each pass. Running-in and running-out programs compensate for the differing hardness of the bales over their cross section and ensure a uniform level of production. The fan incorporated in the swiveling tower extracts the opened tufts and feeds them into the tuft channel running between the guide rails. Transport to the following machine is pneumatic.



THE PERFECT SYNTHESIS

Quality for economy

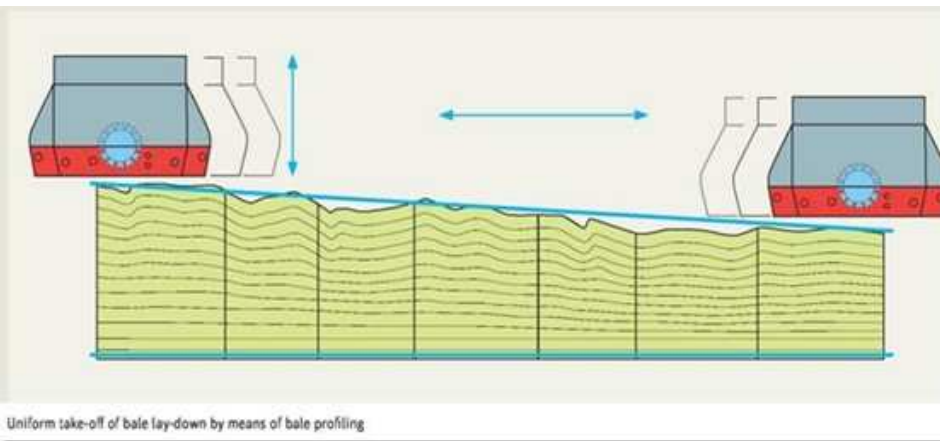
INTEGRATED BALE PROFILING

Bale Profiling guarantees totally uniform bale take-off. The height profile of the bale lay-down is precisely detected by light barriers and memorized. Scanning is performed at a constant speed of 9 m/min. Tufts are already taken off in the profiling phase. Continuous feeding of the subsequent machines is thus ensured from the outset.

During the subsequent passes the bales are opened at the preselected speed of travel and take-off depth. In the process the system automatically compensates for differences in height in the bale profile. Labor-intensive manual leveling is eliminated. After the required height range, take-off depth and speed of travel have been entered for each group of bales, take-off proceeds fully automatically.

CONSISTENTLY HIGH OPERATIONAL READINESS

The double teeth enable maintenance intervals to be halved. The teeth are mounted individually. They can easily and quickly be replaced if required, without removing the take-off roller. This explains the exceptionally high operational readiness of the A 11 UNIfloc.



SAFETY INCLUDED

Precision for high productivity

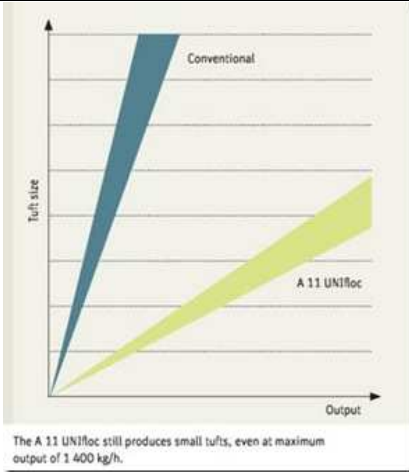
MICROTUFTS – PREREQUISITE FOR SUPERIOR YARN QUALITY Trash and dust can only be removed from natural fibers gently and efficiently on the surface of the tufts. This finding was an essential consideration in the design of the A 11 UNIfloc. The take-off unit is at the heart of the system. The patented take-off roller and the grid design with small gaps between the clamping rails enables small fiber tufts – microtufts – to be extracted. The twin-tooth profile ensures uniform, gentle and efficient extraction of the tufts, also irrespective of the take-off roller's direction of rotation.

EFFECTIVE PROTECTION OF PERSONNEL AND MACHINERY

A comprehensive safety concept ensures that the process is totally safe for personnel and machinery. A wide variety of actions contribute to the effective shielding of potentially endangered zones:

- ultrasonic sensors on the take-off unit register movements and bring the machine to an immediate standstill if necessary
- collision safeguards on the chassis and take-off unit stop the machine in the event of prohibited manipulation by personnel, detect obstacles and prevent collisions
- a core safety feature is the mechanical drop safeguard of the take-off unit; it provides effective protection for both personnel and machinery
- the articulated flap integrated in the take-off unit actuates a machine stoppage on contact with large extraneous matter in order to protect the A 11 UNIfloc and subsequent machines

All hazardous areas are protected. Personnel can therefore perform operations such as checking extraneous matter, collecting samples and laying down bales directly at bale lay-down. The safety systems are also prevented from responding unnecessarily to minor interventions and thus actuating interruptions to production. The unit's efficiency therefore remains at a consistently high level.



AUTOMATIC BALE OPENING

Flexible bale lay-down

There is space on each side of the A 11 UNIfloc bale opener for laying down up to four groups of bales of different lengths; up to four assortments can be assigned to these in optional sequence.

A wide range of customer needs are catered for with possible bale lay-down lengths of 7.2 to 47.2 meters and two take-off unit lengths of 1 700 mm and 2 300 mm. The maximum version can accommodate up to 40 000 kg of raw material. This ensures flexible, economical and largely autonomous processing on the A 11 UNIfloc bale opener.

INTELLIGENT SOLUTIONS

Tower rotating programs enable the number of take-off cycles on one side of the bale to be specified before rotation through 180° as required. The tower is rotated via position slides, which can be located at any point between the assortments.

In the system as a whole four carding lines can be connected with a wide range of assortments. This high degree of integration is a further outstanding indication of the operational flexibility of Rieter's A 11 UNIfloc automatic bale opener.

EASY OPERATION

The control panel is placed facing the extraction duct, providing a clear view and safety for operating the machine. Setting and control of the A 11 UNIfloc can easily be performed at the screen. In the interests of optimum monitoring of the installation as a whole, this modern machine control unit can be connected to the UNIcontrol or UNIconmand control system. UNIcontrol and UNIconmand also provide the interface to Rieter's higher-level SPIDERweb mill monitoring system.

