

 **siema**



LINEE PER TAGLIO ROTOLI DI CARTA

SICMA, ad estensione di un già ricco programma di macchine e sistemi di alimentazione **spappolatori** per l'industria cartaria, ha sviluppato da diversi anni il concetto di **linea per taglio rotoli**, secondo una tecnologia all'avanguardia nel settore.

La **Spaccarotoli SICMA**, è ad oggi una macchina che unisce elevate prestazioni elettriche e meccaniche, che ne rendono interessante l'impiego per robustezza e affidabilità.

Infatti, alla riconosciuta robustezza meccanica del prodotto **SICMA**, la **Spaccarotoli** unisce:

- Sicurezza d'esercizio, tramite il controllo elettronico d'inclinazione di lama, che garantisce precisione di taglio anche con rotoli caricati non centralmente
- Cilindri di alesaggio elevato, per permettere una riduzione della pressione di esercizio e ridurre l'usura delle tenute idrauliche
- Riduzione di manutenzione, grazie all'ottimizzazione degli sforzi sul portalamae sulle guide laterali
- Riduzione del tempo di spappolatura, grazie alla possibilità di tagliare il rotolo in fascioni di larghezza ridotta (500-600 mm), e possibilità di preparazioni di un batch con peso controllato.
- Marcatura CE, con apposito sistema di protezione di una macchina intrinsecamente pericolosa
- Lama di taglio in acciaio per utensili, trattato termicamente.
- Versatilità d'installazione, grazie alla possibilità di installare linee di alimentazione su nastri in PVC (per soli rotoli da tagliare), su nastro a tapparelle metalliche (per rotoli e balle di cartaccia da macero), in fossa, o fuori terra con l'eventuale adozione di culla di sollevamento.

Le applicazioni che ad oggi sono state realizzate comprendono referenze di macchine negli allestimenti più vari, a conferma che ogni cliente ha esigenze diverse, diverse tipologie di prodotto e di carta, con dimensioni che in generale si stanno ampliando. **SICMA** ha realizzato macchine per rotoli fino a 3000 mm di tavola e fino a 2000 mm di diametro, con alimentazione a piano pavimento o sopraelevato fino a 1800 mm rispetto al piano di calpestio.

ROLL SPLITTING LINES

SICMA, to complete its extensive programme of Equipment and Systems for Pulper Feeding in Paper Mills, have developed over the years Roll Splitting Line concepts, according to the latest technology for the applications.

The Roll Splitter produced by **SICMA** incorporates the highest quality electrical and mechanical components to ensure robustness and reliability.

In addition to the renowned ruggedness of **SICMA** equipment, the Roll Splitter combines:

- Operating safety, by means of the electronic control of the inclination of the blade, that guarantees the precision of the cut, even in case the paper rolls aren't centrally charged;
- High bore cylinders, requiring only low operating pressures, and long life of the seals;
- Reduction of the maintenance due to the optimisation of the stress on the cutter block and on the lateral guides;
- Reduction of the pulping time due to the possibility of cutting the paper rolls in small parts having short length (500-600mm), and to accurately control the batch weight;
- CE marking, with all safety protections;
- Cutting blade in tool steel, thermally treated;
- Versatility due to the possibility of installing the splitting equipment on PVC belt conveyors (for paper rolls), on steel slats conveyor (for paper rolls, or waste paper, baled or loose) in a pit, over the floor, or with lifting cradle.

The applications can be covered by the Sicma standard range of Roll Splitters, or a totally customised system can be supplied for precise individual requirements.

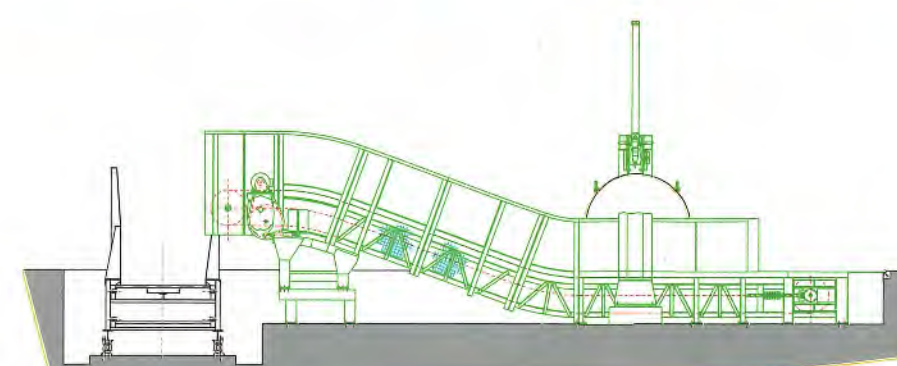
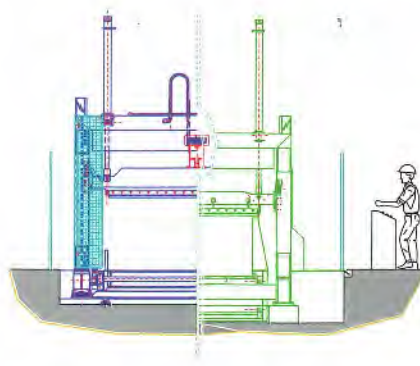
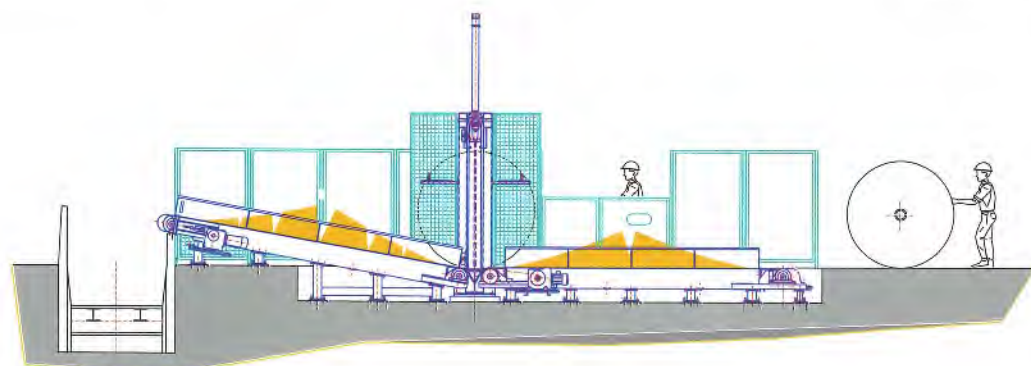
SICMA have supplied Splitting Lines for paper rolls up to 3000 mm face width, and 2000 mm diameter, with a wide range of feeding lines, in elevated and excavated positions.

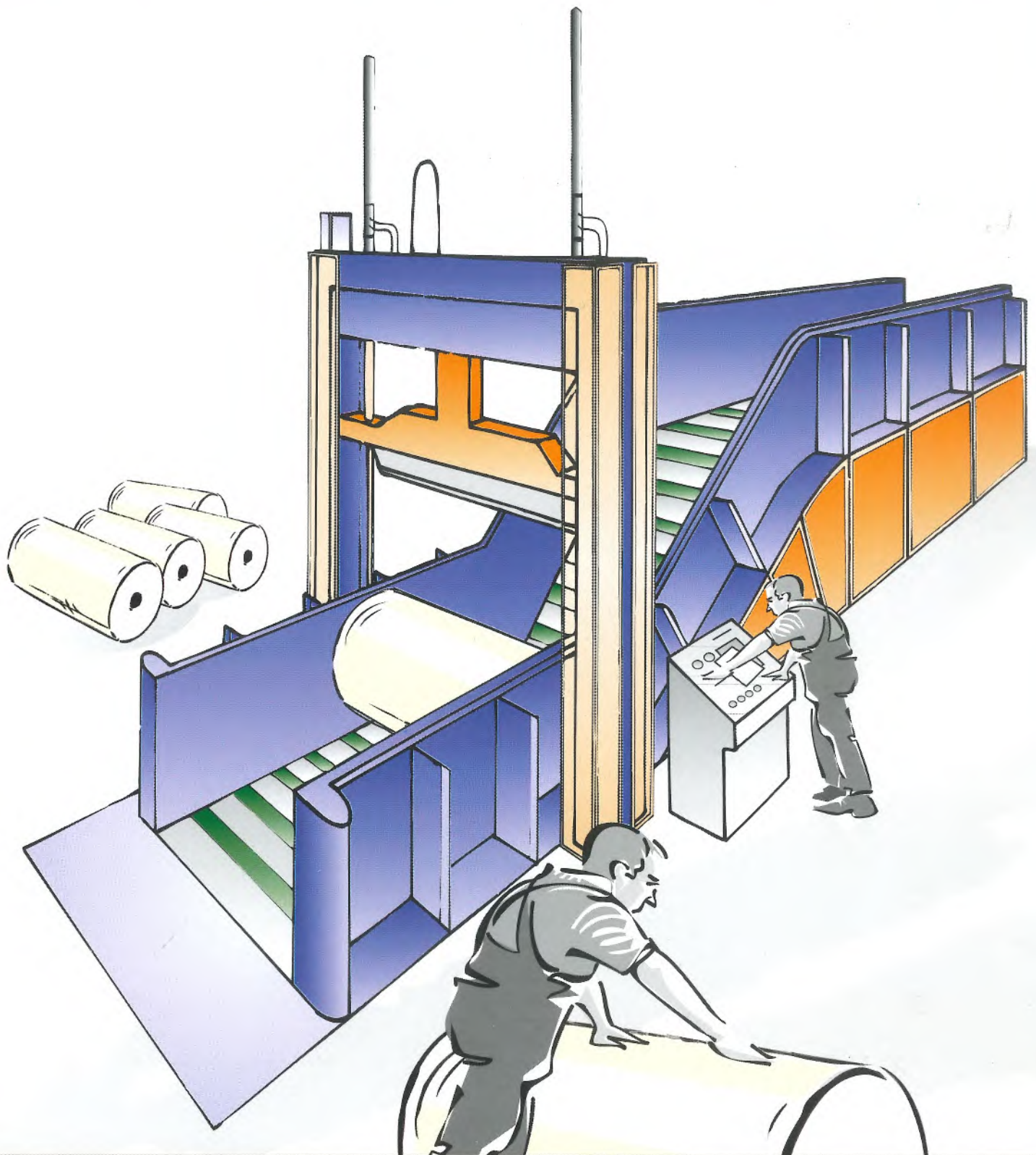
LIGNE DE REFENTE DE BOBINES

SICMA, afin de compléter son important gamme d'équipement de systèmes d'alimentation de pulpeur en papeterie a développé depuis plusieurs années, le concept de lignes complètes de refente de bobines, suivant une technologie de premier plan dans cette application. Les fendeuses de bobines construites par **SICMA**, allient de hautes performances électriques et mécaniques, qui en font des équipements appréciés pour leur robustesse et leur fiabilité. Au-delà de la grande robustesse reconnues équipements construits par **SICMA**, les fendeuses de bobines réunissent:

- Sécurité totale d'utilisation, grâce à un dispositif de contrôle permanent de l'inclinaison de la lame, ceci garantissant la précision de la coupe, également dans le cas de bobines non centrées;
- Vérins hydrauliques de grand diamètre de manière à réduire la pression de fonctionnement ainsi que l'usure des joints;
- Réduction de l'usure et de la maintenance due à la maîtrise des contraintes sur la traversée de coupe et les guides latéraux;
- Réduction des temps de pulpage due à la possibilité de couper les bobines en morceaux de petite longueur (500-600 mm), et également à la possibilité de préparer des pulpes en maîtrisant leur poids;
- Label CE, incluant tous les dispositifs sécuritaires de protection;
- Couteau en acier allié traité rectifié;
- Souplesse d'adaptation par installation de la fendeuse de bobines sur: dispositif de convoyeurs à bande PVC (Cas de bobines seules devant être fendues), convoyeurs à tablier métallique (Cas de bobines devant être fendues et vieux papiers en balle ou en vrac devant alimenter le pulpeur), en fosse ou au-dessus du niveau du sol, avec l'éventuelle utilisation d'une pelle de relevage.

Les installations réalisées par **SICMA** à ce jour, inclues des références d'équipement construites dans beaucoup de solutions différentes, confirmant ainsi que chaque client a des impositions particulières, différentes sortes de papier, des dimensions de bobines allant en augmentant. **SICMA** a construit jusqu'à aujourd'hui des lignes de coupe de bobines de papier jusqu'à 3.000 mm de laize et 2.000 mm de diamètre, avec ligne d'alimentation en fosse ou jusqu'à 1.800 mm au-dessus du niveau du sol.





LINEE PER TAGLIO ROTOLI DI CARTA
ROLL SPLITTING LINES
LIGNE DE REFENTE DE BOBINES



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**TISSUE ROLL HANDLING
AND WRAPPING SYSTEMS**

**HANDLING SYSTEM FOR
PAPER MILLS**



Tissue Roll Handling and Wrapping System: installation on the same level.

Thanks to the experience generated in the past years, in 2001 Sicma S.p.A. supplied a completely automatic handling and wrapping system for an Italian group realizing a new handling line for tissue paper roll. The scope of the installation is to automatically handle the paper rolls coming from the Winder. The paper rolls, after being wrapped, weighed and labelled, are taken in the vertical axis by a clamp lift truck and stored in the Mill warehouse.

The system has been made following SICMA manufacturing standard and is managed by a specially designed

software program. The system guarantees a continuous working cycle of 24 hours/day for 365 days/year.

The equipment composing this system has been designed to handle tissue paper rolls having the following dimensions:

- Diameter up to 2.500 mm;
- Width up to 2.850 mm;
- Weight, max: 4.000 Kg.

Besides, the system guarantees a production capacity of 20 roll/hours.

Tissue Roll Handling and Wrapping System: installation on different levels.

Sicma S.p.a. supplied a roll handling and wrapping system for TAD tissue paper rolls, 15 to 30 gr/mq, to an important worldwide group in 2001.

The system was made following SICMA manufacturing standard and is managed by a specially designed software program.

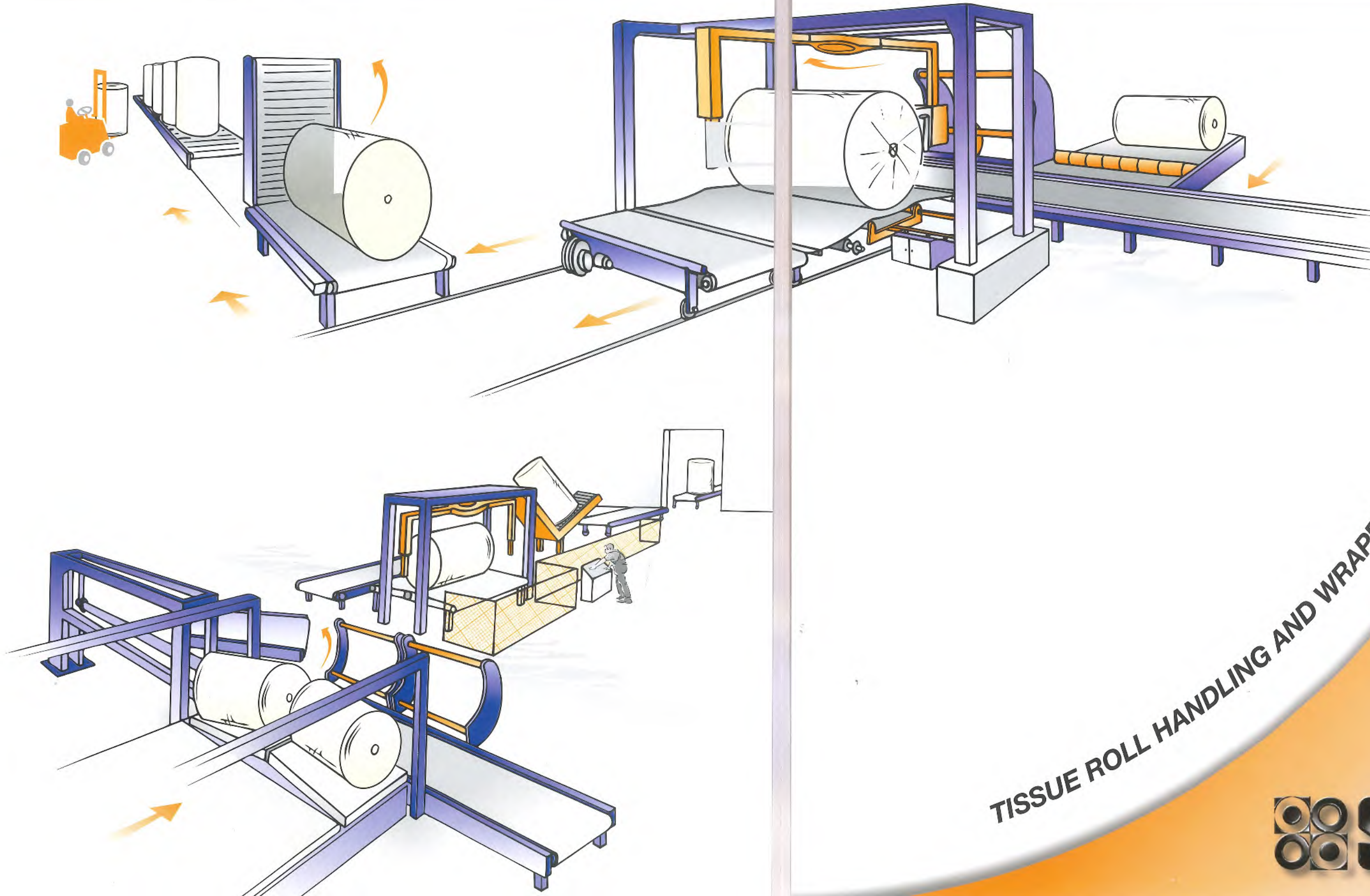
The system guarantees a production capacity of 8 rolls/hour, with a continuous working cycle of 24 hours/day for 365 days/year.

The scope of the installation is to handle the rolls coming from the Winder at the operating floor level (+7,00 m),

to wrap them with stretch film in an automatic axial wrapper and then to transfer them to ground floor level to a buffer storage on tubular slat conveyors before they are picked-up by a clamp lift truck for storage in the shipment area.

The equipment composing this system had been designed to handle tissue paper rolls having the following dimensions:

- Diameter up to 3.000 mm;
- Width up to 2.660 mm;
- Weight, max: 3.000 Kg.



TISSUE ROLL HANDLING AND WRAPPING SYSTEMS

Tissue roll handling and wrapping system: installation on the same level

WORKING CYCLE DESCRIPTION

The roll coming from the Winder is stopped on the pneumatic separating plates. When the system has the consent to continue with the handling operation, the separating plates lower in a preset sequence and number, and the selected roll of the set rolls onto the PVC covered belt conveyor. The passage between the separating device and the conveyor is accomplished across a steel ramp and the roll is received on the conveyor by a fixed stopper supplied with special rubber profiles to avoid the paper from being damaged during this phase. Each single roll gets conveyed and is delivered to the center of the hydraulic kicker. When this position is reached, the roll dimensions are checked and the data relative to its size are sent to the information system of the handling system, in order to allow the print-out of a self-adhesive label that will be applied on the roll. The paper roll is ejected and charged on the full width belt conveyor of the wrapper that moves the roll to the right position for the wrapping operation. The best handling of the roll is performed with a special travelling roller bench, self-adjusting to the roll diameter, laying under the conveyor belt: this device allows the correct rotation of the paper roll along its axis during the wrapping cycle, giving the best general result. All the wrapping operations are automatically performed under the maximum safety conditions for the operators on the production line; from the application of the film at the beginning of the cycle, the cutting and heat welding to close the film bundle at the end of the cycle. When the wrapping cycle is finished, the roll is discharged onto a special shuttle with a tilting conveyor on-board. This design creates the best receiving of the roll from the conveyor of the wrapper onto the shuttle, avoiding the chance of falling off the conveyor. In addition and for the safest working condition, the shuttle also has a fixed stopper with a steel profile that helps to stop and to position the roll on the shuttle. The shuttle moves for some distance until reaching a weighing platform where the weight data is acquired. This platform is positioned exactly under the portal of the automatic label applicator. The roll data received by the system and managed by a local personal computer is sent to the label that is automatically printed on a self-adhesive support and applied on the top surface of the body of the roll. After the labelling operation, the shuttle reaches the hydraulic up-ender. It places itself inline with the input conveyor and transfers the roll onto the up ender. The roll is turned 90° on the vertical axis and is transferred and stored on tubular slat conveyors. The rolls are ready to be taken by means of a clamp lift truck and stored in the intermediate warehouse before shipment.

AUTOMATION

The electrical power and control system was supplied turn-key, including the general supervision system by means of a Personal Computer. It controls both the equipment automation to guarantee the correct working cycle and the data management of the transported rolls, so as to satisfy the production needs of the mill. The system management and its supervision are simplified by means of local operator panels specifically programmed for the easiest control.



Tissue roll handling and wrapping system: installation on different levels



during all the roll handling cycle. The paper roll is transferred onto a rotating platform that turns the transport direction 90° with respect to the previous. On this line, the paper roll is transferred on a pivoting conveyor that ejects it towards the automatic axial stretch film wrapper, for the wrapping operations. The complete wrapping operation, ie. from the application of the film at the beginning of the cycle to the cutting and heat welding to close the film bundle at the end of the cycle, is automatically performed under the maximum safety condition for the operators on the production line. When the wrapping operations are finished, the roll is repositioned on the main conveyor line, then it's put in vertical axis by means of a hydraulic up-ender that delivers it to a tubular slat conveyor. The paper roll, now charged on a travelling shuttle, is transported to the hydraulic elevator.

ROLL HANDLING SYSTEM FROM OPERATING FLOOR TO GROUND FLOOR (0.00)

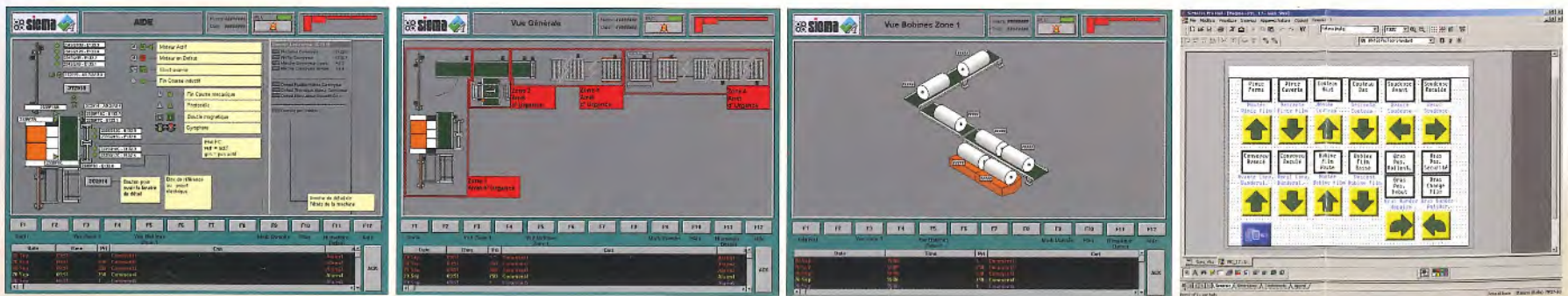
The hydraulic elevator transfers the rolls from the operating floor level to the ground floor level, with a vertical travel of 7 m. With regards to the safety conditions of the operators, the input and output areas of the elevator are interlocked and the openings are supplied with fast closing doors, which open only during the charging/discharging operations. Additionally, these areas are surrounded with safety enclosures to avoid the possibility of access during the normal working cycle of the line. When the ground floor level is reached, the roll is transferred and stored onto a tubular slat conveyor by means of a travelling shuttle. The rolls are ready to be taken by means of a clamp lift truck and stored in the intermediate warehouse before shipment.

AUTOMATION

The electrical power and control system had been supplied on a turn-key basis and is also includes a general supervision system by means of Personal Computer. It controls both the equipment automation, to guarantee the correct working cycle development, and the data managing of the transported rolls, so as to satisfy the production needs of the mill. The system managing and its supervision is simplified by means of local operator panels specifically programmed for the easiest control.

ROLL HANDLING AT OPERATING FLOOR LEVEL (+7.00), WINDER AREA

The two half jumbo rolls coming from the Winder, with the expandable shaft, is placed on two separating hydraulic cradles. The operator deflates the shaft and loosens the seal on the board core. The "shaft puller" takes out the spool from the two half jumbo roll and then the two hydraulic cradles raise in the center to guarantee good separation of the two rolls. Each single cradle, rotating independently, can now eject the roll one at a time. The speed of the ejected roll is absorbed by a pneumatic damper, which must receive and position the roll on a PVC covered belt conveyor. The two empty cradles are now automatically loaded with two board cores, and the previously extracted spool is re-inserted into these board cores. The two cores now placed on the spool must be exactly located on the basis of the dimensions of the paper roll that must be produced. This operation is very important because the board cores on which the paper is wound must be centered with respect to the Winder knife, so two separate rolls are obtained at the end of the production. The space between the two cores is obtained holding one of the two cores with a pneumatic device, while the second is positioned based on the production data inserted by the operator. At the end of these operations, the operator inflates the expansible shaft in order to lock it together with the board cores. The spool, including the two board cores, is positioned on the winder rails and is ready to be used. The rolls coming from the two cradles are discharged one at a time on the PVC covered belt conveyors. This kind of conveyor is designed to avoid any damage to the paper





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**STRETCHFILM
WRAPPING MACHINE**

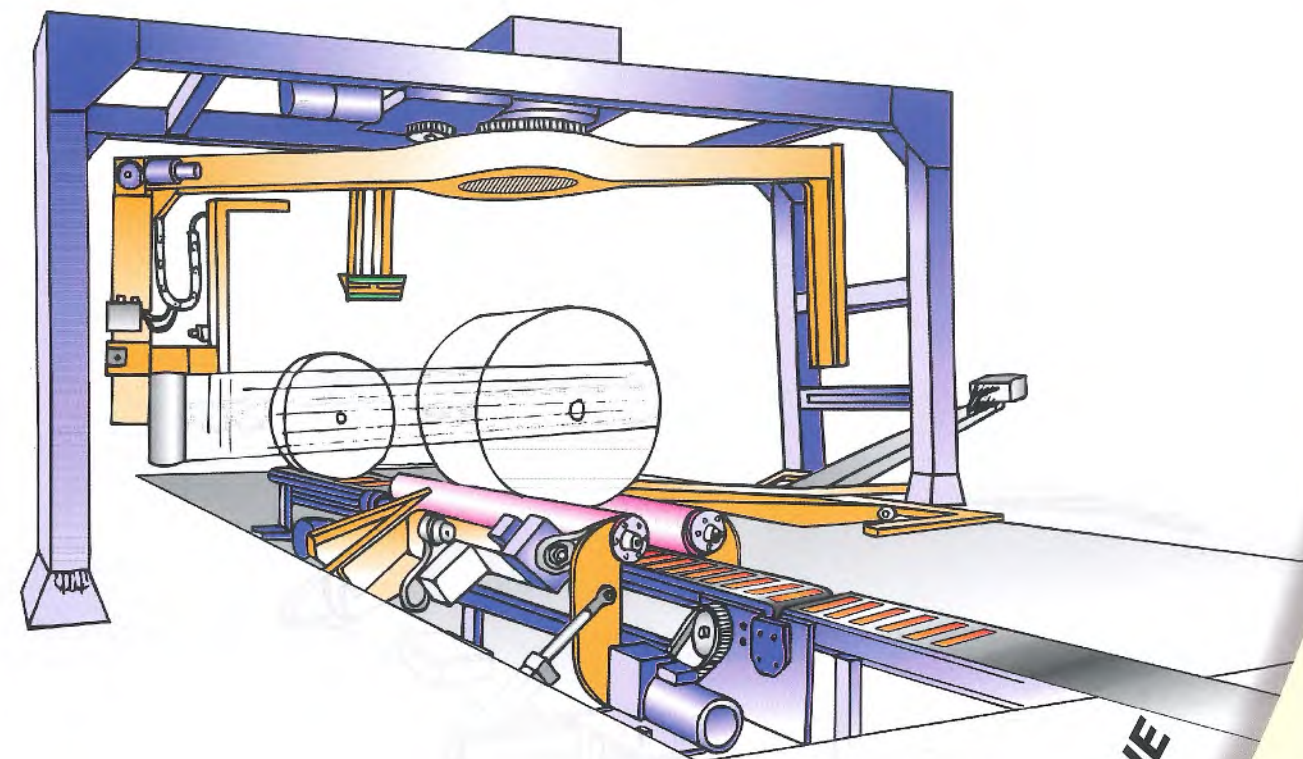
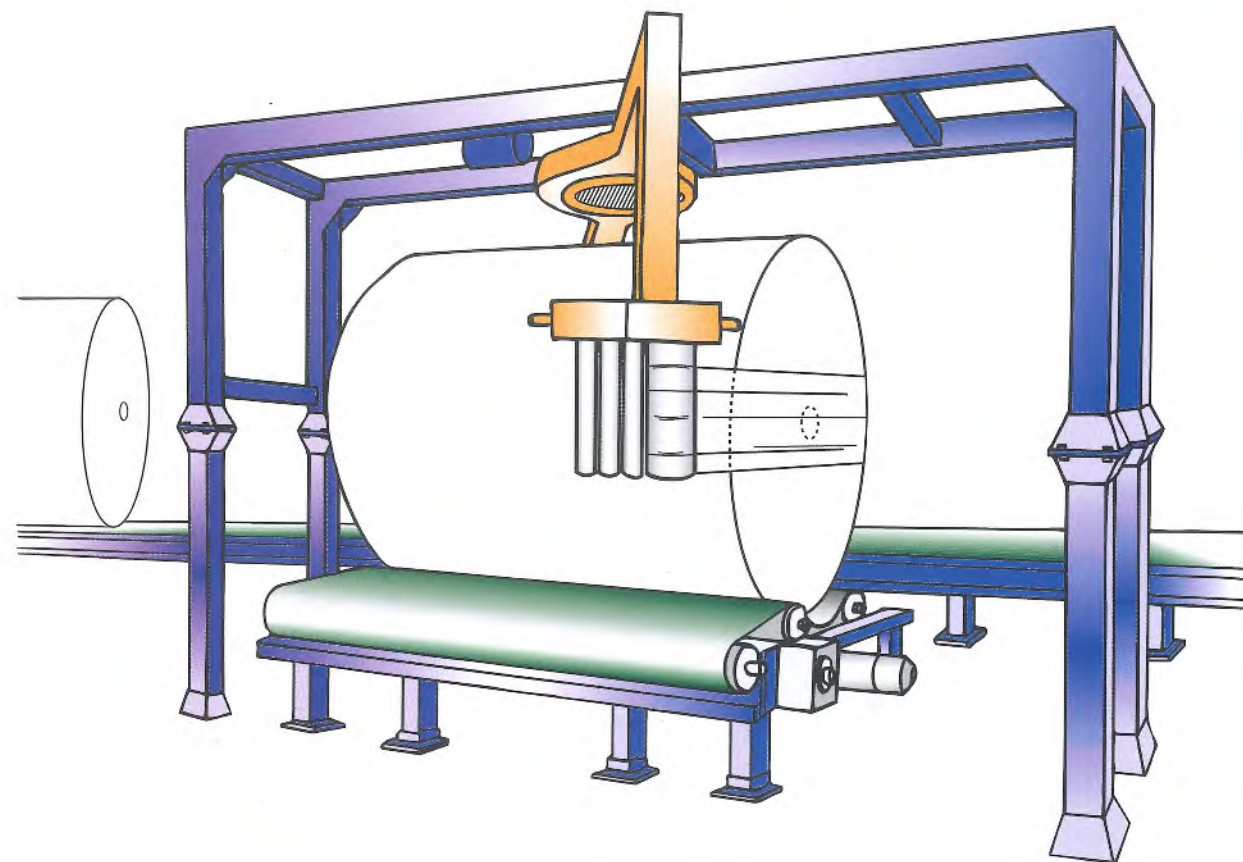
**HANDLING SYSTEMS FOR
PAPER MILLS**

 **siema**

Le macchine per imballo rotoli con film estensibile prodotte dalla SICMA SpA propongono un efficace sistema di protezione e finitura dei rotoli di carta. Grazie all'esperienza maturata nel settore della movimentazione dei materiali di cartiera, le macchine per imballo sono state sviluppate per offrire: protezione adeguata, salvaguardia del prodotto prima, durante e dopo l'imballo, sicurezza agli operatori. I rotoli possono essere imballati in modo radiale, assiale oppure asso-radiale. I due gruppi d'avvolgimento, assiale e radiale, elaborano l'imballo del rotolo mediante strati sovrapposti di film estensibile.

The stretch-film wrapping machines produced by SICMA SpA will help protect many different paper roll types from external damage. As a result of its experience matured in the material handling systems in Paper Mills, the wrapping machines are designed to give: proper protection, safeguard of the product before, during and after the wrapping operations, and operator safety. The paper rolls can be wrapped axially or axial-radial. The two wrapping groups, axial and radial, enable more layers of stretch film to be overlapped.

Les emballeuses de bobines sous film étirable construites par SICMA permettent une protection efficace sur tous les types de bobines contre les agressions multiples et les agents extérieurs. En conséquence de la longue expérience de construction de systèmes de manutention en papeterie, les banderoleuses SICMA sont conçues pour permettre : protection adaptée, sauvegarde du produit emballé avant et pendant les opérations de banderollage, sécurité et protection de l'opérateur. Les bobines pourront être banderollées axialement ou radialement ou en mode combiné axial / radial. Les deux groupes de banderollage garantissent le contrôle des paramètres de qualité de l'emballage, tension exercée sur le film, valeur du recouvrement et du nombre de couche de film.



STRETCHFILM WRAPPING MACHINE

Stretchfilm Wrapping Machine



IMBALLAROTOLI AUTOMATICA ASSIALE PER ROTOLI DI CARTA TISSUE

si compone principalmente di: TRASPORTATORE A NASTRO con banco a rulli mobile, per ottimizzare il dispositivo di rotazione delle bobine durante l'imballo, con la realizzazione di un supporto continuo autoadattante alle dimensioni del rotolo al fine di evitare i danneggiamenti; GRUPPO DI DISTRIBUZIONE FILM, il cui processo di applicazione è ottimizzato per evitare ogni danneggiamento al rotolo anche nelle posizioni più critiche; AUTOMAZIONE, con processo integrato di applicazione film ad inizio ciclo, di taglio e di saldatura; AUTOMAZIONI ACCESSORIE: la macchina può essere fornita con sistema di pesatura e con sistema di stampa ed applicazione automatica delle etichette.

KEY FEATURES OF AUTOMATIC AXIAL WRAPPER FOR TISSUE PAPER ROLLS:

BELT CONVEYOR with movable rollers device, to optimise the rotation of the paper roll during the wrapping operation, using a continuous support which is self-adjusting to the roll dimensions, to avoid roll damage.

FILM DESPENSER, the application of the film is optimised to avoid damaging the paper in critical positions.

AUTOMATION, with the fully integrated process of film application, cutting and final welding.

ANCILLARY EQUIPMENT: the machine can be supplied with a weighing system and with automatic label printing and application.

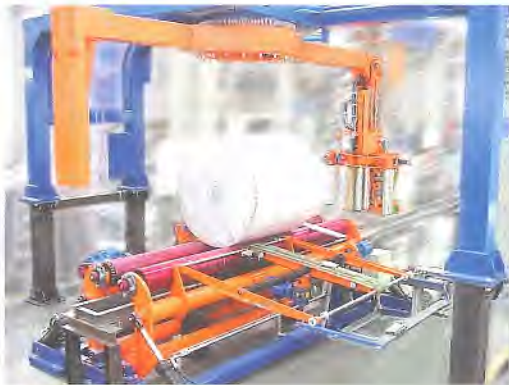
POINTS ESSENTIELS DE LA BANDEROLLEUSE AXIALE AUTOMATIQUE POUR BOBINE DE PAPIER TISSUE :

BANDE SUPPORT D'ENTRAINEMENT DE LA BOBINE avec supports de bande ajustables, afin d'optimiser la mise en rotation de la bobine pendant le banderollage par l'intermédiaire d'une auto-adaptation continue du supportage "en berceau" adapté au diamètre de la bobine.

DEVIDOIR DE FILM le déroulage automatique du film est optimisé afin de contrôler la tension, en relation avec la position du dévidoir par rapport à la bobine, afin d'éviter tout dommage, également dans les conditions les plus critiques.

AUTOMATISATION, avec un procédé d'application du film intégralement contrôlé : en début du cycle, pendant le banderollage, au coupage du film, ainsi qu'à la soudure finale.

EQUIPEMENTS AUXILIAIRES : l'emballeuse peut être livrée avec un dispositif de pesage, dispositif d'impression et d'application automatique d'étiquette.



IMBALLAROTOLI AUTOMATICA ASSIALE-RADIALE PER ROTOLI DI CARTA O DI CARTONE si compone principalmente di: **BANCO A RULLI** che permette la rotazione delle bobine durante l'imballo, autoadattante alle dimensioni del rotolo al fine di evitare i danneggiamenti; **GRUPPO DI DISTRIBUZIONE FILM**, il cui processo di applicazione è ottimizzato per evitare ogni danneggiamento al rotolo anche nelle posizioni più critiche; **AUTOMAZIONE**, con processo integrato di applicazione film ad inizio ciclo, di taglio e di saldatura. **AUTOMAZIONI ACCESSORIE**: la macchina può essere fornita con sistema di pesatura, con sistema di stampa ed applicazione automatica delle etichette e con la marchiatura a getto d'inchiostro.

KEY FEATURES OF AUTOMATIC AXIAL-RADIAL WRAPPER FOR PAPER OR BOARD ROLLS: **ROLLERS DEVICE** to optimise the rotation of the paper roll during the wrapping operation, self-adjusting to the rolls dimensions to avoid roll damage. **FILM DISPENSER**, the application of the film is optimised to avoid damaging the paper roll in critical positions. **AUTOMATION**, with the fully integrated process of film application, cutting and final welding. **ANCILLARY EQUIPMENT**: the machine can be supplied with a weighing system and with automatic label printing and application and with ink jet printing.

POINTS ESSENTIELS DE LA BANDEROLEUSE AUTOMATIQUE AXIALE-RADIALE POUR BOBINES DE PAPIERS OU CARTON : **ENSEMBLE ROULEAUX SUPPORT**, permettent la mise en rotation de la bobine durant les opérations de banderollage, adaptables automatiquement au diamètre de la bobine afin d'éviter tout dommage lors de l'entraînement de cette dernière. **DEVIDOIR DE FILM**, le déroulage automatique du film est optimisé afin d'en contrôler sa tension en relation avec la position du dévidoir par rapport à la bobine, afin d'éviter tout dommage, également dans les conditions les plus critiques. **AUTOMATISATION**, avec un procédé d'application du film intégralement contrôlé: en début de cycle, pendant le banderollage, au coupage du film, ainsi qu'à la soudure finale. **EQUIPEMENTS AUXILIAIRES** l'emballieuse peut être livrée avec un dispositif de pesage, dispositif d'impression et d'application automatique d'étiquette, impression directe au jet d'encre.



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Autostripper® Unit

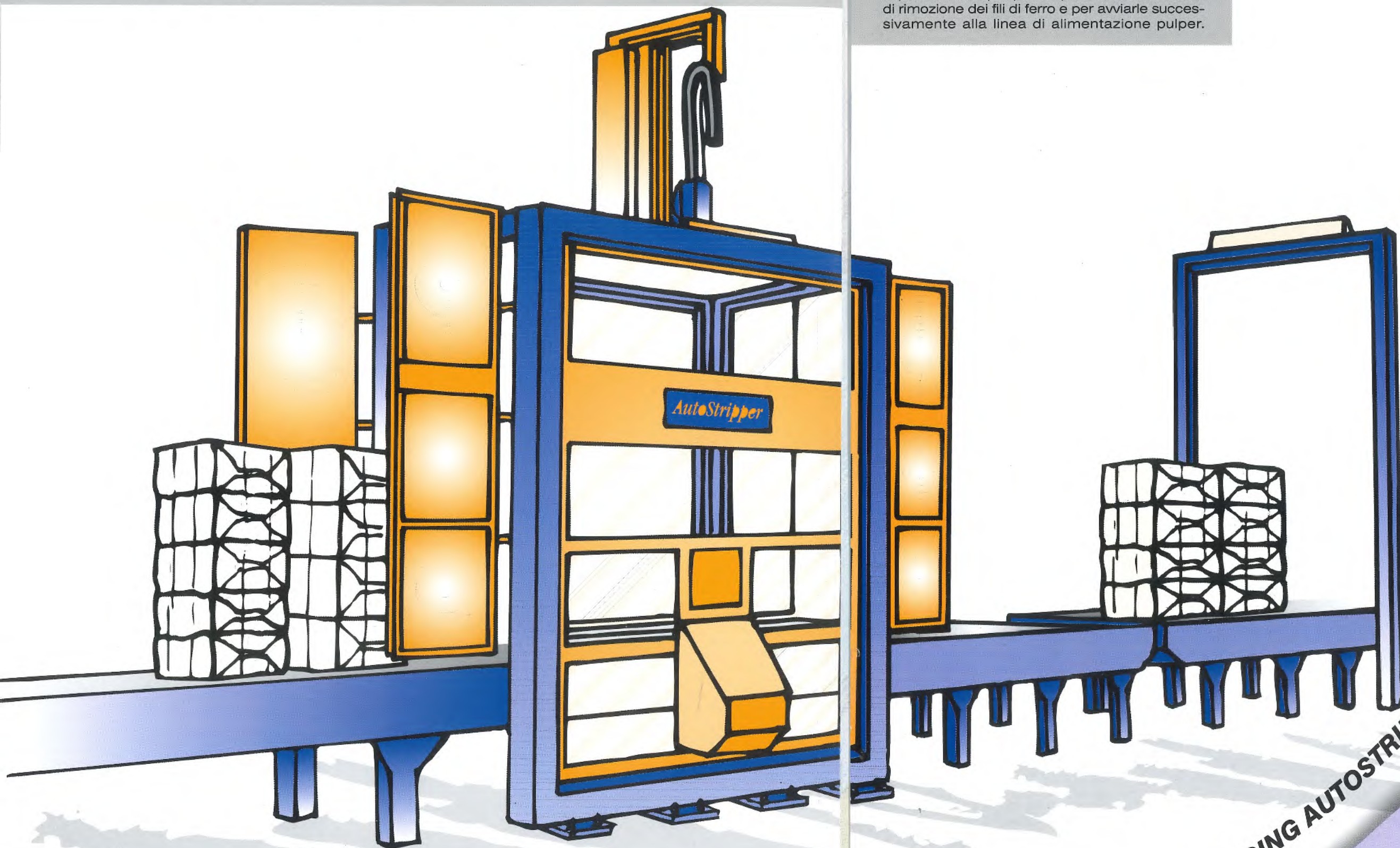
HANDLING SYSTEMS FOR
PAPER MILLS



L'AutoStripper® est spécialement conçu pour couper les fils métalliques qui maintiennent groupés les balles de pâte, enlever mécaniquement les fils en réalisant des bobineaux éjectés dans un container. L'installation en ligne permet de séparer chacun des units en deux piles, facilitant ainsi l'opération de coupe et d'enlèvement des fils, et transférer les piles vers la ligne d'alimentation.

AutoStripper® is specifically designed by SICMA S.p.A. to cut the wires that tie the units of bales, remove the wires and make a coil easy to be handled, ejecting them to an outside box. The installation on line allows to separate the two stacks of the unit for the wires removal automatic operation and send them to the pulp feeding line.

AutoStripper® è la soluzione della SICMA S.p.A. per tagliare i fili di legatura delle unit costituite da due pile di balle di cellulosa, rimuoverli creando una matassa di fili facilmente maneggiabile, scaricandola automaticamente entro un apposito contenitore. L'installazione in linea consente di separare le due pile per le operazioni automatiche di rimozione dei fili di ferro e per avviarle successivamente alla linea di alimentazione pulper.



AUTOMATIC DEWIRING AUTOSTRIPPER® FOR PULP BALES UNIT

Automatic dewiring AUTOSTRIPPER® for pulp bales unit



CARATTERISTICHE DI AUTOSTRIPPER®

- Nessuna perdita di cellulosa durante le operazioni di taglio;
- Controllo automatico delle dimensioni dell'unit;
- Rimozione automatica dei fili;
- Facile installazione su linee esistenti;
- Sicurezza totale per gli operatori dell'impianto;
- Manutenzione ridotta con uso di componenti ed acciai speciali;
- Alta produttività;
- Alta efficienza di rimozione;
- Maneggevolezza delle matasse di fili di ferro.

KEY FEATURES OF AUTOSTRIPPER®

- Environmentally clean;
- No pulp loss after wires cut operations;
- Automatic detection of the unit sizes;
- Automatic winding of the steel wires;
- Easy installation in existing pulp lines;
- Simple and safe working operations;
- High capacity;
- High efficiency;
- Automatic winding of the steel wires.

LES AVANTAGES ESSENTIELS DE L'AUTOSTRIPPER®

- Environnement propre;
- Très peu de perte de pâte, due à la coupe des fils;
- Simplicité de fonctionnement;
- Détection dimensionnelle automatique des units;
- Récupération, conditionnement automatique des fils;
- Insertion aisée sur les installations existantes;
- Importante capacité de traitement;
- Rendement élevé.



L'AUTOSTRIPPER® per UNIT si compone principalmente di:

TESTA DI TAGLIO

Autoallineante ed autocentrante rispetto alla posizione dei fili, la testa di taglio è composta da due coltelli movimentati elettricamente. Il taglio viene eseguito sulla parte superiore dell'unit, con movimento di accostamento comandato da un cilindro pneumatico per evitare possibili danneggiamenti alle balle di cellulosa.

BRACCETTI DI RITENZIONE

Prima che l'albero avvolgitore crei la matassa, due bracci laterali si chiudono sotto l'unit, in modo da trattenere i fili durante l'operazione d'avvolgimento.

ALBERO AVVOLGITORE

Posizionato sotto il trasportatore ed azionato idraulicamente, permette la creazione di una matassa di fili dopo il taglio. L'albero avvolgitore è dotato di movimento verticale d'avanzamento verso l'unit e di rotazione, entrambi i quali comandati idraulicamente.

AUTOSTRIPPER® for pulp bales UNIT is mainly composed by:

CUTTING HEAD

Self aligning and centering on the set of wires, the cutting head is made by two shearing knives, electrically powered.

The cutting head approaches carefully the top of the unit by means of a pneumatic cylinder, to avoid damage to the bales.

CLAMPING ARMS

Before the winding shaft can make a coil, two specially designed arms clamp the set of the wires under the bottom of the unit, and hold them during the winding operation.

WINDING SHAFT

Operating from the bottom, a hydraulic driven shaft, makes a coil of the complete set of steel wires. The winding shaft moves vertically towards the pulp bales unit and rotates.

L'AUTOSTRIPPER® pour bales de pâtes groupées en UNIT est principalement composé de :

TÊTE COUPE FIL

Disposition autocentrée sur le lien de fils, le dispositif de coupe est une cisaille à deux couteaux à commande électrique.

L'ensemble de la tête est approché à l'aide de vérins pneumatiques afin d'éviter tout dommage sur les bales.

BRAS D'ACCROCHAGE

Avant la mise en action de l'axe d'extraction et d'enroulement, deux bras latéraux au profil spécial cramponnent le lien de fils et le retiennent sous le niveau des bales pendant l'opération d'enroulement des fils.

ARBRE D'ENROULEMENT DES FILS

Disposé en partie basse, à commande hydraulique, il entraîne en une opération tous les fils encerclant l'unit, en constituant un bobineau. L'arbre d'enroulement se déplace verticalement en dessous des bales de pâte et il est animé d'un mouvement de rotation contrôlé.





WIRE SHARK REMOVER

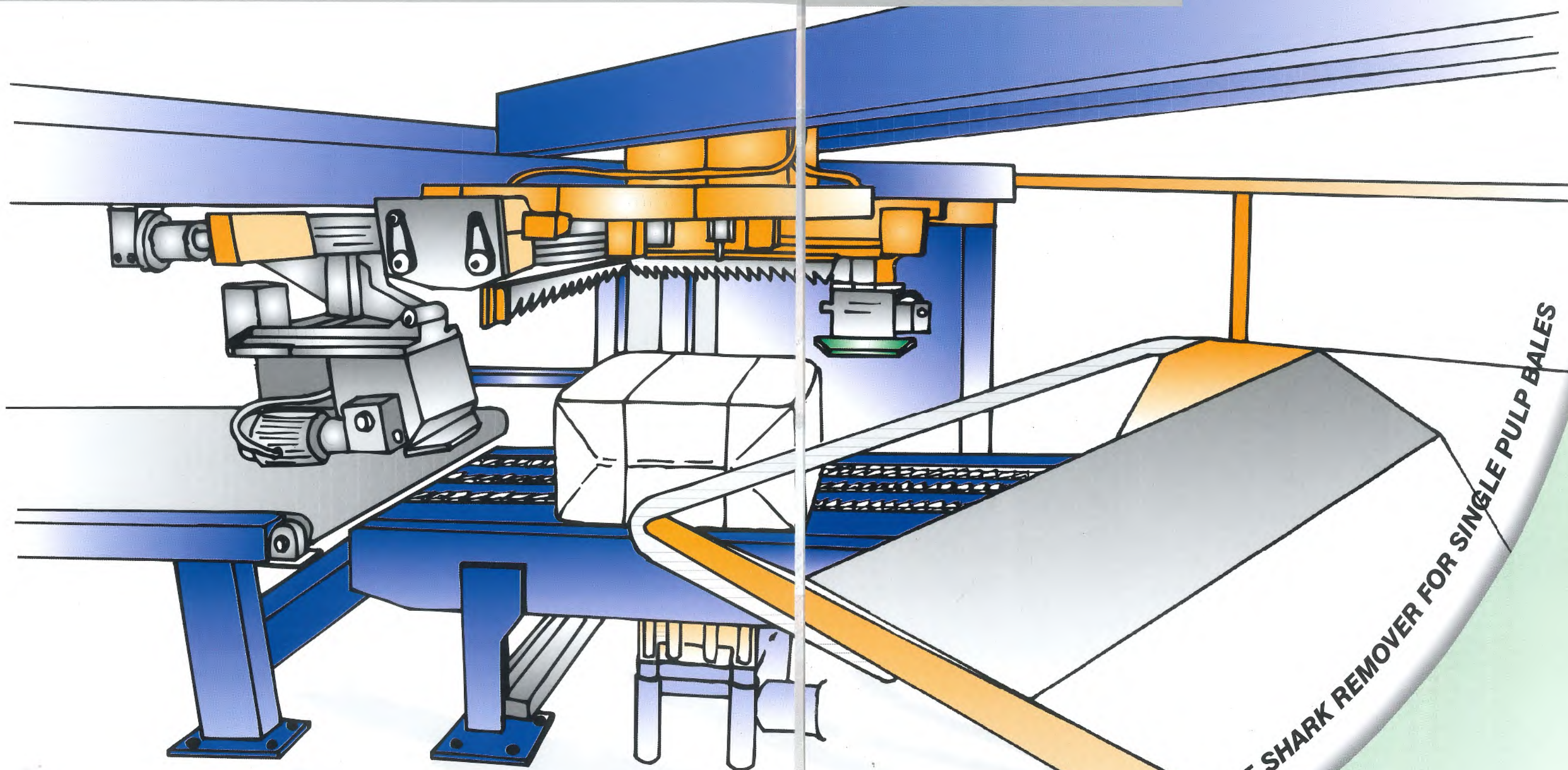
**HANDLING SYSTEMS FOR
PAPER MILLS**



Wire Shark Remover è la soluzione brevettata della SICMA S.p.A. per tagliare i fili di legatura delle singole balle di cellulosa e rimuoverli creando una matassa di fili facilmente maneggiabile. **Wire Shark Remover** è composta di un trasportatore a catene con dispositivo di centraggio, fermata e sollevamento per le balle, due teste di taglio sui due lati, un dispositivo di presa e rimozione fili, avvolgifiili.

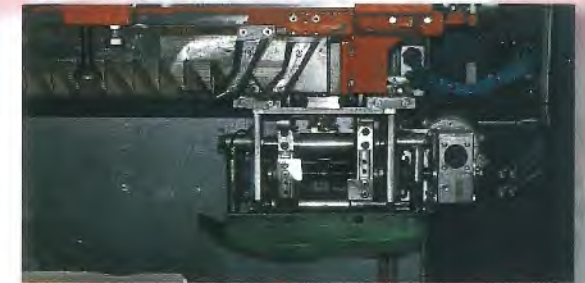
Wire Shark Remover, patented by SICMA S.p.A., is specifically designed for automatic dewiring of market pulp bales charging lines. The Remover is fully self contained, and uses the latest technology for drives and controls. **Wire Shark Remover** consists of one conveyor with integrated bales centering, stop and lift devices, two wires gripping heads, one wires gripping and pulling device, and a wires coiler.

Le **Wire Shark Remover**, est une machine totalement automatique brevetée par SICMA Spa, particulièrement conçue et construite pour décercler automatiquement des séries de bales de pâtes alimentées en ligne. Cet outil est entièrement géré et contrôlé, utilisant les dernières technologies de transmission et de contrôle. Le **Wire Shark Remover** consiste principalement en un convoyeur équipé d'un dispositif de centrage des bales, d'un butoir d'arrêt et d'un système de levage de la balle, de deux têtes de détection et de coupe, d'un dispositif de prise et d'extraction des fils vers une enrouleuse de fil constituant des bobines.



AUTOMATIC DEWIRING WIRE SHARK REMOVER FOR SINGLE PULP BALES

Automatic dewiring WIRE SHARK REMOVER for single pulp bales



CARATTERISTICHE DI WIRE SHARK REMOVER

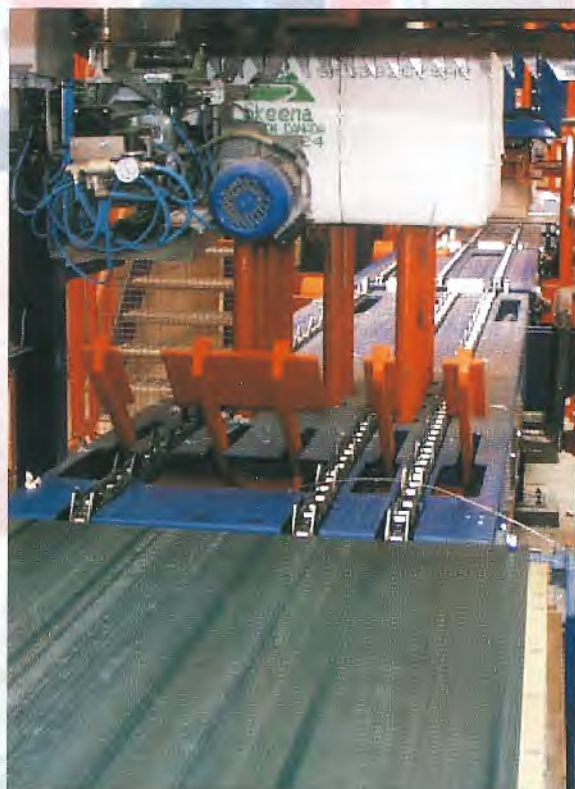
- Nessuna perdita di cellulosa durante le operazioni di taglio;
- Controllo automatico delle dimensioni della balla;
- Rimozione automatica dei fili;
- Facile installazione su linee esistenti;
- Sicurezza totale per gli operatori dell'impianto;
- Manutenzione ridotta con uso di componenti ed acciai speciali;
- Alta produttività;
- Alta efficienza di rimozione;
- Maneggevolezza delle matasse di fili di ferro.

KEY FEATURES OF WIRE SHARK REMOVER

- Environmentally clean;
- Small pulp loss after wires cut operations;
- Automatic detection of the wires;
- Automatic detection of the bales sizes;
- Automatic winding of the steel wires;
- Easy installation in existing pulp lines;
- Simple and safe working operations;
- High capacity;
- High efficiency.

LES AVANTAGES DU WIRE SHARK REMOVER

- Environnement propre;
- Très peu de perte de pâte due à la coupe des fils;
- Détection automatique des fils;
- Détections dimensionnelle automatique de la balla;
- Récupération et conditionnement automatique des fils en bobines;
- Insertion aisée sur les installations existantes;
- Simplicité de fonctionnement en toutes sécurités;
- Importante capacité de traitement;
- Rendement élevé.



WIRE SHARK REMOVER per balle di cellulosa si compone principalmente di:
GRUPPO DI CENTRAGGIO E SOLLEVAMENTO
 Le balle di cellulosa vengono posizionate idoneamente per le operazioni di taglio e rimozione, secondo un sistema cartesiano con origine fissa degli assi.

TESTE DI TAGLIO

Le due teste di taglio eseguono le operazioni contemporaneamente su due lati della balla, individuando il numero e la posizione dei fili anche nel caso questi siano parzialmente nascosti.

TESTA DI PRESA

E' composta da due dentiere fisse collegate alla testa di presa da quattro denti mobili, indipendenti, una coppia per ciascun lato, per l'estrazione dei fili. La traslazione brevettata a 45° garantisce una rimozione del filo con forze minime, preservando la meccanica da usure precoci.

AVVOLGIFILI

I fili di ferro rimossi dalle balle di cellulosa sono inseriti nella tramoggia dell'avvolgifili. I rotoli così ottenuti sono particolarmente compatti e facilmente riciclabili nell'industria dell'acciaio.

WIRE SHARK REMOVER for single pulp bales is mainly composed by:
CENTERING AND LIFTING GROUP

The pulp bales are correctly positioned for the wires removal operations, according to a Cartesian system with fixed origin of the axes.

CUTTING UNITS

The two cutting units cut simultaneously any number of wires. The wires are detected by sensor, although they are partly buried.

GRIPPING HEAD

Consists of two fixed racks connected to the gripping head by four independent movable teeth, a couple for each side, for the wire extraction. The translation of the gripping head at 45°, patented, permits the wire removal with minimum strength, avoiding mechanical wear.

WIRES COILER

The removed wires are fed to the coiler scrap by the travelling gripping head. The coils weighing up to 100 KGs are very compact, hence solving the handling problems of this material, and useful for a recycle in the steel industry.

Le WIRE SHARK REMOVER pour balle de pâte est principalement composé par:
GRUPE DE CENTRAGE ET DE RELEVAGE

Les balle de pâte sont correctement positionnées en vue de l'enlèvement des fils, en accord avec un système de coordonnées cartésiennes, ayant une origine des axes fixe.

TETE DE COUPE

Les deux têtes de coupe, sectionnent simultanément les fils. Ces derniers sont décelés par des détecteurs, même partiellement dissimulés dans la pâte.

TETE DE PREHENSION

Constituée principalement d'un supportage fixe solidaire de la tête de prise par quatre dents indépendantes et mobiles. Deux pour chacun des deux côtés d'une balla, pour l'extraction des fils.

L'ensemble de la tête de préhension des fils est mobile suivant un axe à 45°, breveté, permettant une meilleure extraction des fils de fer avec un minimum d'efforts, évitant les contraintes mécaniques en anticipant leur dégagement sur un axe approprié.

ENROULEUSE DE FILS DE FER

Les fils extraits des balle de pâte sont transférés dans l'enrouleuse par la tête de préhension. Les bobines constituées peuvent atteindre 100 kg et sont très compactes facilement transportables sans problèmes, facilitant leur recyclage dans l'industrie.



 **siema** SPA

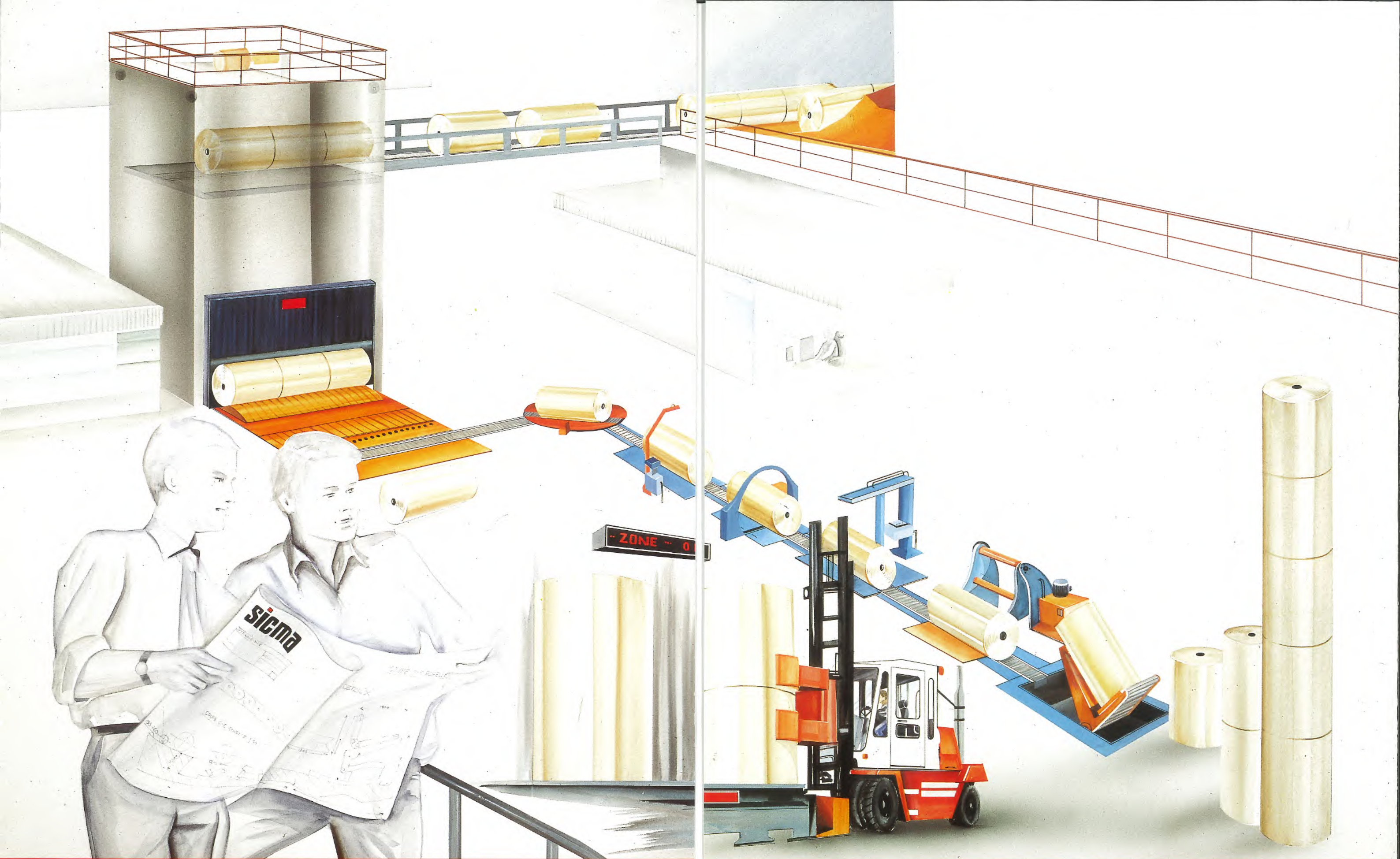
Piazza Borgato, 6 - 12084 Mondovì, Cn
TEL. ++39 0174 44522/3/4 - FAX ++39 0174 481041
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HANDLING SYSTEMS
FOR PAPER MILLS



ROLL HANDLING
SYSTEM PM 6



ROLL HANDLING SYSTEM PM 6

SICMA S.p.A. was commissioned by one of the main French Paper Mills, to supply a complete Automatic Roll Handling System for their new N.6 Paper machine. The new PM6 will be producing fluting from 100% recycled raw material and has the following features:

- Paper Width mm. 7500
- Current working speed m/min. 650
- Future working speed m/min. 900
- Jumbo-Roll diameter mm. 2900
- Jumbo-Roll weight kg. 2800

ROLL HANDLING SYSTEM APPLICATION

The Roll Handling System supplied by SICMA S.p.A. will automatically transport the Rolls from the winder level +7650 mm., to the storage facility at ground level. The SICMA Roll Handling System is manufactured to operate 24 hours a day, 365 days a year. The working cycle is controlled by PLC TELEMECANIQUE TSX47 (700 input/output) that is connected in Modbus protocol with the Mill Computer.

TECHNICAL SPECIFICATION AND OPERATING DATA

The Roll Handling System is designed to transport all of the rolls coming from the winder, which is working at a speed of 2300 m/min.

Paper Roll Dimensions & Weights:

- Diameter min. mm. 1100
- Diameter max mm. 1800
- Length min. mm. 600
- Length max mm. 2800
- Weight min. kg. 500
- Weight max kg. 4200

The SICMA Roll Handling System will have an operating capacity of:

- N. 60/70 Rolls / hour in normal conditions
- N. 90 Rolls / hour in maximum production



ROLL HANDLING SYSTEM PM 6

ROLL HANDLING SYSTEM - WORKING CYCLE DESCRIPTION

The sequence of the different phases of the cycle is the following :

ROLL DISCHARGE FROM THE WINDER AND SEPARATION

The hydraulic discharging cradle of the Winder releases the Rolls onto an inclined steel ramp where they are received by a Double Position Damper. One set of Sectional Dampers receives information from the Mill Computer on the position of the Winder knives, thus identifying the length of the Rolls. After receiving this data, the Dampers work as 'kick-offs' and push each Roll towards the Receiver. This operation separates any Rolls which are still connected together by paper. When the Rolls are 'kicked-off' to the Receiver, they arrive on the Outlet Conveyor. The operator at the Winder then manually applies a bar code label to the curved surface of each Roll. When this is complete, the operator pushes the start button and the Automatic Cycle will now commence.

ROLL SET TRANSPORT TO THE ELEVATOR

Each Roll Set is composed of a number of Rolls having a combined length of 7500 mm., and are transferred together by the Outlet Conveyors to the Elevator. Using Optical Sensors and the First Laser Reader, the Elevator charging operation is automatically verified. The Elevator, having a capacity of 12000 kg., lowers the complete Roll Set to ground level.



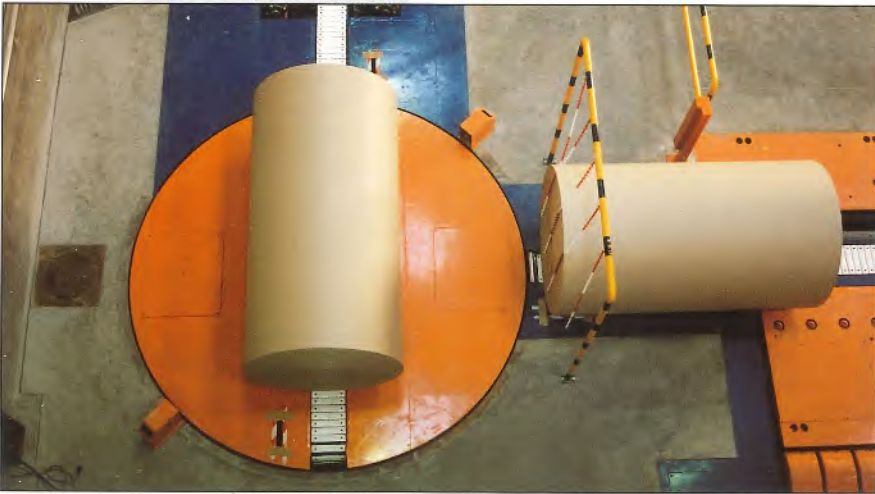
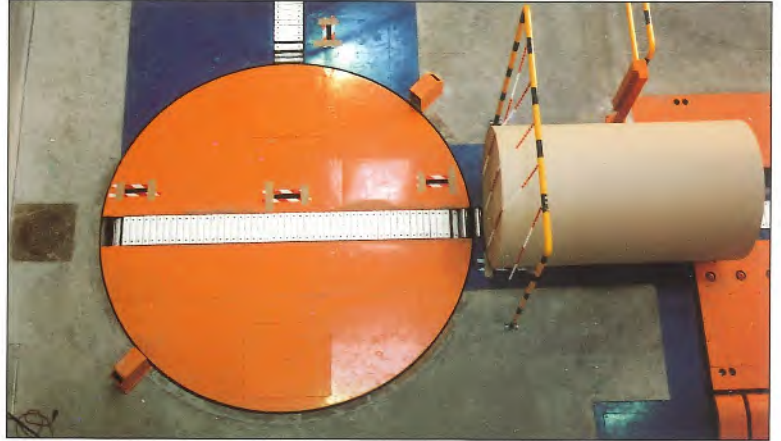
ELEVATOR ROLL SET DISCHARGE AND ROLL SEPARATION

After the Elevator has transferred the Roll Set from the upper level to the lower storage level, the conveyor in the floor of the Elevator tilts upwards on one side, and ejects the Roll Set towards Multiple Dampers.

According to the data received by the Mill Computer, the SICMA PLC ejects one Roll at a time towards the storage area or the rejects area. Rolls are sent to the rejects area under the following conditions :

- Rolls identified by the Winder operator as 'defective' on the bar code label
- Rolls connected together which the earlier operation was not able to separate
- Rolls having a diameter smaller than the minimum standard
- Rolls without a bar code label.

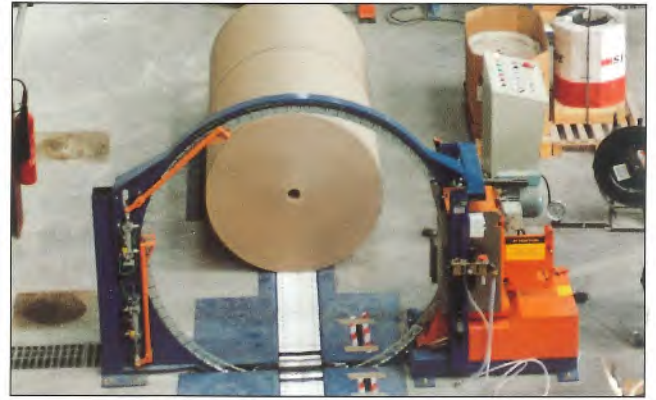
After checking, the Rolls can be reintroduced to the Conveyor System.



ROLLS TRANSPORT TO ROTATING PLATFORM AND ROLL MEASURING

The slat Conveyor that receives the separated Rolls addressed to the storage area, transfers them one at a time to the Rotating Platform where sonar and laser devices measure the actual Roll diameter and length.





ROLL WEIGHING AND BAR CODE LABEL CHECKING

The slat conveyor after the rotating platform is mounted on weigh cells. The actual weight data of each roll is transmitted to the Mill Computer for label printing.

A special Alignment Unit, composed of two lifting rollers of which one is motorized, rotates the roll around its axis until the bar code label is placed in front of the Second Laser Reader.

The Second Laser Reader scans the Bar Code Label, which was applied at the Winder, and compares these Data to the Exact Roll Dimensions measured by the SICMA devices.

AUTOMATIC STRAPPING

Each roll is transferred to the Strapping Machine, which is controlled by the Mill Computer and automatically applies 2 to 4 straps around the roll, depending on roll length. The straps can be either plastic or metallic, and can be easily exchanged using the interchangeable strapping head. The plastic strapping is vibration welded.

AUTOMATIC LABEL APPLICATION

Each roll is stopped on the subsequent Conveyor, where two labels are automatically applied on the front head and lateral surface of the roll. In the event of strapping machine, labeling applicator or subsequent Up-ender fault, the rolls can be kicked out before the Up-ender towards a safety exit.





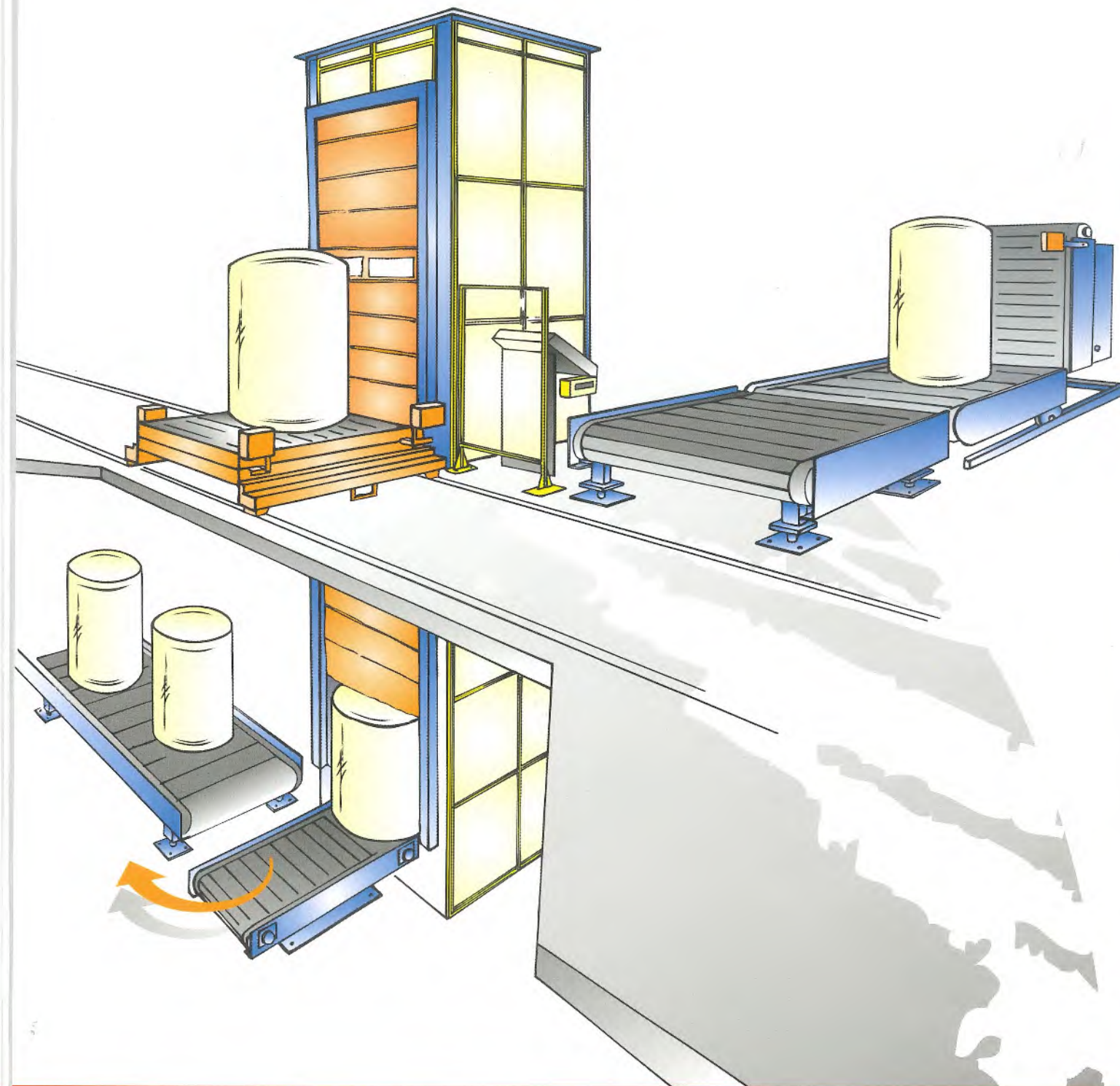
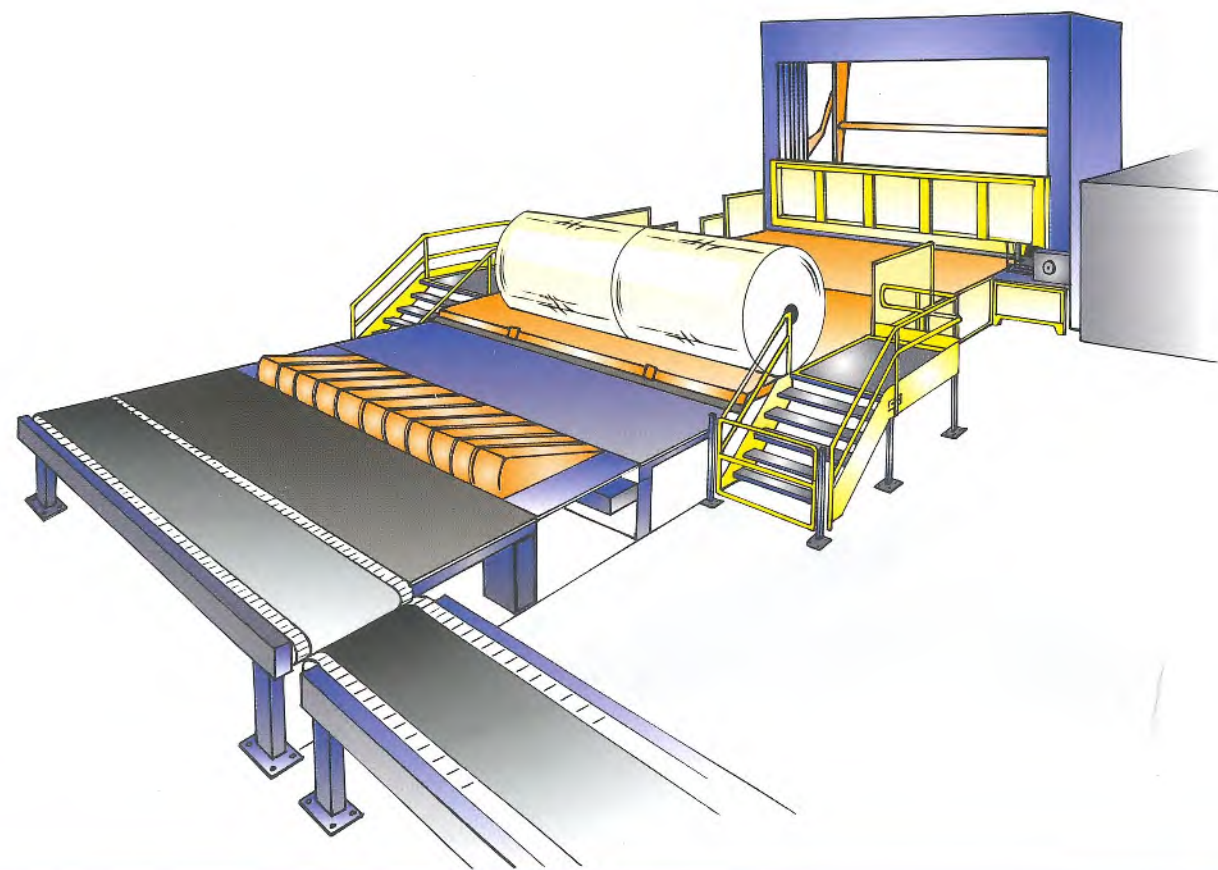
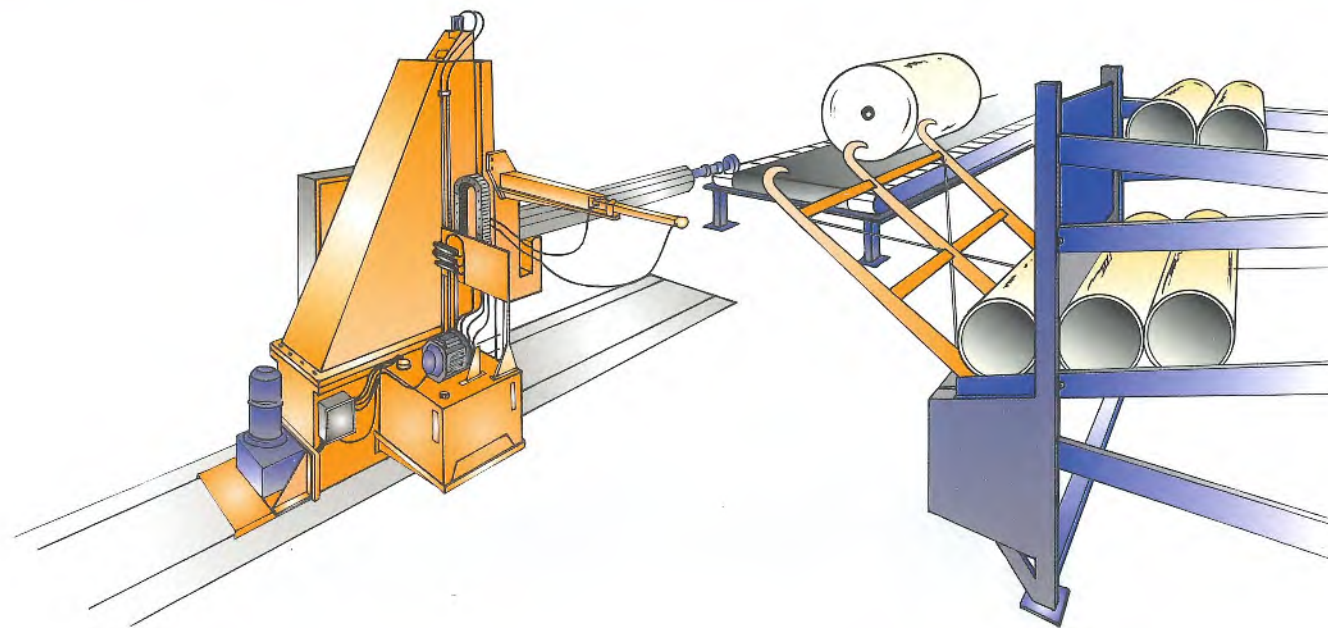
UPENDING, STORAGE AND TRANSFERRING FROM STORAGE

The Up-ender Unit, managed by the Mill Computer, puts one or two rolls together onto their vertical axis. The rolls are then transferred and stored on two Tubular Slat Conveyors and then onto the pick up conveyor. The clamp lift truck operator reads on a display the roll number and designated warehouse storage area.



HANDLING SYSTEMS
FOR PAPER MILLS

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TISSUE PAPER ROLL HANDLING SYSTEM

Following the decision to install the new PM 7 for the production of tissue paper, an important Italian mill entrusted SICMA to provide the roll handling system.

Main features of PM 7

- useful width mm 5700;
- jumbo roll diameter mm 2500;
- jumbo roll weight ton 8.

Function of the system

The system supplied by SICMA allows the complete automation of the handling sequence of the rolls, both coming from PM 7 pope reels and from Winder, and the despatch to the storage or to the converting areas. The logic is controlled by a Siemens PLC, interfaced with a PC that allows

supervision and the labelling of the rolls.

Technical data and capacity

The system allows the handling of all the reels produced by the PM 7 or by the Winder.

The rolls have the following features:

- rolls width mm 700/2800;
- rolls diameter mm 1000/2500;
- rolls weight (max) ton 4.

The system has a handling capacity of 50 rolls/hour.

Tissue paper roll handling System PM 7

SPOOL EXTRACTION AND CORE FEEDING DEVICE

The rolls, that have been produced at PM 7 pope reel, are disposed onto the first belt conveyor. The spool extraction device, running on tracks embedded in the floor, allows the extraction of the spool, and as required, the automatic core dispenser enables one core to be easily fed in position for the insertion on the spool.



WINDER UNLOADING AND ROLL SEPARATION

The full set of rolls produced from the winder are sent into the cradle that lifts them in exact position for the separation. The separation is performed by a set of independent damping plates, that automatically lower according to the composition of the rolls set, which is communicated from the winder PLC. The single roll is then conveyed to the belt conveyor line, where it can be weighed and measured. These conveyors for the tissue paper rolls are of the rubber belt type, with supporting rollers located at narrow pitch, the transport section is "vee" shaped, and the idle and motorized roller have special

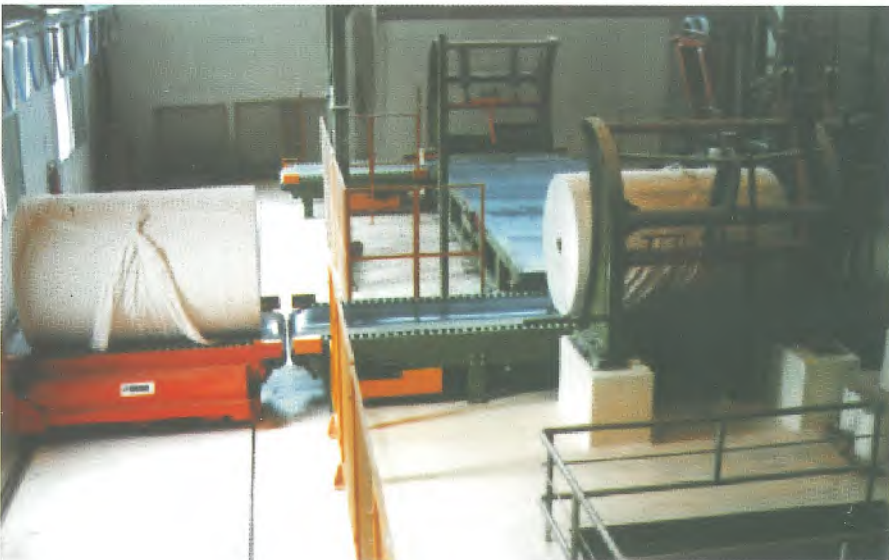


profile to avoid side movements of the belt and provide the optimum drive. The conveying level is at approximately 700 mm over the floor, therefore the conveyors don't need any special civil works in the floor.



TRANSPORT TO THE WRAPPER

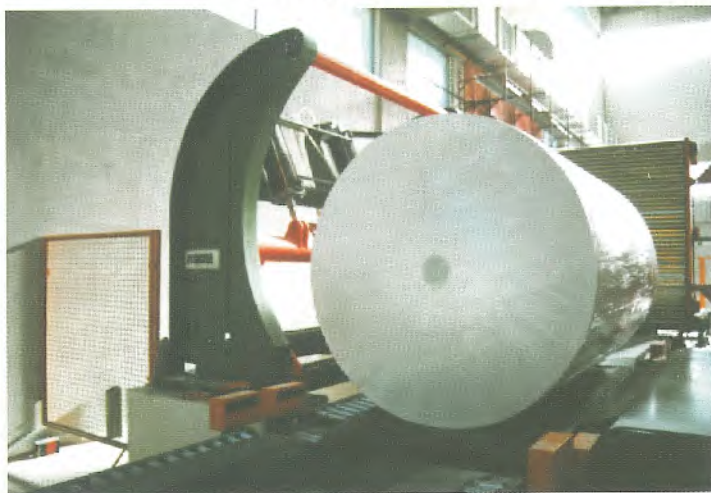
The handling of the rolls is completely automatic, and the rolls are conveyed to the wrapper, centered in front of the wrapper, and kicked by a hydraulic kicker. The layout of the system allows also the bypass of the wrapper, with an aside shuttle that diverts the rolls to the line going to the storage and converting area. The function of this shuttle is also to deliver the semi-jumbo rolls coming from Pm7 Pope Reel to the wrapper.





SORTING FROM THE WRAPPING

After the wrapping operations, the rolls are conveyed to the storage or to the Converting Area. The rolls coming out are damped by a pneumatic damper, then up-ended.



TRANSPORT TO THE STORAGE AND TO THE CONVERTING

The up-ended rolls are sent to a shuttle with tubular slat conveyor on board, that delivers them to the lowerator of the storage in the same building of the paper machine, or to the lowerator of the converting in an adjacent building, after a run of approx 25 mts. The lowerators are of hydraulic type. A number of conveyors at ground floor provides a buffer storage.

SemLab - Allarmi

Pagina N. 1

RDS Gestione Rotoli

N. ROTOLO: **D1 97 00840**

COD. CARTA: **95901** **ECOCASA 2 VEL**

CLIENTE: **40 MPC99**

FABBR: **609C25** N. ORDINE: **20140** **97**

COD. MADRE: **12 999 6 3 12 999 9**

GRAMMATURA DA: **20** A **0**

ALLUNGAMENTO: **19**

DATA CARICO: **18/08/97**

DATA SCARICO: **22.56.23**

N. BOBINE: **5**

N. ROTOLO: **CF**

MATRICOLE: **CF**

NON CONF. **JUMBO**

PLC Siemens 115

Comunicazione OK

Sistema Philips PR1613

Comunicazione OK

COMANDI RDS

SUPERVISIONE SEMI AR

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11

SUPERVISION AND DATA MANAGEMENT ON PC

The sequence of the operations is controlled by the PLC, while the PC software allows in this application:

- the interface with mill DCS;
- the interface with the winder PLC
- the maintenance of the database of the produced paper types and of the customers;
- the acquisition of the rolls data (weigh and measures);
- the processing of auxiliary calculations (as to the length of the paper);
- the printing of the roll label;
- the printing of the production report;
- the synoptical views for the supervision of the system;
- the management of the alarms and the maintenance cycles.

Scelta parametri - ARCHIVIO ROTOLI

DATA DI INIZIO CARICO

dalle ore del giorno del mese di dell'anno

6:00.00

dal mese di dell'anno

Marzo 1997

COMANDI

F1 - GUICIA

F2 - RICERCA

F3 - STANFA

F4 - VISUALIZZA

ESC

DATA DI FINE CARICO

alle ore del giorno del mese di dell'anno

5:30.00

dal mese di dell'anno

Marzo 1997

Aprile

Maggio

Giugno

Luglio

Tagli Carta	Descrizione	Cliente	Marca	Peso bobine	Bobine	Bobine	Grammatura	Tavola	N. Ordine	Anno
88632	CR.250.VAS.2.VEL	40 MPC99	13326	12	12	22	259	2013	97	143
88612	CR.250.VAS.2.VR	40 MPC99	17384	12	12	22	249	2013	97	141
88632	CR.250.VAS.2.VEL	40 MPC99	21847	22	22	22	250	2013	97	142
88632	CR.250.VAS.2.VEL	40 MPC99	26187	244	244	22	250	2013	97	143
88632	CR.250.VAS.2.VEL	40 MPC99	18312	12	12	22	250	2014	97	143
88632	CR.250.VAS.2.VEL	40 MPC99	22226	12	12	22	250	2013	97	143
88632	CR.250.VAS.2.VEL	40 MPC99	28304	198	198	22	250	2013	97	143
88930	EXOFEN 2-VEL1	20 DAH	85216	88	88	'6.5	250	2360	97	143
88930	EXOFEN 2-VEL1	20 DAH	83326	71	71	'6.5	250	2362	97	143

Zona "A"

Zona "D"



 **siema**

PIAZZA BORGATO, 6 - 12084 MONDOVI', CN
TEL. ++39 0174 44522/3/4
FAX ++39 0174 481041
e-mail: sicma@sicma-it.com

IDEAZIONE
STUDIO GONZALEZ GONZALEZ



ROLL HANDLING AND
AUTOMATIC WAREHOUSE
FOR PM8 AND PM9

HANDLING SYSTEM FOR
PAPER MILLS



SICMA S.P.A. in co-operation with AWA Oy, supplied in 2001 to Cartiere Burgo S.p.A., in the Mill of Verzuolo, an handling system and automatic warehouse to store the paper rolls produced by the Paper Machines 8 and 9. The system includes all the equipment to transport the rolls coming from the Paper Machines, to store them in the automatic warehouse, to take them in output from the storage

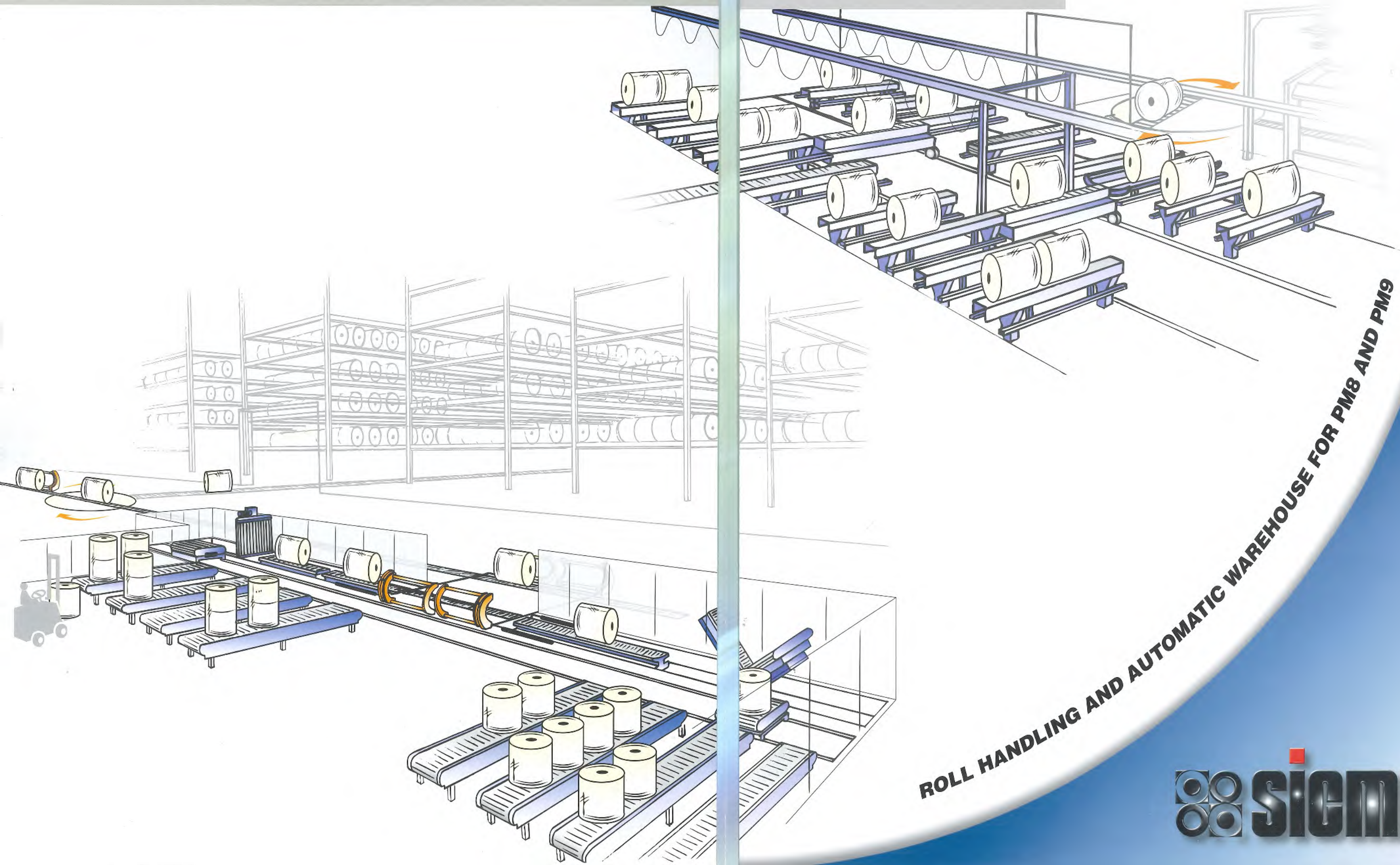
at ground floor level, and to transfer them for despatch in the trucks charging area. This system allows the Paper Mill to manage:

- 125 rolls/hour input to the warehouse for 24 h/day, 7 days/week;
- 260 rolls/hour output from the warehouse for 12 h/day, 5 days/week;
- for a production of 400.000 ton/year by PM9 and 160.000 ton/year by PM8 .

The system can handle paper rolls having the following dimensions:

- Diameter (min/max): 600/1500 mm;
- Width (min/max): 388/3700 mm;
- Weigh (min/max): 300/8000 Kg.

The capacity of the warehouse, 32.000 tonne.



ROLL HANDLING AND AUTOMATIC WAREHOUSE FOR PM8 AND PM9

Roll handling system for automatic warehouse - Cartiere Burgo S.p.A. - Mill of Ver



ROLLS IDENTIFICATION AND DIMENSIONAL CONTROL

The paper rolls coming from the roll wrapping line are identified by means of a bar code reader, that scans the data printed on the label applied on the roll. These values allow the system to store the rolls, composed in sets logically defined, in the area called "Pre-sorting". The bar code reader takes the following data: roll identification number and order number. The other data, such as customer, type of paper, paper grammage, roll width and diameter, weight, etc... are managed directly by the Mill wide computer.

The system provides also a dimensional control of the rolls during input, and checks this data with that found on the bar code label, and the data of the informatics system of the Mill, to ensure that the paper roll can be accepted, and stored in the warehouse.

PRE-SORTING FOR THE SET OF ROLLS IN INPUT TO THE WAREHOUSE

In the "pre-sorting" area the rolls are stored in sets with the same order number, therefore same customer, type of paper, paper grammage and roll size.

This area is composed by 24 stands, fed by two special travelling shuttles. Each stand contains one set of rolls that will be transferred and stored in the automatic warehouse according to the system requirements.

The rolls set composition reduces the number of working cycles of the translo-elevators in the automatic storage. The rolls with a length of 4000 mm are transferred directly to the warehouse, crossing the pre-sorting area.

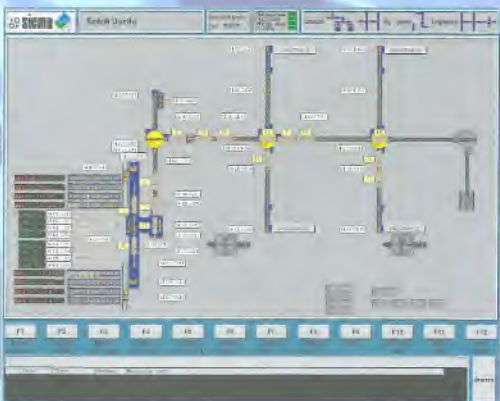
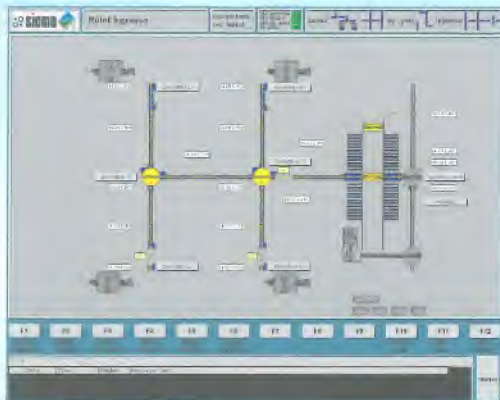
ROLLS TRANSFER INTO THE AUTOMATIC STORAGE

The set of rolls are transferred in the automatic warehouse by means of concave slat conveyors and rotating platforms. The rolls are transferred to the pick-up areas of the four translo elevators, these must store the rolls in the rack channels of the warehouse. The translo elevator takes the rolls and starts to move, positioning itself in front of the storage channel. After the discharging operation into the channel, the translo-elevator moves to the charging area, ready for a new operation.



Warehouse - Cartiere Burgo S.p.A. - Mill of Verzuolo





JOB 1	JOB 2	JOB 3	JOB 4
Order No.	Order No.	Order No.	Order No.
Description	Description	Description	Description
Date	Date	Date	Date
Quantity	Quantity	Quantity	Quantity
Weight	Weight	Weight	Weight
Material	Material	Material	Material
Operator	Operator	Operator	Operator
Status	Status	Status	Status
Priority	Priority	Priority	Priority
Notes	Notes	Notes	Notes

ROLLS RETRIEVAL FROM THE AUTOMATIC WAREHOUSE AND TRANSFER TO THE DESPATCH AREA.

The operators managing the automatic warehouse, insert in the informatics system the delivery programs in accordance with the orders. During the night, when the despatch is suspended, and the translo-elevators are working below their capacity, the system that controls the warehouse organizes the deliveries.

The system also recognizes automatically the channels near to the output, that can accept rolls, and sends the rolls or sets of rolls there on the basis of the delivery program.

When the system requires the paper rolls to complete a delivery, the translo-elevator picks and carries them onto the concave slat conveyors of the warehouse at ground floor level.

WAREHOUSE "BY-PASS"

It is possible to transfer the paper rolls directly from the wrapping line at PM floor to the delivery area without being stored in the automatic warehouse.

The roll, charged on a concave slat conveyor, is transferred to a lift by a rotating platform.

The roll is transported directly from the PM floor, level +8,00, to the ground floor level, and it is transferred to the delivery area by means of concave slat conveyors and rotating platforms.

ROLLS DELIVERY AREA

The rolls in output from the automatic warehouse are checked by means of another bar code reader to verify that they belong to a particular delivery order. In the delivery area the paper rolls are received on a conveyor line, and a hydraulic kicker, then distributes them onto two separate lines, which are able to work simultaneously. The two lines are composed of identical equipment, arranged in mirror image, for parallel operation. The rolls kicked-off are received by a damper and sent to one line, where their labels are oriented by means of rotation on lifting rollers, up-ended and charged on a travelling shuttle with tubular slat conveyor on-board. The shuttle transports the rolls to the storage conveyors, ready for the despatch.

INFORMATICS SYSTEM

The interface between the Warehouse Informatics System and the Mill wide System, actuates the automatic printing of the delivery documents.

The electrical control system has been delivered turn key to the Mill and includes the electrical power and control by means of a PLC system, together with the general supervising and managing system by Personal Computer.







**PULPER FEEDING SYSTEM
FOR PM8 AND PM9**

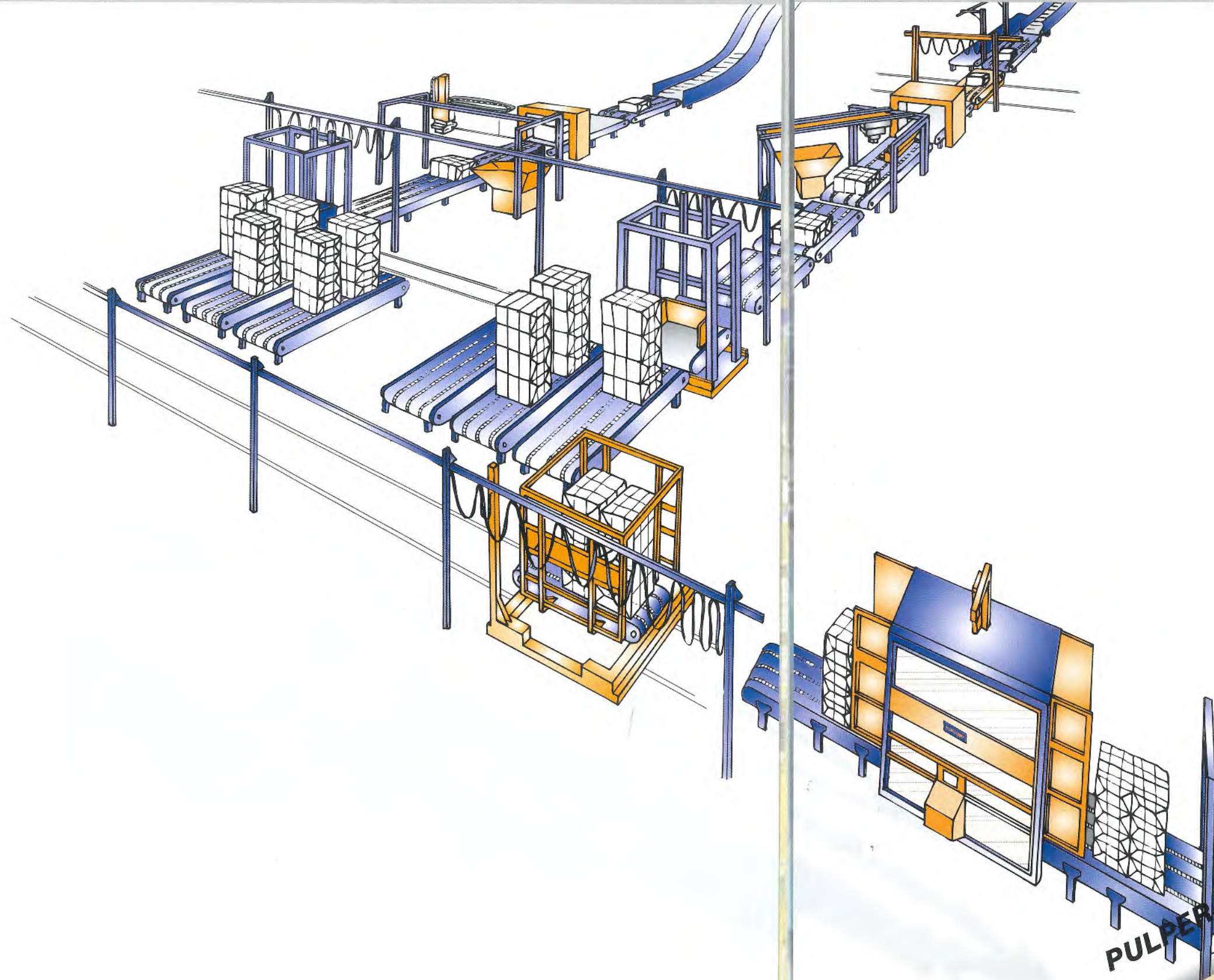
**HANDLING SYSTEMS FOR
PAPER MILLS**



SICMA S.p.A. delivered the pulper feeding system of the Cartiere BURGO S.p.a., Mill of Verzuolo in two phases, in 1998 and in 2000, in consequence of the decision to install the new Paper Machine PM9. The complete system includes all the equipment for the transport, the storage and the automatic destacking according to SICMA

most recent technology, incorporating the evolution of the automatic dewiring system for the single pulp bales. The automatic managing of the operation, the possibility to change the batches composition in real time, the general safety of the installation, it's easy administration, and the maintenance operations program, represents a constant

in SICMA systems. The system is able to handle totally 150 bales per hour, feeding two pulpers, one for PM8 with batch of 16 bales and the other for PM9 with a batch of 24 bales, for a total daily production of 690 tons.



PULPER FEEDING SYSTEM FOR PM8 AND PM9

Pulper feeding system - Cartiere BURGO S.p.a. - Verzuolo Mill



CHARGING AREA, AUTOMATIC DEWIRING, STORAGE AND UNIT DESTACKING.

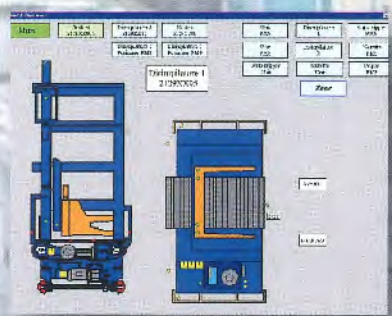
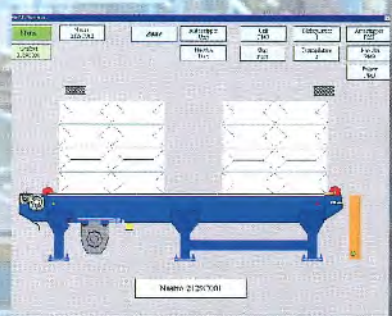
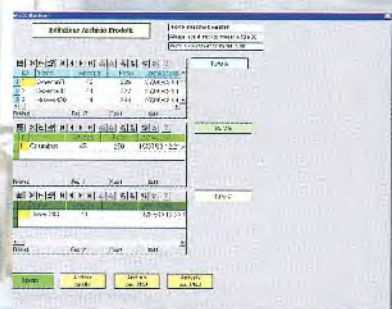
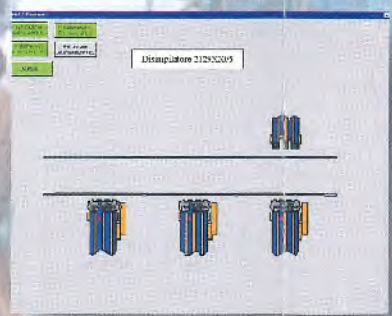
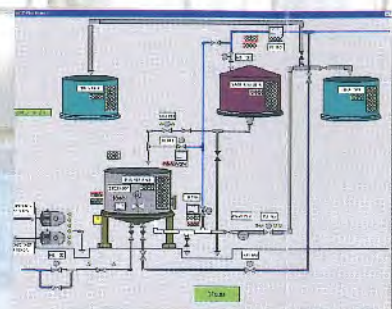
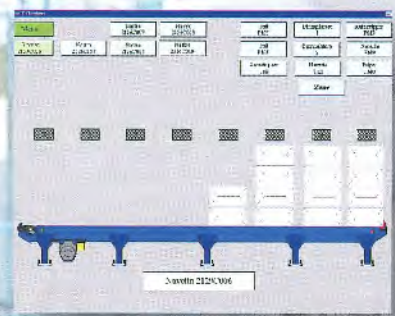
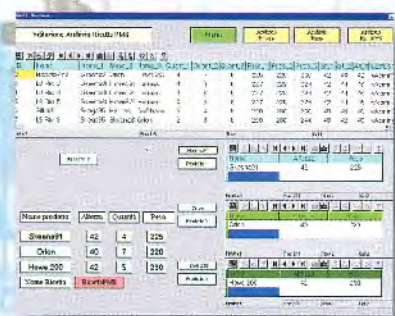
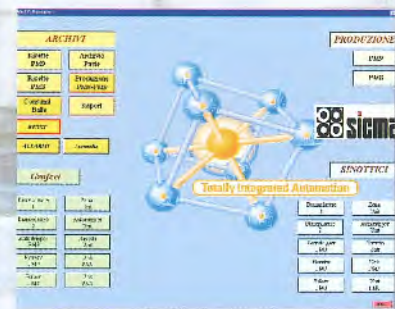
A display system indicates the pulp to be charged, on the basis of the provided production data. The Units, consisting of two stacks of three or four bales, are charged on the high load transport chains conveyors with the steel wires tying them. The steel wires assembling the Unit are automatically cut and extracted by the "Autostripper® for Pulp Bales Unit", the coiled unit wires are ejected to an outside box. The "Autostripper® for Pulp Bales Unit", manufactured by SICMA under licence SuncoTech, is able to work on 25 Units per hour. A two chains conveyor in outlet from the equipment allows the operator to remove the steel wires eventually remaining. The translo-rotating shuttle transfers the two stacks of bales towards the storage three chains conveyors, that can work 6 totally different kinds of virgin pulp, 3 for PM8 and 3 for PM9: the disposition of the different pulp in the storage is logically ordered on the basis of the provided production.

The two destackers work independently, each one being dedicated to its respective feeding line, with the possibility in emergency conditions to operate on either line.

The travelling destacker brings from the three storage lines the different quality of pulp in the quantity necessary to compose the batch, and transfers them to a chains conveyor that feeds the dewiring line.

If the stack is composed of a number of bales exceeding the quantity necessary for the batch composition, the destacker automatically takes the bales needed and gives back to the conveyor the bales that exceed the batch requirement.





PM8 PULPER FEEDING LINE.
 The feeding line for PM8, delivered originally as a single row line in 1998, provides the automatic cut and extraction of the steel wires by means of the AutoStripper® for single bales manufactured by SICMA under licence SuncoTech. After the AutoStripper®, a metal detector is installed to locate the presence of any steel wires on the bale. If this happens, the system requests the intervention of the operator for the extraction of the remaining wire, executed on a lifting group automatically activated. When completed, the operator gives the 'OK' to the advancement by means of a local push button panel. The batch is transferred on the slat conveyor for the consequent pulper feeding.

PM9 PULPER FEEDING LINE.
 PM9 feeding line has been delivered in 2000 and provides the automatic cut and extraction of the steel wires by means of the Wire Shark Remover designed and manufactured by SICMA, as evolution of AutoStripper®. Wire Shark Remover is able to operate for a production of up to 120 bales per hour. Following the automatic dewiring system, a metal detector is installed to locate the presence of steel wires on the bale: in this case the reject is transferred to a line that is parallel to the main line. If pieces of wire are found, the bales are transferred to a special chain conveyor to facilitate easy removal. As necessary, and in any case to complete the batch, the operator comes to extract the remaining wires; the bales are re-inserted on the main line by means of the same travelling shuttle. The slat conveyor remains waiting for the pulper signal to discharge the batch.

The electrical system has been supplied as a "turn-key", and includes the power, and control parts by means of PLC, and the supervising system managed by Personal Computer. The supervising system controls each different phase of production, memorises the kinds of virgin pulp, programs the batches, and sends them to the pulpers in the required quantity. The system manages and automatically takes account of every operation carried out, rationalises the charging operations showing on the display the kind and the quantity of pulp requested by the production, and moreover has diagnostic functions and synoptical views of the different areas of the installation, the indications of the alarm and of the maintenance operations.





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