Final Matik Package

6/16/95 C. P. Rosenow
J. Grespach
R. Ward
J. Palacek
K. Barwick
M. Nilson
L. Mielke
K. Cole-Marthen

# matik north america

Representing bielomatik and GOEBEL

P.O. Box 330880, West Hartford, CT 06133-0880 TEL: 203/232-2323 FAX: 203/233-0162

**DATE:** June 15, 1995 **THIS COVER PLUS 18 PAGES**

**COMPANY:** Appelton Papers/Appelton, WI

**ATTN:** John Cummings **FAX PHONE:**

**FROM:** Peter Pappas **FAX NUMBER: 414-687-3448**

Dear John,

I am pleased to confirm our agreement of June 14, 1995 in the enclosed updated proposal no. B5W/0421/2 Revision A dated June 15, 1995 based on which Appleton Papers selected Matik North America as the vendor for two (2) identical MATIK NORTH AMERICA AUTOMATIC OFF-LINE FOLIO DESTACKING, CARTON PACKAGING AND PALLETIZING SYSTEMS.

This revised document reflects all the changes from the original proposal agreed and confirmed in my June 9, 1995 telefax and verbally on June 14, 1995.

I am sending today to your attention via Federal Express three prints and a disc of the proposal layout drawing no. JP95D701 dated 6/14/95 and specifications sheets to be completed for your carton and pallet requirements. We require by the latest June 30, 1995 an approved layout and carton and pallet information for both systems to meet the delivery commitments. As we discussed the system is modular and both the destacker and palletizer could be mirrored in the opposite direction if this better suits the building layout.

Thank you for your order and confidence in our equipment. Please advise your purchase order number that will be assigned to this project. We look forward to a successful project.

Sincerely,

Peter Pappas
Vice President

Peter Schrobenhauser
President

matik
Bielomatik - Goebel

# QUOTATION NO. B5W/0421/2

Revision A

Two (2) MATIK NORTH AMERICA
Automatic Off-Line Folio Destacking,
Carton Packing and Palletizing Systems,
Consisting of the Following Major Components:

Model AFSD Automatic Destacker
Model AFCL Automatic Folio Carton Packer
LITHIBAR MATIK Model AP3 Palletizer

Preliminary Layout Drawing:
PJ95D701 dated June 14, 1995

Prepared for: Appleton Papers Inc.
531 Prospect Street
Combined Locks, Wisconsin 54113

Attention: Mr. John A. Cummings, P.E.
Engineering Superintendent

Reference: Appleton Papers Inc.
Locks Mill Coater Expansion Project
Packaging Line
Marathon Reference No. 94-4031-Fmem-110

Prepared by: Werner Wilmsen
Manager Project Administration

Date: June 15, 1995

matik north america
33 Brook Street - P. O. Box 330880 - West Hartford, CT 06133-0880 - Tel: (203) 232-2323 - Fax: (203) 233-0162

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## I. TECHNICAL SPECIFICATIONS

## MODEL AFSD AUTOMATIC DESTACKER

| | |
|---|---|
| Max. skid length: | 56½" |
| Min. skid length: | 29½" |
| Max. skid width: | 56½" |
| Min. skid width: | 24" |
| Max. sheet length: | 50" |
| Min. sheet length: | 22 |
| Max. sheet width: | 38" |
| Min. sheet width: | 17" |
| Max. pile height: | 72" (including skid) |
| Skid height: | 9" |
| Distance between skid runners: | 16" - 37" |
| Skid quality: | Top to be flat within ±1/8" tolerance.<br><br>Top surface to be level within ±3/16" tolerance.<br><br>Skids to be of good quality, without protrusions (nail heads, etc.). |
| Skid specifications: | Appleton's skid specifications and sizes to be provided to MATIK by June 30, 1995. |

| | |
|---|---|
| Max. ream height: | 10" |
| Min. ream height: | 2" |
| Capacity: | 8 reams per minute, excluding time for pile changes, depending on sheet size and ream height |
| Size change time: | Approx. 3 minutes from smallest to largest size |
| Infeed height: | 20" |
| Discharge height: | 40" |
| Controls: | Allen-Bradley PLC |
| Mill power supply: | 480V, 3 ph., 60 Hz. Please confirm for both locations. |
| Connected load: | 25 KVA |
| Air pressure: | 80 PSI |
| Air consumption: | Approx. 3 cu.ft. per cycle |
| Paint specifications: | MATIK standard paint finish. Color to be selected by Appleton by September 1, 1995 |

## MODEL AFCL AUTOMATIC FOLIO CARTON PACKER

| | |
|---|---|
| Max. sheet length, one ream per carton: | 50" |
| Min. sheet length, one ream per carton: | 22" |

| | |
|---|---|
| Max. sheet width, one ream per carton: | 38" |
| Min. sheet width, one ream per carton: | 17" |
| Max. sheet length, two reams per carton: | 50" |
| Min. sheet length, two reams per carton: | 22" |
| Max. sheet width, two reams per carton: | 19" |
| Min. sheet width, two reams per carton: | 17" |
| Max. ream height: | 10" |
| Min. ream height: | 2" |
| Capacity: | 8 cartons per minute |
| Size change time: | Approx. 3 minutes from smallest to largest size |
| Infeed height: | 40" |
| Discharge height: | 38" |
| Controls: | Allen-Bradley PLC |
| Mill power supply: | 480V, 3 ph., 60 Hz. Please confirm for both locations. |
| Connected load: | 30 KVA |
| Air pressure: | 80 PSI |
| Air consumption: | Approx. 6 cu.ft. per cycle |
| Paint specifications: | MATIK standard paint finish. Color to be selected by Appleton by September 1, 1995 |

## MODEL AP3 FOLIO CARTON PALLETIZER

| | |
|---|---|
| Capacity: | 8 cartons per minute on single carton layers |
| Max. carton height: | 10" |
| Max. tie sheet length: | 42" |
| Min. tie sheet length: | 24" |
| Max. tie sheet width: | 36" |
| Min. tie sheet width: | 20" |
| Palletizing configurations: | 1, 2, and 4-tier |
| Controls: | Allen-Bradley PLC |
| Mill power supply: | 480V, 3 ph., 60 Hz. Please confirm for both locations. |
| Paint specifications: | MATIK standard paint finish. Color to be selected by Appleton by September 1, 1995 |
| Pallet specifications: | Appleton's pallet specifications and sizes to be provided to MATIK by June 30, 1995. |

## II. DESCRIPTION OF THE MACHINE

### MODEL AFSD AUTOMATIC DESTACKER

The full skids are placed onto a feed station, where they are accurately aligned to activate the positioning switches incorporated in the system. From there the skids move to a buffer cross-feed chain conveyor before being finally positioned and automatically centered in the destacker.

At this point the destacker will push off reams of a pre-determined height with an accuracy of ±0.004" from ream to ream. This ream height is automatically calculated as follows: The operator, using a precision measuring device connected to the control computer, inserts a pre-selected number of sheets, e.g., 10 sheets. The control computer automatically determines the average caliper per sheet from this sample. Once the average caliper per sheet has been calculated, the control computer automatically calculates the appropriate ream height based on a number of sheets per ream selected by the operator. The destacker automatically destacks the appropriate number of sheets per ream within a range between 2" and 10". The operator also weighs the sample to establish the ream weight.

The mechanical speed of the destacking system is dependent on sheet size and ream height. Approximately 8 reams can be pushed off per minute, excluding time required for pile changes. If one includes pile changes, the capacity of the destacking system will be approximately 5 reams per minute. The accuracy of the ream heights which are destacked is approximately ±0.004".

Once the skid is completely destacked, the lift automatically descends and takes the empty skid to an outfeed chain conveyor which is provided for the empty skids. From there the skids are taken away by fork lift truck.

The reams that are pushed off from the destacker and are fed to a belt conveyor which brings the reams to an air cushioned belt conveyor with built-in ream centering device for accurate positioning of the reams. From there the reams move on to an elevator conveyor from where they will be transferred to an intermittent cross-feed conveyor which brings the ream to the infeed conveyor and reversible shuttle conveyor and air table where faulty reams may be corrected before infeed to the AFCL carton packer.

## MODEL AFCL AUTOMATIC FOLIO CARTON PACKER

1. The reams are conveyed to the packer in cross-machine direction (with the long edge leading), where they are taken over by the 55" wide infeed belt conveyor. The fixed edge depends on the layout, i.e., left-hand or right-hand infeed.

2. The separator belt separates the reams and conveys them to the pneumatic pusher.

3. This pusher brings the ream to the air cushioned transfer table. From there, it is pulled to the air cushioned trap door from the loading station and neatly aligned at the same time.

4. While the above operations are taking place, the bottom carton blank is taken from one of the two hoppers and positioned underneath the trap door.

5. The bottom carton blanks are manually placed in the carton hoppers, which can hold blanks for approximately 60 minutes of production. The blanks are taken from the top, and the stack of carton blanks is continuously monitored and kept at the right level.

6. Suction cups take the blank from the top and bring it to the blank infeed.

7. The blank is neatly held in place by suction cups beneath the trap door which carries the ream.

8. In the next operation, the split trap door opens, and the ream is placed on the bottom carton blank.

9. The loaded blank is now conveyed to the bottom carton forming station by six parallel chains. During the transport, small glue drops are applied to the corners to facilitate the formation of the bottom carton.

10. In the bottom carton forming and gluing station, the side flaps are folded first, then the end flaps are folded, and finally the four small corner flaps are folded and glued.

11. During discharge from the bottom carton forming station, a line of glue is applied along the sides of the carton, for later bonding with the lid. The filled carton is then brought to the first lid forming station.

12. The two hoppers for the lid blanks operate in the same fashion as the hoppers for the bottom blanks.

13. A lid blank is taken from the top of the stack by suction cups and then brought to the lid forming station.

14. In the lid forming station, air is removed from the ream by two compression bars. The side flaps are folded down and pressed against the previously applied glue line on the bottom carton.

15. The transport chains bring the filled carton to the second lid forming station while glue drops are applied to all four corner flaps.

16. In the second lid forming station, two hot-melt guns, moving in cross-machine direction, apply glue to the end flaps of the bottom carton.

17. Two compression bars remove air from the ream.

18. After the corner flaps are folded, the end flaps of the lids are folded and pressed against the glue lines on the sides of the bottom cartons.

19. The sealed cartons are then transferred to the labeling station. Two (2) labelers for self-adhesive labels are included.

## MODEL AP3 FOLIO CARTON PALLETIZER

Folio carton palletizing system for speeds up to 8 cartons per minute on single carton layers. Prices quoted are for LITHIBAR MATIK standard materials and methods of construction.

Item 1 Faulty Carton Removal Station

- Item 1.1 Heavy-duty line shaft conveyor, 5' overall length, 54" wide, 51" B.F., 2½" diameter rollers on 6" centers, 11/16 hex axles, 9" channel frame, 1-7/16" line shaft
- Item 1.2 Hydraulic drive including double solenoid valve, single station manifold, and flow control
- Item 1.3 Supports
- Item 1.4 Pushbutton operated pop-up skatewheel section mounted between rollers for reject
- Item 1.5 40" x 52" ball table on casters and latch to attach to and remove from reject station
- Item 1.6 Pusher to move carton of skatewheel section

Item 2 Patternmaker

Powered roller section, with picture frame. Rollers are 3½" diameter chain driven, with hydraulic motor drive. Picture frame lift is hydraulic cylinder. Turn is hydraulic motor powered and has stop pin for precise positioning.

Item 3 Tie Sheet Dispenser

The tie sheet dispenser includes a sheet hopper, an overhead truck and carriage, a lift assembly with vacuum cups, and all necessary guides and controls. It mounts over the staging conveyor and places tie sheets from 20" x 24" to 36" x 42" as required.

Item 4 Staging Conveyor

Item 4.1 9'-8" powered roller conveyor section, 58" B.F., 1½" diameter chain driven rollers, with hydraulic motor, drives and controls

Item 4.2 Cylinder actuated product positioner to align cartons for tie sheet placement

Item 5 Model AP3 Folio Carton Palletizer

for production speeds up to 8 cartons per minute on single carton layers, including:

Item 5.1 Powered roller rear feed, with product stop

Item 5.2 Elevating fork assembly in rear feed for double stacking

Item 5.3 Overhead rear pusher

Item 5.4 Harmonic motion carriage, with lift

Item 5.5 Equalizing side positioners

Item 5.6 Gate for 22" high product

Item 5.7 Powered roller discharge conveyor on turntable for multiple pallet configurations

Item 5.8 Allen-Bradley PLC and all necessary hydraulic and electric controls for automatic operation

Item 5.9 Dual hydraulic power unit for two 45 GPM/25 HP variable volume pumping units on 200 gallon tank, with:

Item 5.9.1 Starter Panel

Item 5.9.2 Two (2) accumulators, 2½ gallons each

Item 6 Pallet Dispenser

The pallet dispenser automatically dispenses empty pallets from the pallet stack in the hopper onto a load discharge conveyor. The equipment includes a pallet hopper, stack lift, latches, conveyor and pusher, and "low pallet" warning alarm.

Item 7 Offload Conveyor

10', 56" B.F. CDLR conveyor, with hydraulic drive.