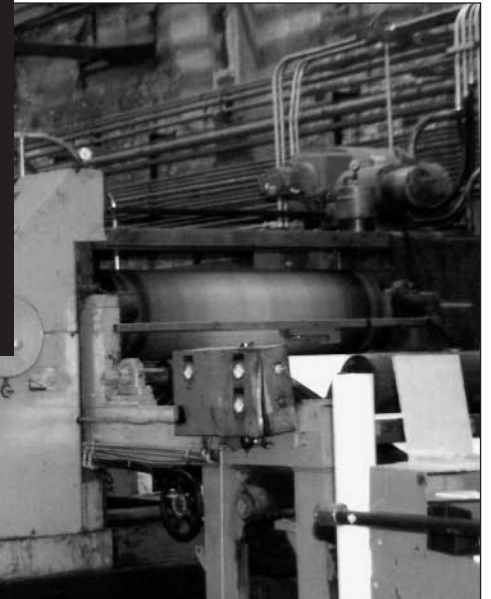


Model
K679A

Bulletin 143

Autocut™

Rotary Knife Digital Control System



Retrofit system for rotary knife cutters, earns profits by cutting costs...

Faster Length Changes with the Operator Keypad
Improved Accuracy, $\pm 1/64$ " Electrically Achievable
Eliminates Trimming on Many Grades
Less Operator Attention Required, Auto Slow,
Auto Stop, Auto Brake Control
Automatic Sheet Counting
Lower Operating Cost/Less Maintenance
Downtime – Replaces Clutches, PIV's, Etc.
Increased Line Speed While Maintaining Accuracy

Why Convert to Avtron Autocut?

Save Time! Save Material!

Mechanical fine tuning and the wasted product associated with it are eliminated with the Autocut system. Simply select the desired cut length with the easy-to-use keyboard and achieve the precise product length. No scrap – No wasted production time.

The precise control of the Avtron Autocut system provides accurate cut length changes at “the push of a button”. The system uses Avtron ADDvantage-32™ (ADD-32) DC Drives and Controls eliminating inaccurate mechanical components such as PIV's and gearboxes ensuring consistent cut length.

The actual improvement depends upon the specific installation and condition of the machine both before and after installation.

Autocut Components

The heart of the Autocut system is the Avtron ADDvantage-32 Digital DC Drive. The ADDvantage drive used in the Autocut system incorporates enhanced high performance software. Key benefits include:

1. Increased speed reference and feedback loop to execute 185 times/second. This allows achievable cut accuracy of better than $\pm 1/64$ ".*
2. Simple entry and editing of all operator setpoints in English units such as feet per minute, cut length in inches, number of sheets. Values are easily changeable for different measurement units or metric entry.
3. Automatic slow down (Auto Slow) of the machine occurs when a sheet count preset is reached.
4. The machine automatically begins stopping (Auto Stop) when it approaches the total number of cut sheets desired.

Autocut Packaging

Complete System Provided

The Autocut system is generally supplied with all electrical/electronic hardware required for machine operation. Customer supplied hardware normally consists of belts/sprockets for motor to roll connection and installation/mounting hardware as required. Refer to specific quotation for actual hardware supplied.

Increase Production

When an Autocut system is installed on a sheeter/cutter, more horsepower may become available as a result of a reduced load on the main drive motor. With this increased horsepower, it may be possible to increase the line speed of the machine resulting in increased production.

Avtron has been supplying control and instrumentation equipment to the paper and converting industry for over 30 years. The extensive knowledge gained is applied to the company's products to ensure superior results and to provide reliable performance in harsh mill environments.

5. Full drive diagnostics and 4-channel signal analyzer are standard in the ADDvantage-32 to facilitate complete maintenance and troubleshooting of the ADD-32.



The Avtron ADDvantage-32 Digital DC Drive provides the necessary motor control for accurate rotary knife performance.

*Actual cut accuracy depends on mechanical integrity and proper maintenance of the existing machine. Major mechanical contributors are roll bearings, resonance, and backstand braking systems.



Typical Autocut drive cabinet.

Standard Operator Stations

Easy To Use Interface

The operator station includes a display/keypad for machine setpoints. Four standard screens are provided as shown below. The station also includes a full complement of push-button and indicator lights.

The highly functional control panel is laid out for simplified operation.



Screen 1

Run Speed Setpoint (Entry)
Actual Speed (Display)
Cut Length Setpoint (Entry)
Actual Quantity of Sheets Cut (Display)



Screen 2

Number of Webs/Backstand (Entry)
Auto Slow At (Entry) when sheet count equals setpoint.
Auto Stop At (Entry) when total sheets are cut.
Marker At (Entry). Gives a contact closure (for customer use) every "n" number of sheets. Can be used to control a tab insert device or layboy sequencing.



Screen 3

Line Jog Speed Setpoint (Entry)
Line Slow/Thread Speed Setpoint (Entry)
Knife Jog Speed (Entry)



Screen 4

High Speed Conveyor Speed Ratio Setpoint (Entry)
Low Speed Conveyor Speed Ratio Setpoint (Entry)
High Speed Conveyor Jog Speed Setpoint (Entry)
Low Speed Conveyor Jog Speed Setpoint (Entry)

Optional Backstand Brake Control

Accurate, Automatic, and Reliable Control

The optional brake control system provides accurate, automatic, and reliable control of the Backstand Brake, using an Avtron Advanced Control Module (ACM). The ACM utilizes the same microprocessor and system boards as the ADDvantage-32 Digital Drives, which means fewer spares are required to support your system.

Each brake control ACM can provide four analog signals to control existing brake pneumatics. Converters can be supplied to interface between the analog control circuit

and the brakes. More ACM's can be added as required to control multiple backstands.

ACM outputs provide constant sheet tension using a diameter compensated control function. The Backstand Brake Control option includes a set-up screen on the operator station which allows the operator to enter initial diameter, paper thickness, and brake pressure for each backstand. This option also features compensation for break-away starts and machine ramping up/down.

Further features and benefits of the ADDvantage-32 Drive are available upon request.

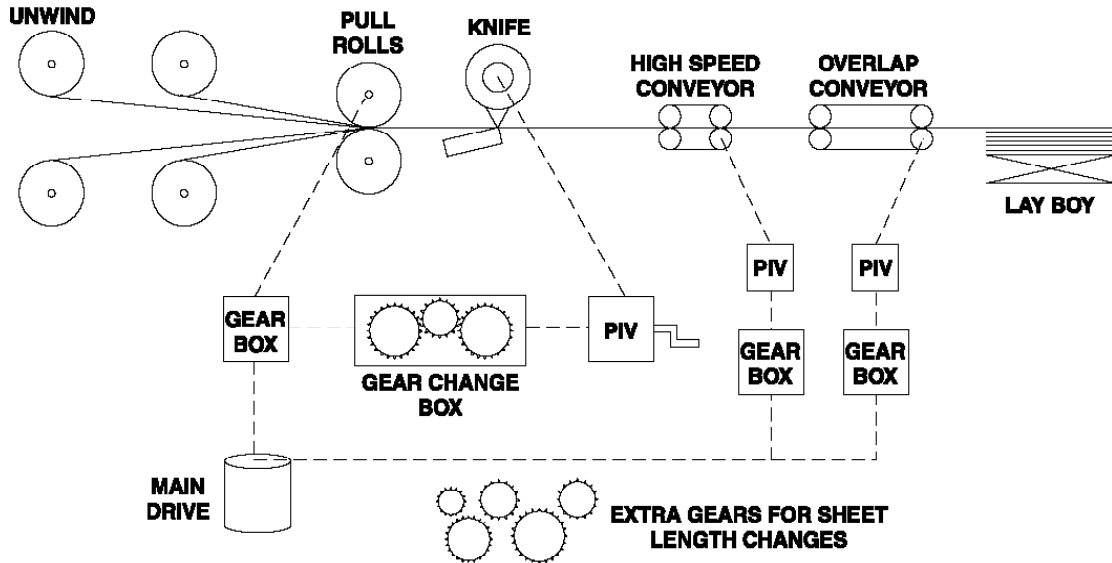
K679A Block Diagram

The Autocut Control System is designed for retrofitting existing rotary sheeter/cutters or for integration in new equipment. The system uses Avtron ADDvantage-32 Digital Drives to replace the mechanical variable speed knife drive components like expanding pulleys, PIV's, and gearboxes (Fig.1).

sections is required in order to maintain precise cut lengths. The Autocut System is designed to provide accurate repeatable control of both line speed and cut length (Fig. 2). Coordination of up to two conveyor sections is also possible, for a maximum of four controlled sections with the standard system.

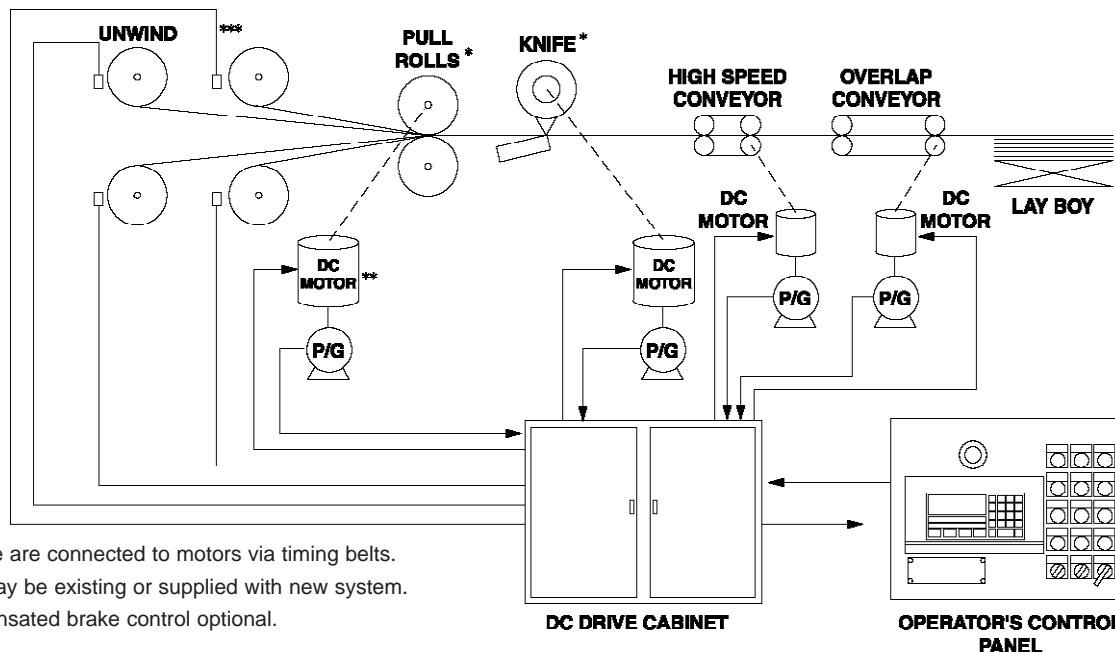
The two most important sections on a sheeter/cutter are the pull roll and the knife. Precise coordination of these

Before



(Fig. 1)

After



(Fig. 2)

- * Pull roll and knife are connected to motors via timing belts.
- ** Pull roll motor may be existing or supplied with new system.
- *** Diameter compensated brake control optional.



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 Printed in U.S.A. Rev. A