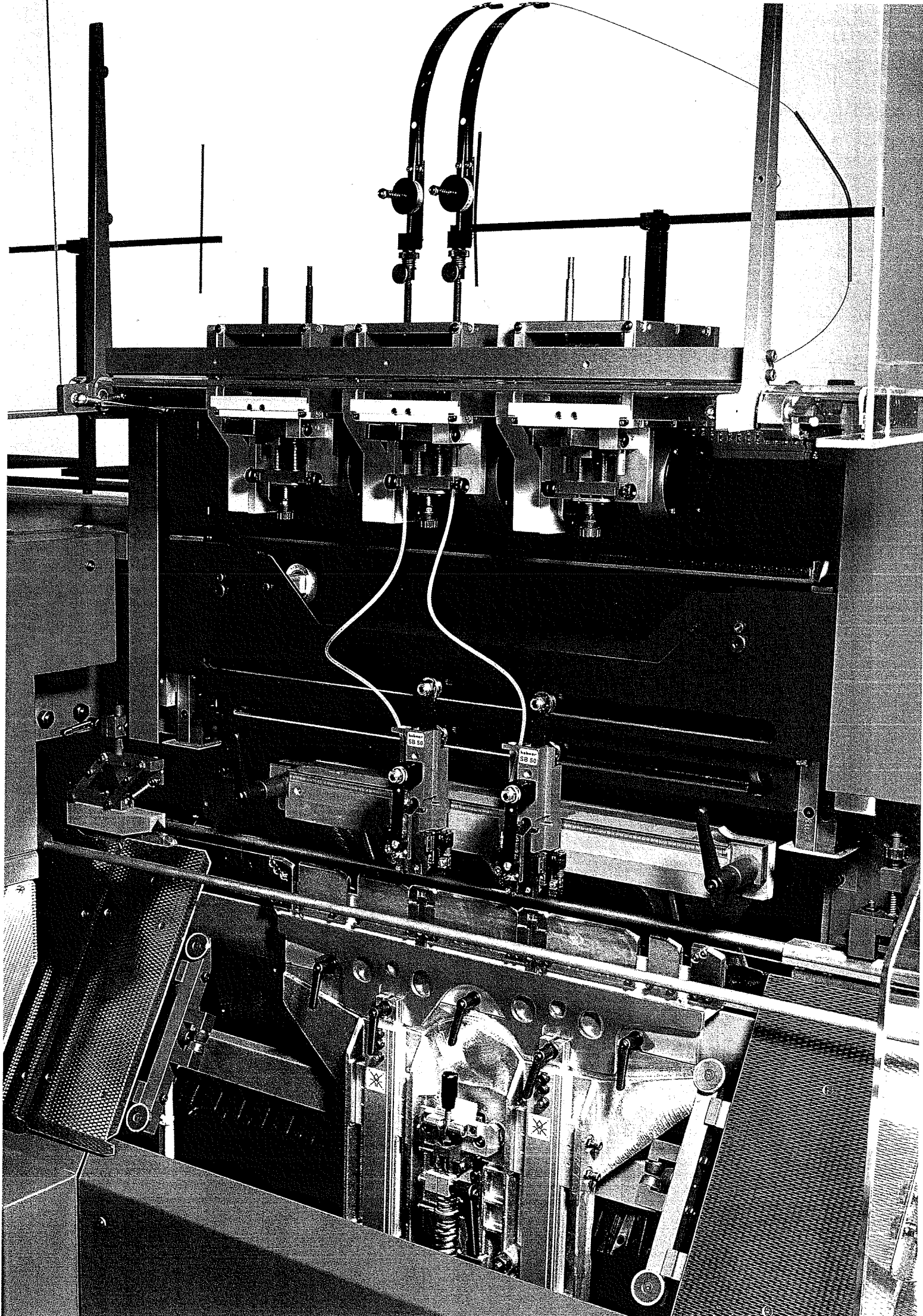


Stitchmaster ST 400

Saddlestitching with Ultimate Flexibility

HEIDELBERG



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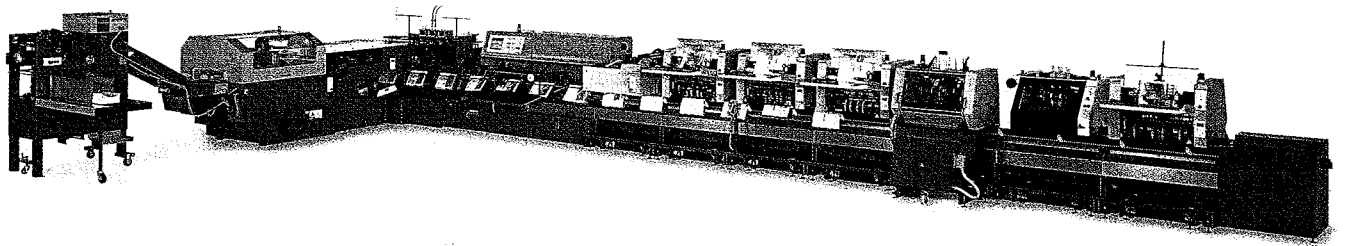
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Stitchmaster ST 400 • The first saddlestitcher for industrial booklet production that adapts to the product. The result: maximum flexibility and convincing quality.

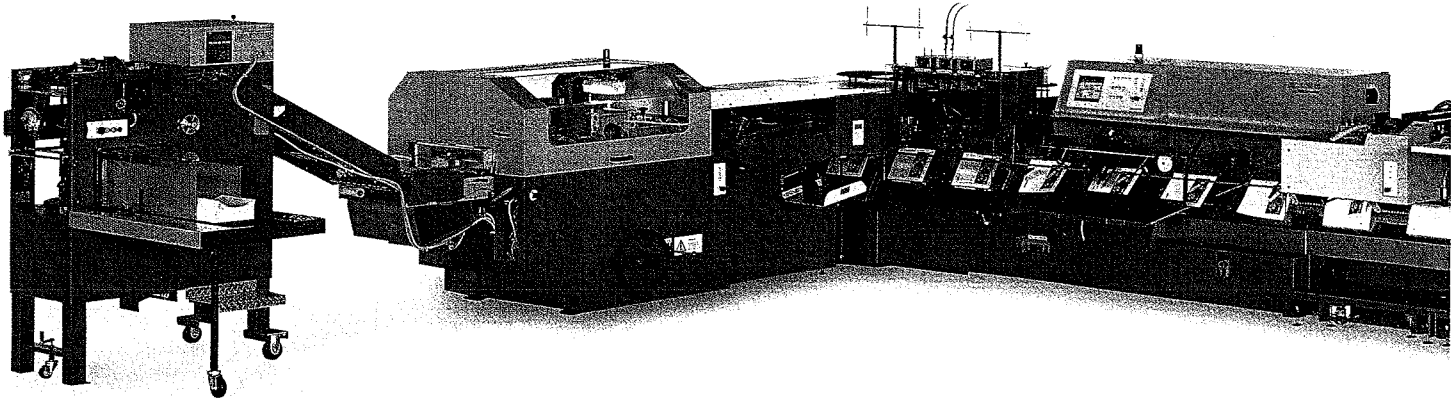


Thanks to its forward-looking design for gathering, stitching and trimming, the Stitchmaster® ST 400 opens up new saddlestitching possibilities for commercial print applications. It offers a new level of automation – for instance, with automatic format presetting for the entire machine and automatic synchronization of all feeders and stitcher to the saddle chain, the trimmer infeed, and the trimmer as well. Exceptionally flexible production can be achieved with the versatility of the mobile, height-adjustable, and tilting, servo-driven feeder that can be placed on either side of the saddle chain.

Product Profile

- Maximum flexibility, due to a high degree of automation and a multitude of possible configurations
- Mobile, servo-driven feeders
- Automatic format presetting, length and width
- Automatic synchronization of all machine components with one another
- Fast makeready, on-the-fly adjustments

Flexibility from the beginning • Extensive automation and mobile feeders enable a new dimension of flexibility – while facilitating frequent format changes.



Flexibility from the beginning

Feeders

- Automatic format presetting
- Mobile – on wheels
- Can be positioned on either side of the saddle chain.

Cover folder feeders

- Automatic format presetting
- Mobile – on wheels
- Can be deployed anywhere along the saddle chain, without any format constraints

Operating concept

- Control panels on each component
- JDF interface for importing presetting and management data via Compustitch®

Stitcher

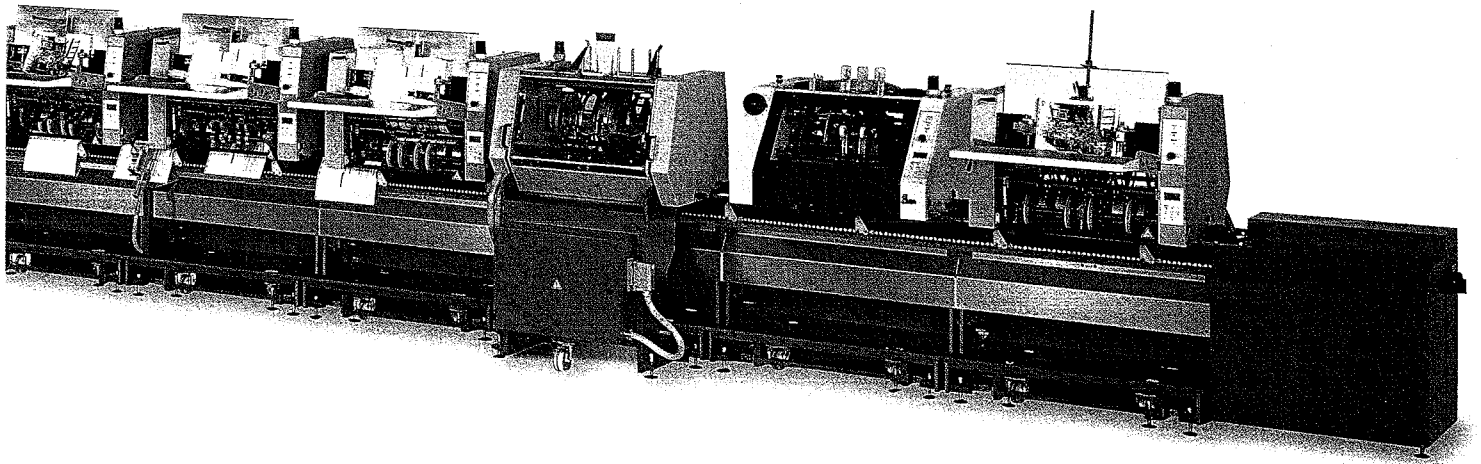
- Fast-change feature for stitching heads
- Wire feed is separate from stitching head

Trimmer

- Automatic format presetting
- Enhanced flexibility with optional accessories for two-up, three-up and hole punching

Compensating Stacker

- Automatic format presetting



For enhanced quality

Feeders

- Patented register stop belt gently conveys products

Cover folder feeders

- Double sheet detection

Sticher

- Staples products while they are moving
- Missing stitch detector from below

Trimmer

- Indexing belts in the trimmer for quality trimming

Customers demand quicker turnaround •

The ST 400 is ideal for delivering selective and high-quality print products at any time and your satisfied customers come back for more.



Today's print market is driven by constantly increasing expectations as far as design and quality of products are concerned. And the trend is clearly toward shorter runs with personalization.

What's demanded in today's market are highly flexible solutions. If you're able to optimally respond to your customers' wishes and consistently deliver top quality, you're guaranteed to boost customer satisfaction and loyalty.

The ST 400 has been specifically designed to meet these needs across the board. Its high level of automation ensures that you can handle frequent job changes and shorter runs and be profitable. Its enormous versatility, including mobile feeders, sample gluer and a host of optional accessories, allows you to respond to your customer needs at anytime. Everything is possible with the ST 400. In addition to these decisive advantages a multitude of quality controls functions guarantee

optimum product quality, from the feeders to the compensating stacker.

Greater Flexibility for Serving the Market

- Increase customer focus
- Greater customer loyalty
- Ability to respond to customer wishes faster
- Consistent and reliably high product quality
- Lets you do more than your competition

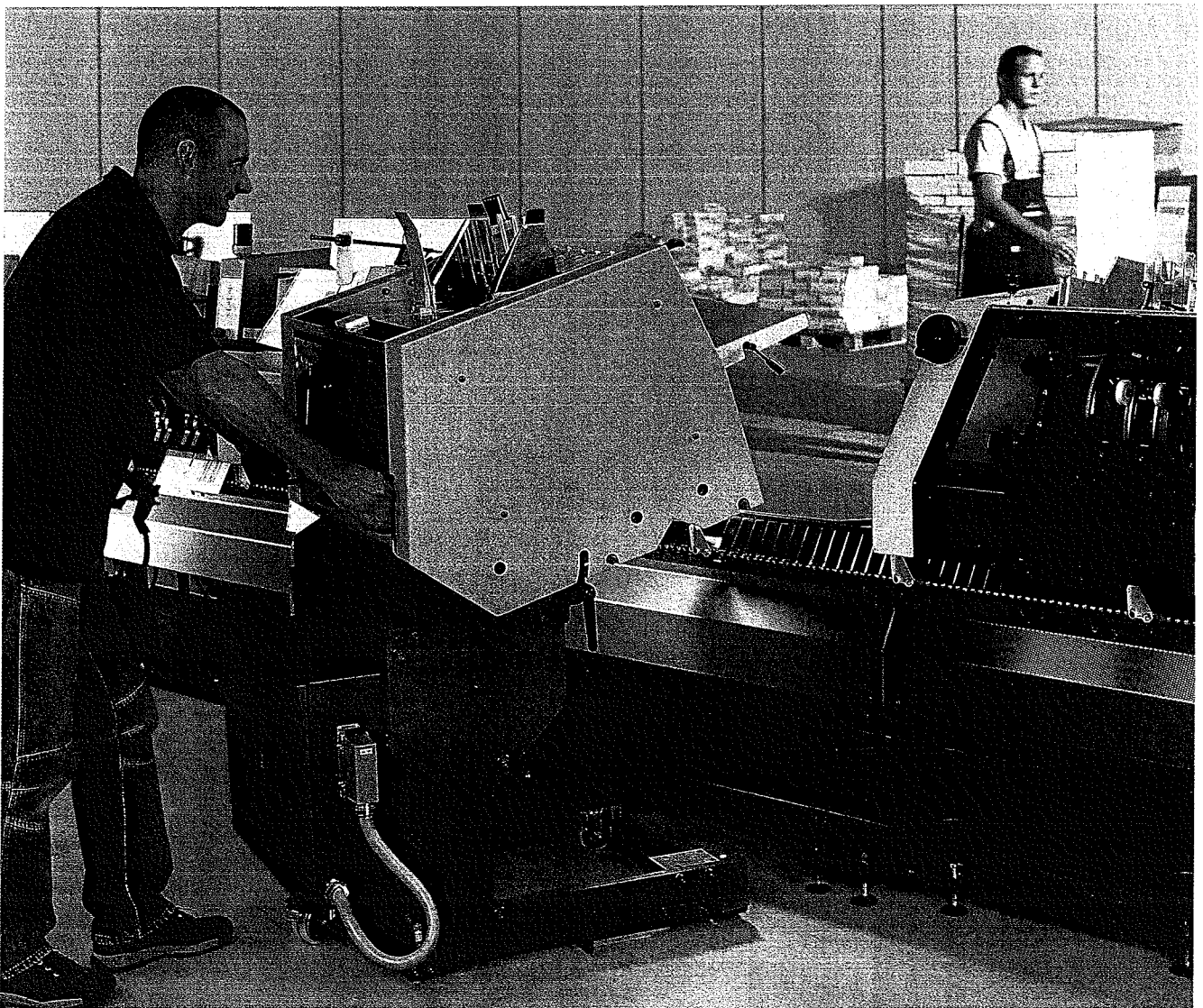
The Feeders • Right from the start we have more possibilities: servo-driven mobile feeders increase our variability to configure to the customer's product and guaranteed increase in our productivity.

The ST 400 allows you manufacture reliably from the start, thanks to its cutting edge technology. The feeders are lightweight and easy to reconfigure to meet the needs of each product. They are not only extremely variable, but also highly productive in everyday operation.

Feeders Concept

The ST 400 is equipped with individual mobile feeders with servo drives. This modular concept consistently provides the customer more variability, and makes the ST 400 the first saddlestitcher that can be adjusted to the

The mobile feeders are easy to place on either side of the saddle chain to meet the needs of each job

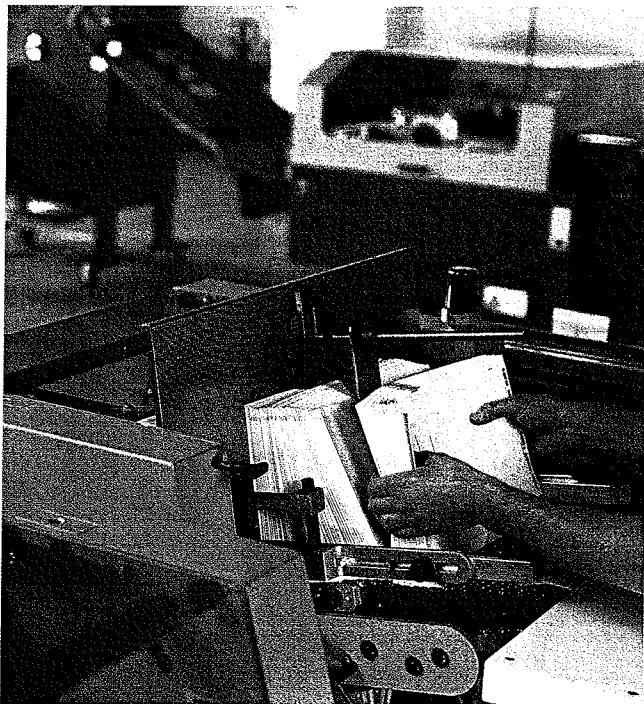


product instead of the other way around. This is because it takes the step beyond a fixed feeder configuration. The big benefit: it can be used for many different applications while remaining easy to operate.

The feeders can be positioned anywhere you like along either side of the saddle chain. You can position them laterally, adjust their height, and tilt them up. This lets you, for example, shift the feeders further away or closer to the center of the chain when dealing with asymmetrical signatures that are longer on one side than on the other or if required even change their height. A high level of automation facilitates operation and reduces makeready.

Automatic Format Presetting

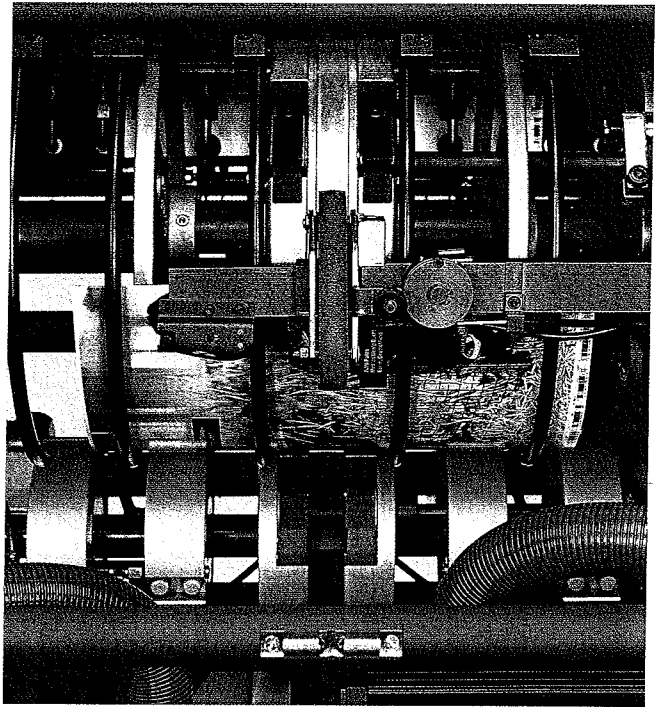
The feeders automatically adjust to the entered format. The feeders synchronize to the saddle chain based on the format and cycle speed. If the signatures are opened using vacuum, the sucker timing is set automatically to the cycle speed.



Greater flexibility than ever: position the feeder on the back side of the saddle chain.

Quality and Reliable Production

Each feeder is equipped with a sequential monitoring system. That means that if a feeder should fail, a missing sheet is reported and all of the following feeders case placing signatures onto the saddle chain. Incomplete or incorrectly gathered signatures are reliably sorted out. Hence a reliable production process is ensured.



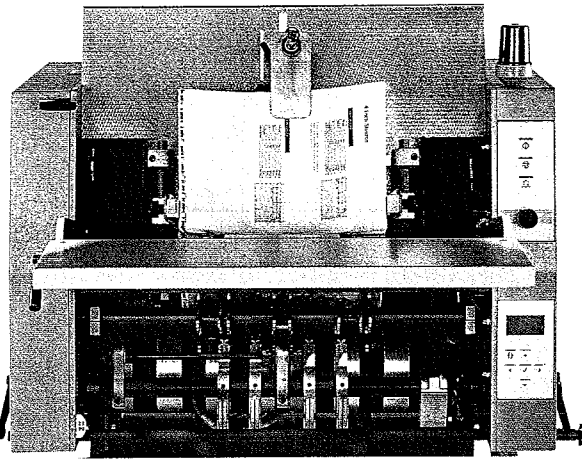
A patented register stop belt ensures a positive transition of the signature in the feeder which maintains the quality of the product.

A patented register stop belt conveys signatures to the register stop without damaging them. The quality achieved during the printing process is thus maintained during the finishing process.

The signatures are processed by vacuum or gripper opening. The precise times at which they are released onto the saddle bar can be manipulated on the touch pad while the machine is running.

Moveable Feeders

- The right feeder system for different requirements
- Movable individual feeders with servo drives
- Automatic presetting of feeders for different formats
- Patented register stop tape for gentle handling of products
- Automatic synchronization of feeders with the saddle chain (speed-dependent)



Mobile vertical signature feeder



Mobile horizontal signature feeder

Variability

Five different feeder styles are available for the ST 400. The right one for every requirement or application.

Vertical Signature Feeder

Signatures are loaded into the feeder bin with their spines leading. This reduces pressure on the pile, thus decreasing the risk of marking and enables you to load more signatures. A stream feeder can be used to automate the loading process.

Horizontal Signature Feeder

The signatures are loaded into the feeder bin stacked in a pile. This feeder type is best for signatures of flimsy or light weight stock that can not stay upright without buckling. However, the amount of stock that can be fed is smaller due to the risk of marking and the stability of the signatures.

Web Vertical and Horizontal Feeders for Signatures Opened on Three Sides

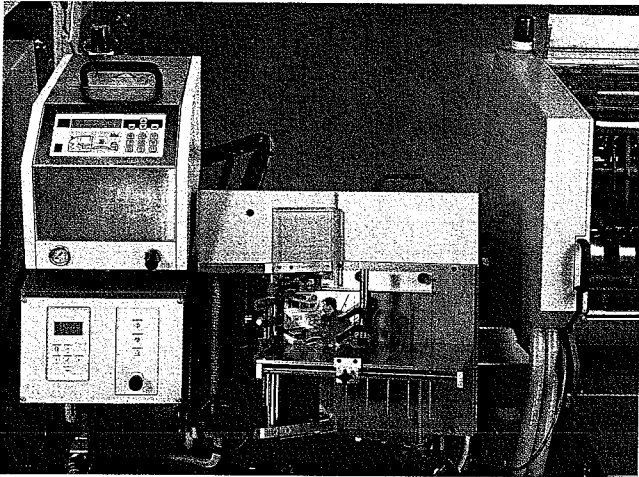
To handle the three side open or false lap signatures, we designed a feeder to handle the production of gravure and web printed products.

Cover Folder Feeder

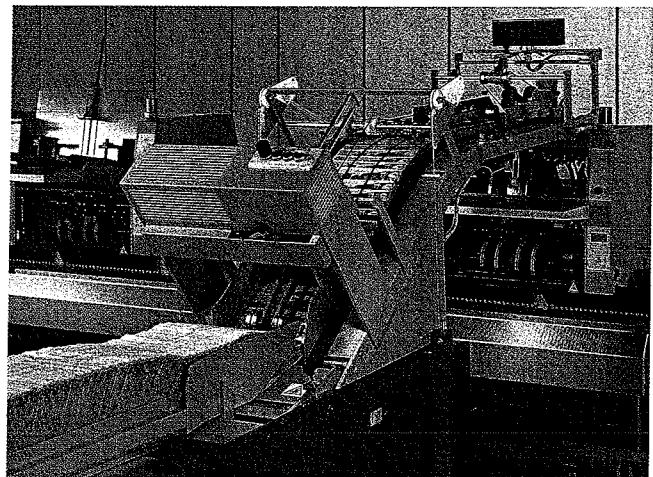
Covers are placed horizontally into the hopper bin. After the scoring process, each cover is conveyed by a profiled belt for folding onto the adjustable driven folding rollers, then deposited on the saddle chain. This eliminates the need for a separate operation for folding the covers prior to gathering. Two scoring types are possible: inside and outside. The scoring position in the middle can be adjusted on-the-fly. The scoring modes are easy to set to obtain best results with every cover grade, paper type and grain direction.

Covers are folded and fed precisely and extremely reliably at all speeds up to the maximum cycling rate. Multiple cover folder feeders can be placed along the saddle chain without any format constraints.

Feeder Options • Additional options for feeders open up new possibilities for increasing productivity and profitability.



Mobile sample gluers can be positioned anywhere along the saddle chain



Stream feeders enable continuous loading of drum feeders.

Sample Gluer WK 400

The sample gluer WK 400 can be placed anywhere along the saddle chain just like a mobile feeder. It is equipped with a servo drive and lets you attach cards, envelopes, booklets, smartcards, CDs, or merchandise samples to signatures. Multiple sample gluers can also be used. Two different versions are available: the WK 400V for use in front of the saddle chain, and the WK 400H for use in back of the chain.

Bundle Feeder and Stream Feeder

The bundle feeder is for automatically loading bundled signatures for large jobs. It is used together with the feeders for vertical signatures.

The stream feeder is for automatically loading horizontal feeders. Signatures are taken off a bundle in a shingled stream and fed into the feeder bin one at a time. The height of the pile is regulated using an adjustable electric eye. The stream feeder is simple to operate using a display panel.

Attach samples at any position

- Mobile sample gluer with servo drive
- Gluing of different products
- The WK 400 can be positioned anywhere along the saddle chain
- Multiple sample gluers can be used

Automatic loading to increase productivity

- Continuous loading of feeder bins
- Feeding from bundles
- Reduces personnel requirements
- Enhances reliability of production by keeping pile height virtually constant

The Stitcher • Fast changeover and user-friendly operation – a simple way to save time.

Changeover with Quick-Change Device

As part of automatic format presetting, the wire feed length is automatically adjusted. To make life easier for the operator, in the ST 400 the stitching head is separate from the wire feeding system. The stitching heads can be set up outside the machine with our quick-change device. This is done simply by releasing two clamping levers, without the requirement of any tools. In the end: changeover is much faster and easier.

It is also easier to set and change the clincher position, because access to them is not impeded by the front saddle chain.

To switch to staggered stapling which benefits the packaging of thin booklets – simply press a button. You can also do this while the machine is running.

Tucker transfer of stapled booklets from the saddle chain to the trimmer infeed is speed-dependent; this ensures reliable feeding of products at slower speeds as well.

Quality Control Monitoring

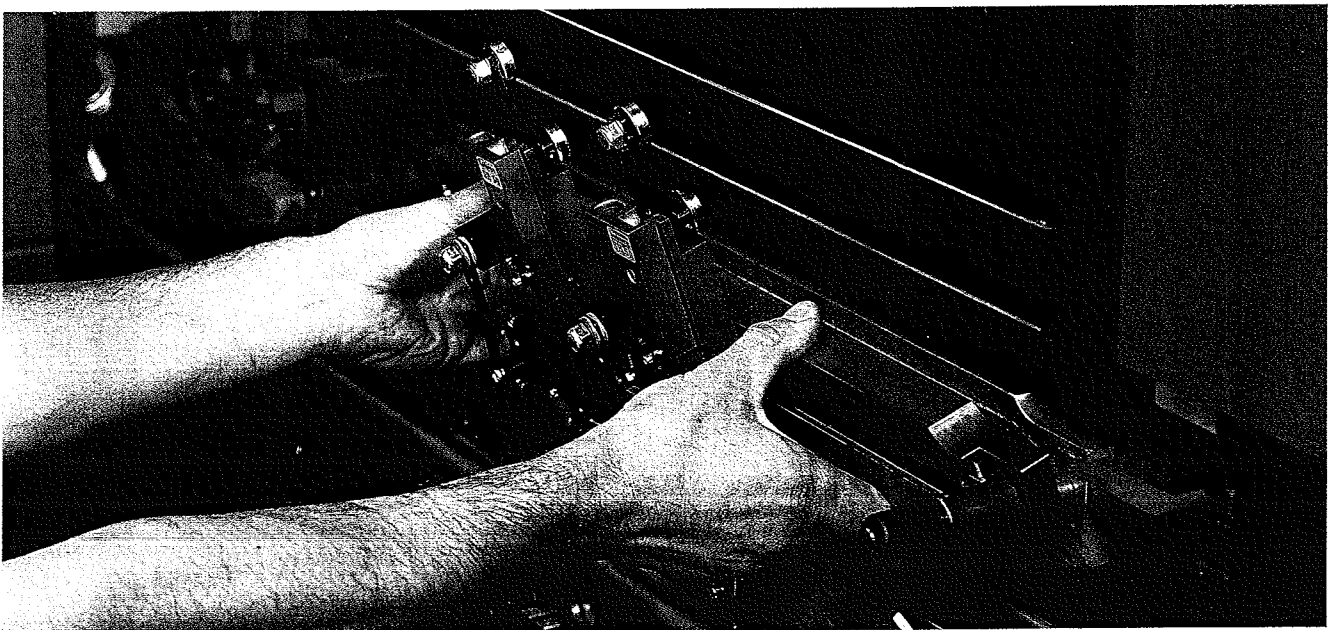
Booklets are stapled while in motion. This enables the stitcher to be highly productive – while ensuring top quality. The results of stapling are monitored from below. This optimized quality monitoring ensures that every staple is counted.

No special monitoring settings are needed to switch between loop stitching and normal stitching.

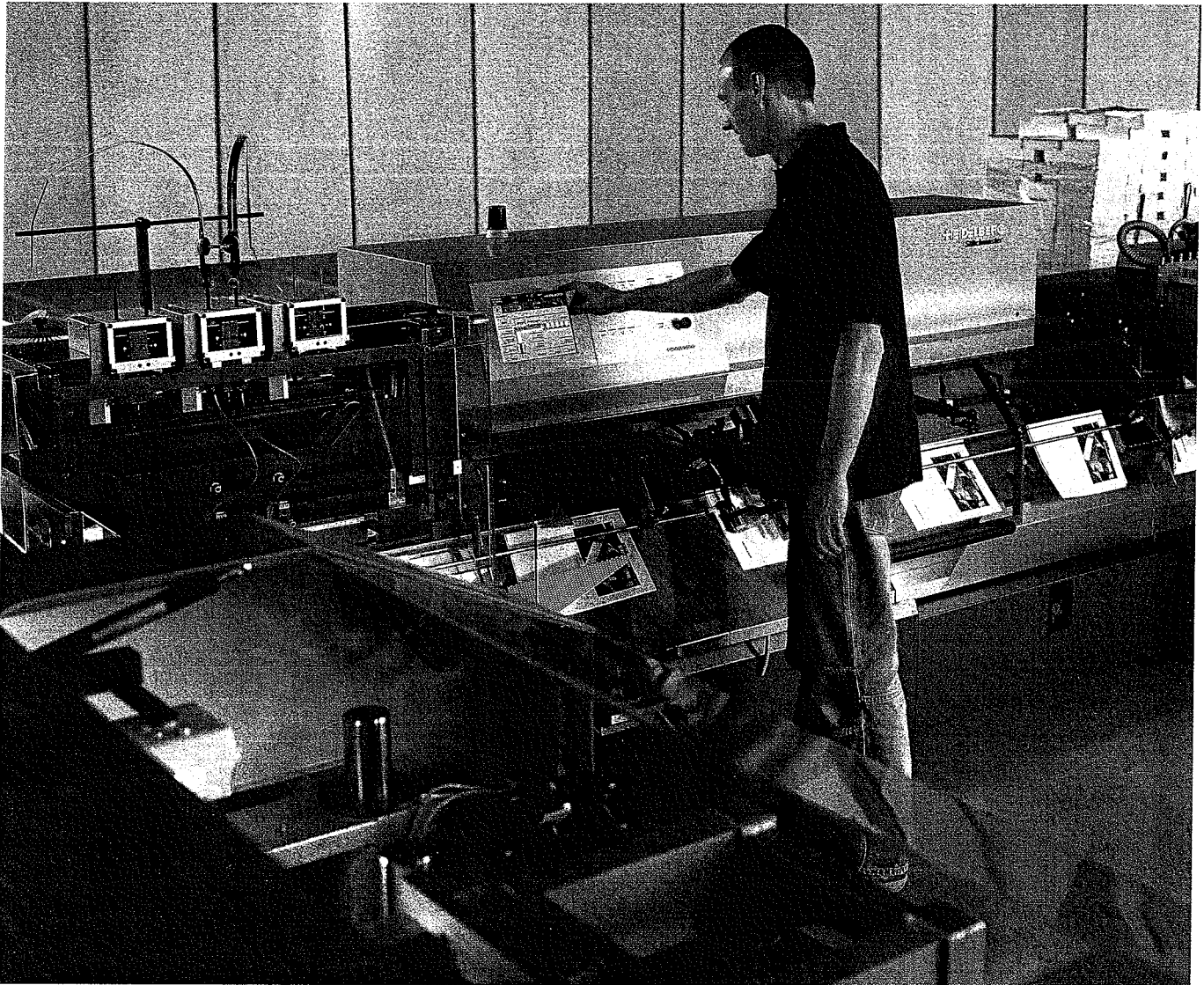
For extremely fast changeovers

- Quick-change device for stitching heads
- Improved quality control: stapling results are checked from below
- Staggered stapling can be engaged and disengaged on-the-fly
- Automatic synchronization of stitcher with saddle chain
- Automatic setting of wire feed length

The fast-change device for stitching heads is easy to insert into the machine by releasing two clamping levers. No tools are required.



The Trimmer • Automation equates to simpler operation and greater flexibility for the operator – while enhancing and maintaining product quality.

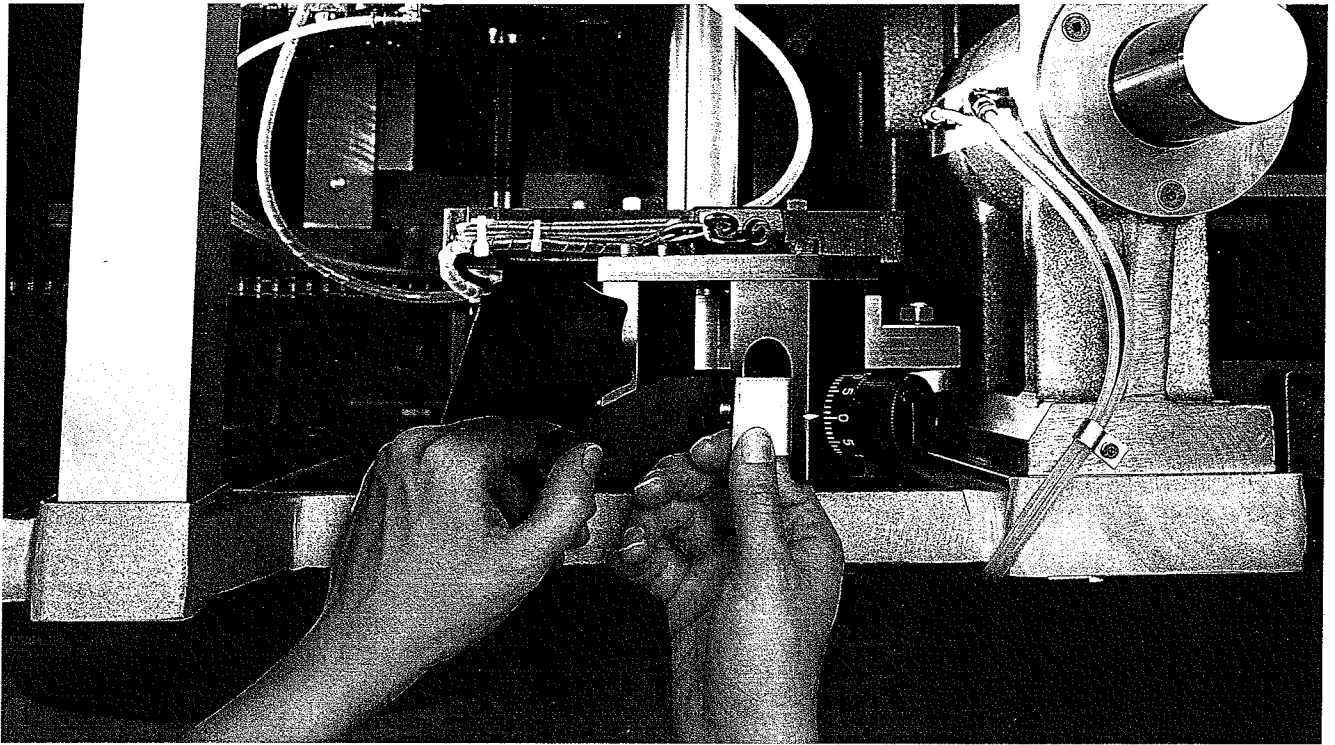


No more complicated and time-consuming make-readies with the ST 400, the trimmer is automatically preset at the press of a button.

Automatic Format Presetting

As part of the automatic format presetting functionality on the ST 400, the trimmer infeed and the trimmer are set to the correct format size and cycle speed. In other words, it is no longer necessary to go through a complicated, time-consuming makeready process to set the trimmer to the right booklet length and width and

synchronize it with the machine's cycle speed. Everything happens automatically – making it simple and trouble free. In order to shorten the makeready for two-up format, we keyed the center of the trimmer to make it easier. The indexing conveyor belts are quick and easy to adjust to the product thickness without requiring any tools by using the FESTA quick set adjustment knob.



A FESTA quick adjuster is all it takes to set the indexing conveyor belts to the product's thickness.

FESTA Quick Adjuster

The ST 400 is equipped with a FESTA quick adjuster to precisely set the product thickness for the opening of the indexing conveyor belts. The process is simply, just place a swatch of the booklet in the gap set and then turn the knob to adjust the pressure. FESTA settings are transferred directly, one-to-one and without any play

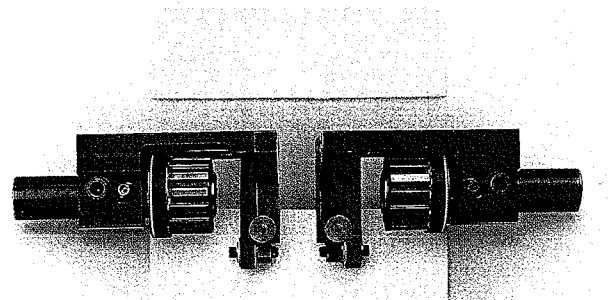
High-Quality Trimming

During the trimming process our indexing conveyor belts stand absolutely still. Our new stepped belt drive prevents products from being marked or scraped. The conveyor belts can be adjusted on-the-fly using servomotors to maintain the high quality of printed items during the finishing process. We can correct the speed at which booklets register against the stops by controlling the position and speed of the book in relationship to the infeed. This process can be performed on the fly at the trimmer.

The trimmer first executes the front trim and then the belts index to the head and foot trim which are done simultaneously. Cutting waste is automatically removed by a conveyor belt.

Small-Booklet Transfer Device (KFT)

A transport device for small formats is available as an option for the ST 400 to broaden its potential applica-

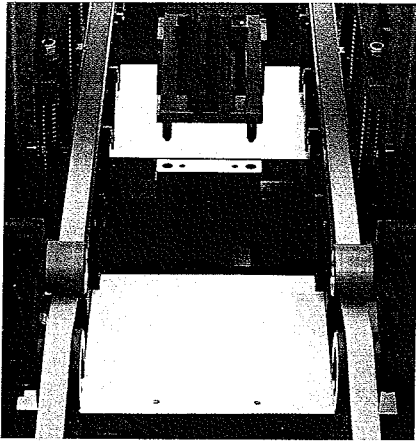


The KFT small-booklet transfer device permits binding of booklets as narrow as 64 mm (2.5 in)

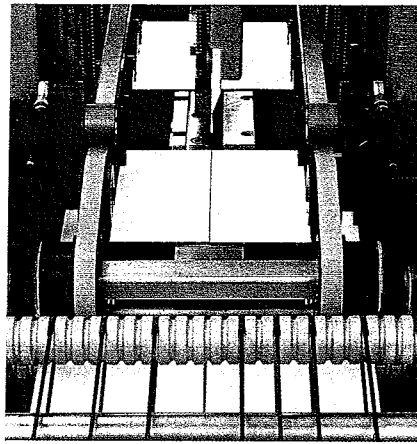
tions. It reduces the smallest possible width from 89 mm to 64 mm (3.5 in. to 2.5 in)

High-quality trimming

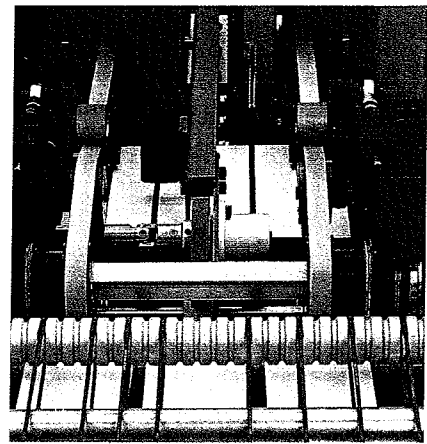
- Automatic format presetting
- Trimming done while indexing conveyor belts are at standstill
- Proven trim sequence while product is optimally aligned
- Large selection of optional accessories



Hole puncher



Center cut attachment



Triple trim attachment

Parting and Punch Cuts

Optional accessories that are available for the trimmer will increase the flexibility and efficiency of your production.

Hole Punching

Optional hole punching open up additional possibilities while eliminating separate steps to achieve the same results. Different punchers are available for the trimmer for processing two, three and four holes or hole patterns for calendars.

Center Cut Attachment

For producing two-up booklets, a center cut attachment with a fourth and fifth knife is available for installation in the trimmer. It does not require any additional transfer chains or conveyor belts, and is a fast and simple way to increase productivity.

Triple Trim Attachment

The triple trim attachment permits the production of three-ups.

Variety of knife sizes are available for parting and punch cuts for both the center cut attachment and the triple trim attachment.

Parting and Punch Cut Formats

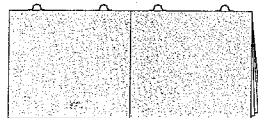
Cutting attachments

Center cut

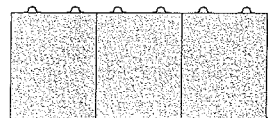
Triple trim

Parting cuts (width x spine length)

- Max. two times 310 x 237 mm (12.2 x 9.33 in)
- Min. two times 89 x 100 mm (3.5 x 3.93 in)
- Max. thickness of 10 mm (0.39 in)

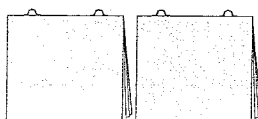


- Max. three times 310 x 158 mm (12.2 x 6.22 in)
- Min. three times 89 x 100 mm (3.5 x 3.93 in)
- Max. thickness of 5 mm (0.2 in)

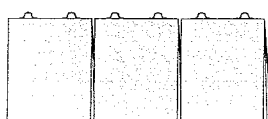


Punch cuts

- Formats as for parting cuts
- Spine length reduced to half of knife width
- Max. thickness = 1/2 knife width



- Formats as for parting cutst
- Spine length reduced to half of knife width
- Max. thickness = 1/2 knife width



Delivery Systems • Flexible to the end. Choose from various deliveries depending on the finished product and customer requirements.

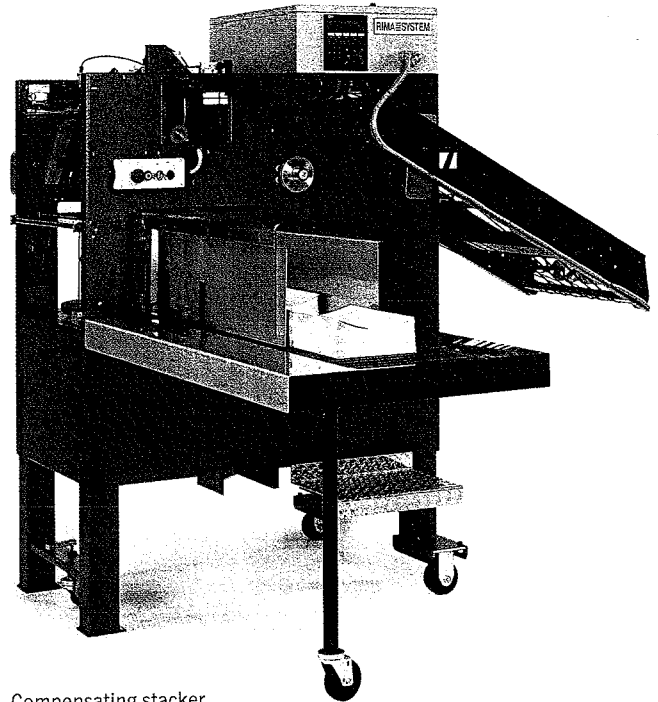
Greater opportunities in the delivery as well: the ST 400 allows you use to different type delivery systems from compensating stacks, knife folding to banding

Compensating Stacker

It makes sense to place a compensating stacker at the delivery end of the highly productive ST 400. As the ST 400 pioneering technology, the compensating stacker is equipped with automatic format presetting. It is mounted on wheels for easy deployment wherever it is needed.

Speedbänder Delivery for Two- and Three-Ups

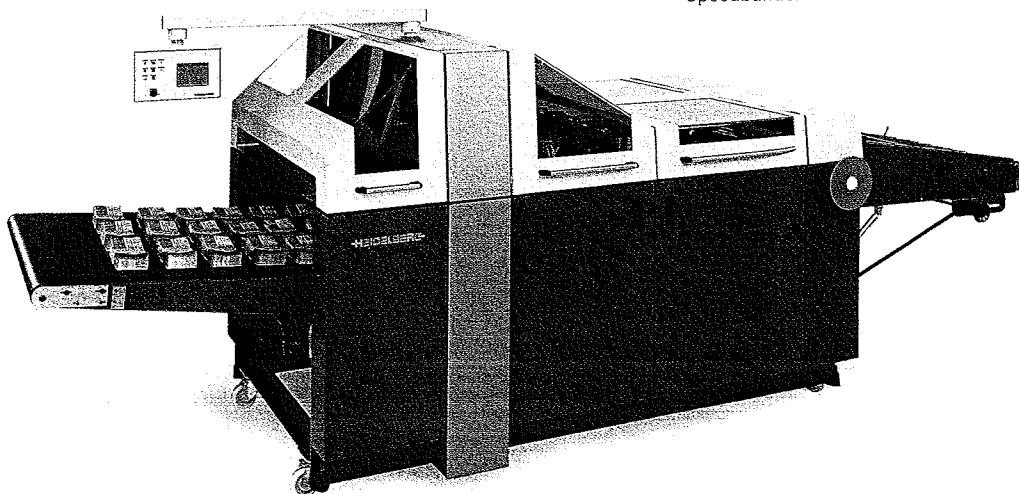
The new Speedbänder from Heidelberg is a high-speed solution for optimally outputting counted packs when producing multiple-ups. The automatic pack delivery accepts stitched products, stacks them into packs, sleeve-wraps them, and delivers them at an ergonomic working height. The Speedbänder is able to process 600 packs per “up” an hour. This delivery fully supports the high productivity of the ST 400.



Compensating stacker

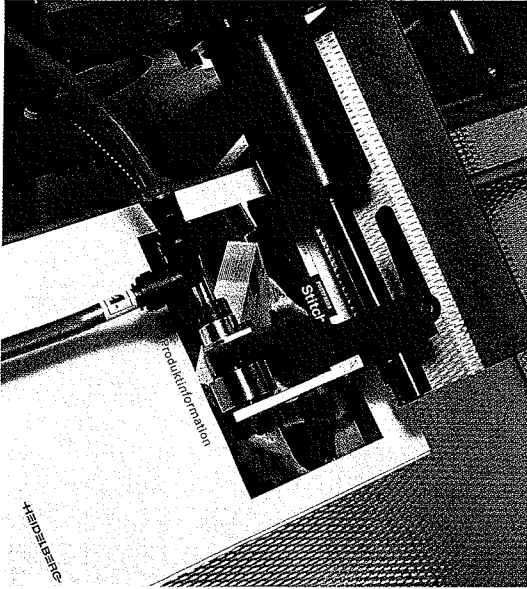
Other Delivery Options for the ST 400:

- Stream delivery
- Other postpress deliveries available from Heidelberg

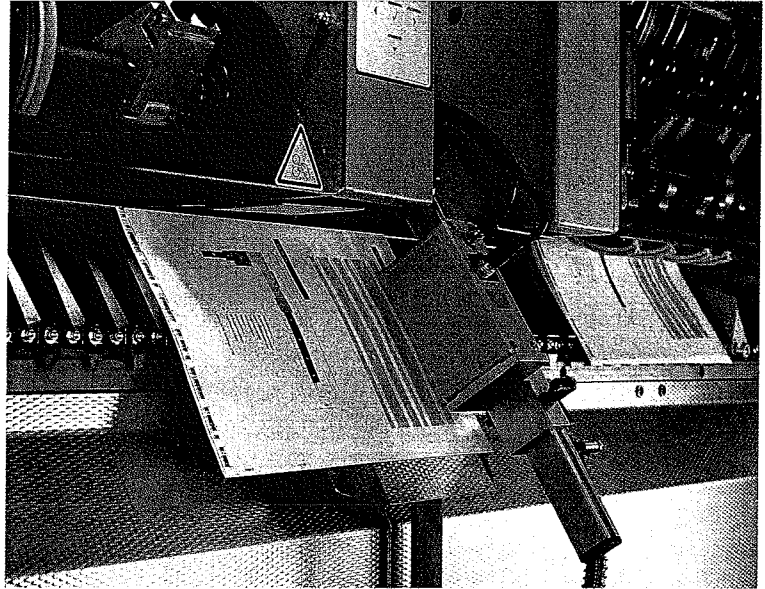


Speedbänder

Quality Control • Wide range of standard and optional control features to produce top quality booklets.



An integrated side thickness caliper (standard) makes sure that incorrectly gathered booklets are ejected before stapling.



An optical camera image recognition system on the saddle chain checks signatures for correctness and make ready sheets.

The ST 400 is equipped with quite a number of standard features for monitoring quality to ensure smooth production and excellent finished products. For instance, sensors monitor the contents of the feeder bins to prevent them from running out during a production run. A double sheet detector at the cover folder feeder makes sure that sheets are fed one at a time. Besides the standard capabilities, the following quality control functions can be added as an option:

On the Saddle Chain

An optical camera image recognition system looks for incorrectly placed signatures. Signatures are checked in motion on the saddle chain. The system analyzes a sheet's print image and compares it with a reference sheet. It can even make sure that the right language version is being finished.

Between the Gathering Line and the Stitcher

The Stitchmaster ST 400 also lets you check the booklet width. Two sensors identify cocked signatures on the chain. If one is discovered, the machine is automatically halted.

In the Stitcher

Between the stitcher and the trimmer infeed, a sensor checks the staples. This is done from below, so there is no need to additionally rearrange the machine when switching between normal staples and wire loops. This function also works when using both types at the same time.

In the Trimmer

Quality control monitoring in the trimmer, two optical sensors on the bed knives measure the length and angle of cuts or skewed books. Defective products are ejected by a deflector at the trimmer's exit.

The Control System • User friendly touch screen interface that is extremely efficient: the control system layout of the ST 400 is easy to program new jobs or automatically preset from the network to customized production.

High-Performance Control System

The ST 400 is operated using a central control unit. Entries are made using a color touch screen and a membrane keypad. Control panels on every aggregate allows the operator to control the machine from every position.

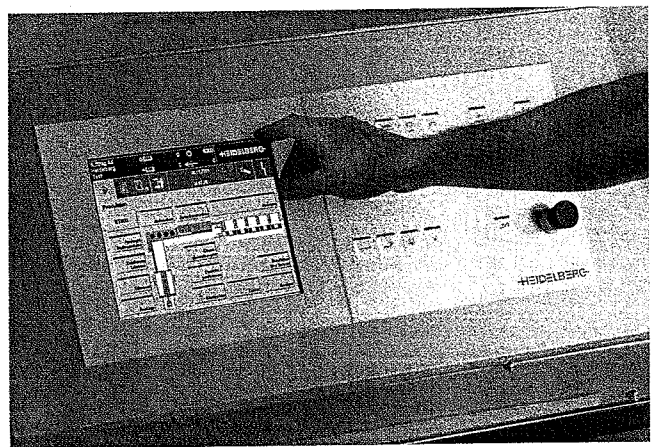
The control system is not only for operating the machine; it also includes functions for product monitoring, diagnostics, and quality control. It takes only a few simple and intuitive steps to quickly and reliably get the ST 400 ready for production.

Consistent Workflow Presetting

The control system of the ST 400 is JDF-capable and can be seamlessly integrated into Heidelberg's Prinect® workflow. Presetting data from prepress can be imported, and stored settings can be retrieved for repeat jobs. This includes the untrimmed and trimmed length and width and the numbers of staples and signatures and brings you back to production speed.

The following automatic format presettings are executed parallel and simultaneously:

- Feeders: spine length and product width (bins and register stop)
- Stitcher: stapling mode and product thickness (setting of the wire feed length)
- Trimmer infeed: spine length (lateral conveyor belts)
- Trimmer: spine length and final product width (top and bottom knives and stop for face trim)
- Compensating stacker: spine length and final product width (basket)



The ST 400 is monitored and operated via the touch screen control unit

This allows you get the machine ready for new jobs in a minimum amount of time.

The control system of the ST 400 supports the digital workflow all the way to the management level. Integrated job management and production data captured ensure an efficient process. A high level of automation for setting the machine, faster production, improved quality control, lower costs – all translates into a consistently optimized workflow.

Compustitch and Prinect FCS 100

Integration of folding machines and saddlestitchers into the Prinect workflow is ensured by the Finishing Communication System FCS 100. This central production and information system comprises three modules. Compufold® Workflow CFW is for generating programs for folding machines; the software module Production Data Management PDM captures production data from folding machines and saddlestitchers and links up with Prinect® Prinance® or Prinect Data Control; and Compustitch CSW is for creating programs for the ST 400. A configurator can be used to define the machine.

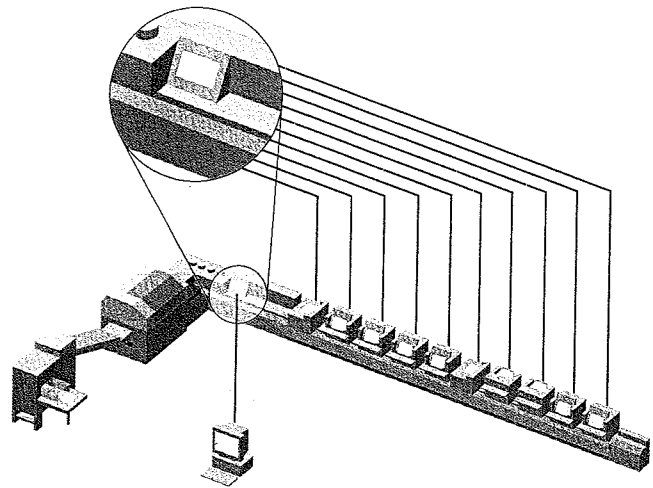
The Stitchmaster ST 400 can thus be directly integrated in the Prinect workflow or indirectly via the Finishing Communication System Prinect FCS 100. This keeps all of your options open for networking your finishing processes.

Greater Flexibility with Customized Products

With the ST 400, Heidelberg is responding to the growing demand for selectively finished brochures and booklets. Publishers and advertisers have realized that they can address their markets much more effectively and systematically with customized and personalized publications. The key to achieving this is selective binding.

Selective binding makes it possible to flexibly compile a booklet's contents to match a given recipient's interests. As a result, each individual recipient gets a tailored product assembled on the basis of available information. To achieve this, feeders of the ST 400 containing different signatures can be individually switched on and off.

With the aid of selective binding, products for mailing to a certain city or area can be finished together; for instance, booklets for all addresses along a particular delivery route can be produced at the same time, independently of their content.



Optimized control for selective binding: the individual feeders can be linked via an integrated control system. This reduces work while increasing the reliability of production.

The control system of the ST 400 is optimized for accomplishing this. In the past it used to be necessary to control the individual feeders from an additional control console, but now an integrated control system is available that is electronically linked to the machine's cycling rate. As a result, considerably less effort and work are required and the desired results are achieved much more reliably.

Integration in the Prinect Workflow

- JDF-capable and Prinect-connectable
- Job management, production data capture
- Importation of data from job management and prepress
- Faster makereadies due to automatic format presetting
- Consistently greater efficiency
- Direct integration in the postpress workflow via the Prinect FCS 100

Technical Data and Machine Layout

Technical Data

Output			
Mechanical	Max.		14,000 cycles/h
	Min.		600 cycles/h
Formats		Width x spine length	
Untrimmed	Max.	320 x 480 mm (12.6 x 18.9 in)	
	Min.	92 x 128 mm (3.62 x 5.04 in)	
Trimmed	Max.	310 x 474 mm (12.2 x 18.66 in)	
	Min.	89 x 120 mm (3.5 x 4.72 in)	
Product thickness			
	Max.		12 mm (0.47 in)
Stitching heads			
	Max.		6 for normal staples (SB 50)
			4 for wire loops (SB 55R)
Opening modes			
Gripper opening	With low folio lip	Min.	8 mm (0.31 in)
	With high folio lip	Min.	6 mm (0.24 in)
Vacuum opening			
Feeders			
	Standard*	Max.	16

* If more than 16 feeders are required, please consult the manufacturer

Floor Plan

