Horizon

StitchLiner5500/6000

Saddle-stitching System

A revolutionary new concept

in saddle-stitching Technology.

Combining the efficiency and ease of operation of flat sheet collating with the productivity, versatility and quality of a saddle-stitching system.

VAC-80S (16 bins)+IFU-30S+ACF-30S+SPF-30S+HTS-30S+TB-30

The Horizon StitchLiner5500/6000 is an innovative saddle-stitching system which incorporates flat sheet collating, scoring, folding, stitching and three-knife trimming in line.

The StitchLiner5500/6000 provides user-friendly operation, high productivity and versatility for on demand, production print, and trade bindery environments.
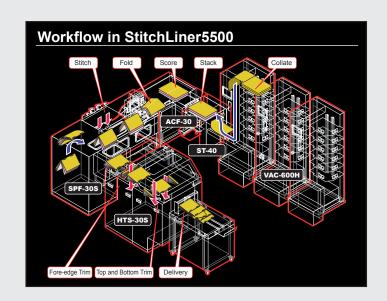
Features

StitchLiner5500

At up to 5,500 booklets per hour with quick-changeover, the StitchLiner5500 is ideal for short, medium and long production runs.
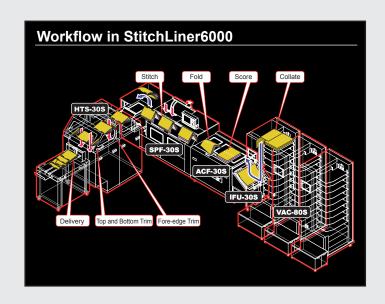
- User-friendly operation through the color touch-screen and accurate automation achieve short make-ready for quick turnaround.

- Folding is performed in-line to simplify the saddle-stitching workflow and improve operational efficiency.

- Various optional devices are available for both offset and digital printing.

- The convenient U-shaped layout allows the operator to monitor work in progress.
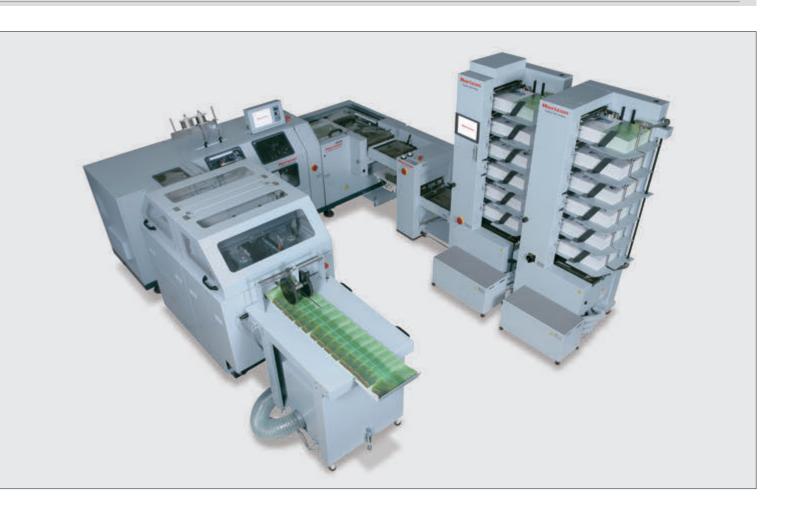

Workflow in StitchLiner5500

Stitch | Fold | Score | Stack | Collate | ACF-30 | ST-40 | VAC-600H | SPF-30S | HTS-30S | Fore-edge Trim | Top and Bottom Trim | Delivery
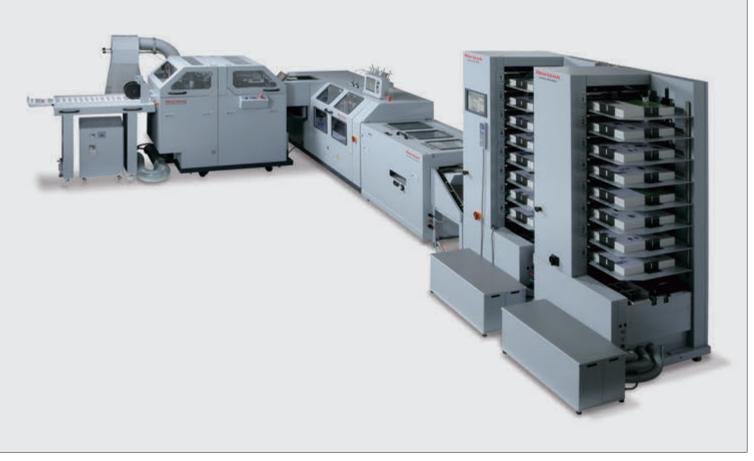
StitchLiner6000

At up to 6,000 booklets per hour, the StitchLiner6000 is ideally suited for landscape-oriented booklets.

- User-friendly operation through the color touch-screen and accurate automation achieve short make-ready for quick turnaround.

- Folding is performed in-line to simplify the saddle-stitching workflow and improve operational efficiency.

- Newly designed landscape feeding and straight saddle-stitching flow handles thinner paper stock and feeds larger, landscape-oriented sheets.

- Ergonomic L-shaped configuration for efficient operation and space saving.

Workflow in StitchLiner6000

Stitch | Fold | Score | Collate | HTS-30S | SPF-30S | ACF-30S | IFU-30S | VAC-80S | Delivery | Top and Bottom Trim | Fore-edge Trim

VAC series

Horizon's unique rotary suction feeding system operates effectively on a wide range of paper stocks.
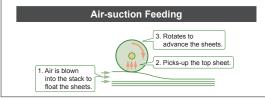
Rotary Suction Feeding

- Horizon's unique rotary suction feeding system can feed paper weights from 52 gsm tissue paper to 208 gsm cardboard.
- The feed wheel employs a special, highly durable rubber for totally mark-less feeding.
- Feed height sensors and air blowers allow a wide range of sheets to be fed.

What is rotary suction feeding?

Air is blown into the stack to float the sheets. The air rotor then picks-up the top sheet and rotates to advance the sheet.

Air-suction Feeding

3. Rotates to advance the sheets.

2. Picks-up the top sheet.

1. Air is blown into the stack to float the sheets.

For StitchLiner5500

VAC-1000

Stable collation for a wide variety of paper stocks. Suitable for multiple page jobs.

- Advanced programming functions are available such as Double Cycle for non-stop operation and Block Feed for accurate bookletmaking.

- The VAC-1000 is expandable up to 6 towers, 60 feed bins.

■ Bin Pile Height : Max. 55 mm / 2.16"
■ Sheet Size : Max. W350 x L500 mm / W13.77" x L19.68"
    Min. W148 x L148 mm / W5.83" x L5.83"
    * Optional support guide is capable of handling
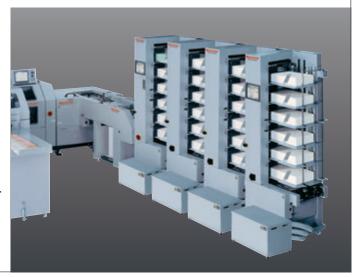   the 120 mm / 4.73" width sheet at minimum.

VAC-600H

Maximum pile height is 130 mm / 5.11".
Suitable for longer run production.

■ Each bin has 130 mm / 5.11" pile height capacity. Compared to the VAC-1000, the bin capacity is 2.4 times greater for longer run production.

■ Advanced programming functions are available such as Double Cycle for non-stop operation and Block Feed for accurate bookletmaking.

■ Optional image checking system (IC-VAC600H) is available for higher quality control.

■ The VAC-600H is expandable up to 6 towers, 36 feed bins.

■ Bin Pile Height : Max. 130 mm / 5.11"
■ Sheet Size :   Max. W350 x L500 mm / W13.77" x L19.68"
              Min. W120 x L148 mm / W4.73" x L5.83"

VAC-80S

Equipped with 8 landscape feeding stations.
Maximum production speed is 6,000 booklets per hour.

■ The VAC-80S is equipped with a sheet alignment mode to reduce jams in the ACF-30S and down time for uninterrupted operation.

■ Advanced programming functions are available such as Double Cycle for non-stop operation and Block Feed for accurate bookletmaking.

■ Optional image checking system (CCD-VAC80S) is available for higher quality control.

■ The VAC-80S is expandable up to 6 towers, 48 feed bins.
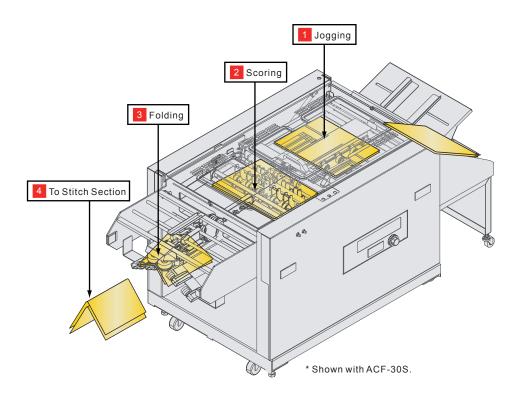
■ Bin Pile Height : Max. 80 mm / 3.14"
■ Sheet Size :   Max. W500 x L350 mm / W19.68" x L13.77"
              Min. W199 x L140 mm / W7.84" x L5.52"
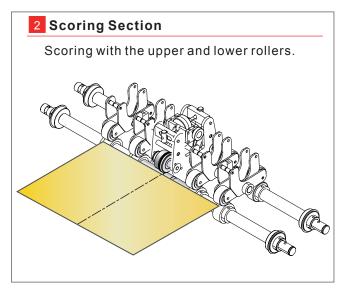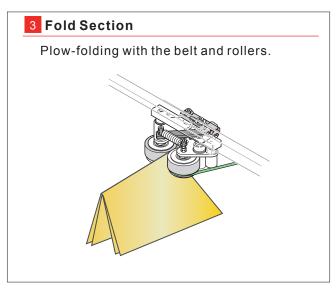
ACF-30/30S

Accurate sheet registration, scoring and folding. In-line plow fold mechanism eliminates unnecessary folding steps.

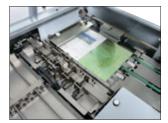## Operation Process and Sheet Flow in ACF-30/30S

1 Jogging

2 Scoring

3 Folding

4 To Stitch Section

* Shown with ACF-30S.

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2 Scoring Section

Scoring with the upper and lower rollers.

3 Fold Section

Plow-folding with the belt and rollers.

For StitchLiner5500

ACF-30

Jog Section

The jog guides are adjusted automatically according to the sheet size input on the SPF-30S. The gathered sheets are accumulated, jogged, registered and transported at a right angle to the scoring section.

Scoring Section

The jogged set is precisely scored on the center of the sheet. The number of sheets per folded section can be divided and then scored to insure a tight folded booklet.

Fold Section

The scored sheets are folded reliably along the score line by a continuous series of forming rollers. The pressing rollers insure a sharp, tight fold.

For StitchLiner6000

ACF-30S

Jog Section / Scoring Section

Gathered sheets are jogged on all four sides and registered firmly. The jogged set is precisely scored in the scoring section to produce a tight folded booklet.

Other Functions

The ACF-30S is equipped with a hand feed unit for off-line bookletmaking and a misfeed tray for non-stop operation.

Fold Section

The scored sheets are folded reliably along the score line by a continuous series of forming rollers. The pressing rollers insure a sharp, tight fold.

SPF-30S

Quick changeover and professional quality...
Handles booklets up to 10 mm thick.

For StitchLiner5500/6000

Color Touchscreen

Each finishing station is automatically set in less than 30 seconds (A4 to A5 / 8.5" x 11" to 5.5" x 8.5") by simply inputting the sheet size and booklet size on the color touchscreen. Five steps of speed mode and jog delay time can be adjusted depending on the sheet condition or finishing size. Up to 200 different jobs can be saved for instant job recall.

Stitch Section

Booklets up to 10 mm thick (50 sheets of normal 80 gsm paper) can be stitched. The folded sets are jogged from the head and foot, then centered on the saddle by the centering mechanism before the heavy-duty stitching heads fire to produce accurately stitched booklets.

The stitch wire length is automatically adjusted according to the book thickness. Optional devices are available for a wide variety of applications such as 4-stitching and loop stitching.

Stitching Process and Sheet Flow in SPF-30S

3 Folding
2 Stitching
1 Jogging

HTS-30S

Three-knife Trimmer

Professional-quality three-knife trimming applies the final finish.
A center-cut option enables two-up production.

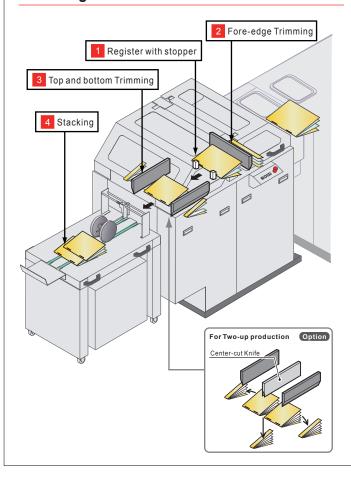## For StitchLiner5500/6000

Fore-edge Trim Section

The servo-motor controlled feed mechanism provides for accurate booklet registration and fore-edge trimming. The guide is automatically adjusted according to the sheet size input on the touchscreen on the SPF-30S.

Top and Bottom Trim Section

The top and bottom of the booklet are trimmed accurately, and trimming waste is smoothly extracted from the trim box to a movable chute with a powerful air blower. An optional center knife device can be fitted for two-up booklet production.

Trimming Process and Sheet Flow in HTS-30S

2 Fore-edge Trimming

1 Register with stopper

3 Top and bottom Trimming

4 Stacking

For Two-up production **Option**

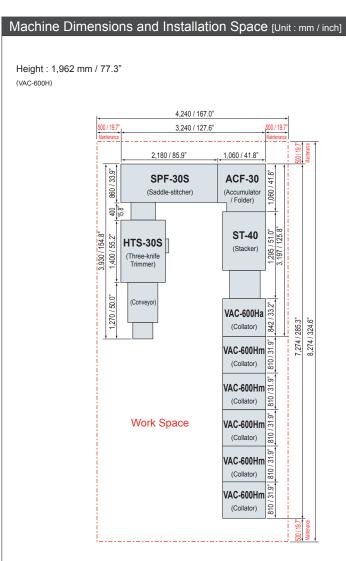Center-cut Knife

Conveyor Section

Finished booklets are neatly delivered to the exit conveyor. An optional preset kicker PK-30 separates a batch of booklets at a predetermined count.
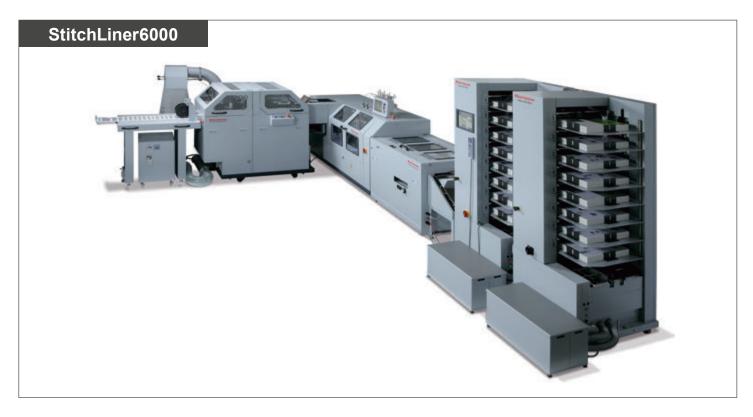
System Configuration

StitchLiner5500

Machine Dimensions and Installation Space [Unit : mm / inch]

Height : 1,962 mm / 77.3"
(VAC-600H)

SPF-30S (Saddle-stitcher)
ACF-30 (Accumulator / Folder)
HTS-30S (Three-knife Trimmer)
ST-40 (Stacker)
(Conveyor)
VAC-600Ha (Collator)
VAC-600Hm (Collator)
VAC-600Hm (Collator)
VAC-600Hm (Collator)
VAC-600Hm (Collator)
VAC-600Hm (Collator)

Work Space

4,240 / 167.0"
3,240 / 127.6"
500 / 19.7" Maintenance
2,180 / 85.9"
1,060 / 41.8"
500 / 19.7" Maintenance
860 / 33.9"
400 / 15.8"
1,060 / 41.8"
3,930 / 154.8"
1,400 / 55.2"
1,295 / 51.0"
3,197 / 125.8"
1,270 / 50.0"
842 / 33.2"
810 / 31.9"
810 / 31.9"
810 / 31.9"
810 / 31.9"
810 / 31.9"
500 / 19.7" Maintenance
7,274 / 285.3"
8,274 / 324.6"
500 / 19.7" Maintenance

StitchLiner5500 Specifications

Sheet Size		**Width x Length**
		Max. 350 x 500 mm / 13.7" x 19.6"
		Min. 140 x 199 mm / 5.6" x 7.9" (140 mm / 5.6" width sheet is available with the optional support guide.)
Sheet Weight Range		Normal Paper : 64 to 210 gsm Coated Paper : 80 to 210 gsm
Stitch Thickness		Max. 5 mm / 0.19" (Booklet Thickness : 10 mm / 0.39" (about 50 sheets of 80 gsm or 22# normal)[1]
Stitch Distance		66 to 150 mm / 2.6" to 5.9", adjusted by +/- 2 mm / 0.08" Min. 55 mm / 2.2", with additional stitcher / Manual
Stitching Wire		#24 to #26 (0.6 mm to 0.5 mm) Option : #26 to #28 (0.5 mm to 0.4 mm)[2]
Untrimmed Booklet Size		**Width x Length**
		Max. 350 x 250 mm / 13.7" x 9.8" Min. 140 x 102 mm / 5.6" x 4.0"[3]
Finished Booklet Size		**Length**
		95 to 230 mm / 3.74" to 9.05" (Up to 85 mm / 3.35" depending on a condition) (Max. 240 mm / 9.44" with optional stopper)
		170 to 220 mm / 6.70" to 8.66" (When 2-hole punch is performed)
		Width
		144 to 340 mm / 5.7" to 13.3" (When center base is installed)
		120 to 152 mm / 4.8" to 5.9" (When center base is removed)
		186 to 340 mm / 7.4" to 13.3" (When center base is installed and center-cut is not performed)
		90 to 167mm / 3.6" to 6.5" (A booklet size when center-cut is performed)
		232 to 340 mm / 9.2" to 13.3" (When 2-hole punch is performed)
Trimming Width		2 to 25 mm / 0.08" to 1"
Production Speed		Max. 5,500 booklets per hour - Min. 2,900 booklets per hour (Changed in 9 steps)[4]
Voltage / Frequency		3-phase 200-220 V, 50 / 60 Hz 3-phase 208 V, 60 Hz 3-phase 400 V, 50 / 60 Hz (Step down to 200 V by Transformer)

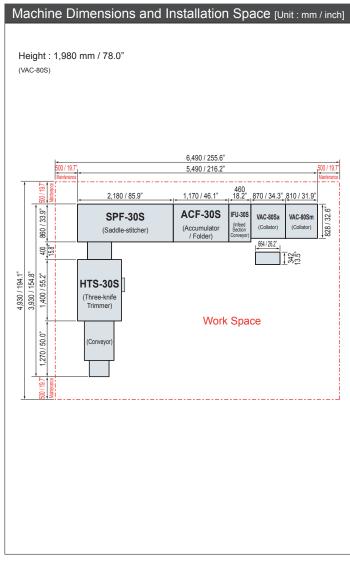*1 Limitation for stitch thickness: If the 6 mm / 0.23" width center cut (option) is performed, Max. 3 mm / 0.11" of booklet thickness. (When using the 8 mm or 0.31" width slitter, Max. 4 mm or 0.15" of booklet thickness.)
If the punch (option) is performed, Max. 3 mm / 0.11" of booklet thickness.
When the sheet block thickness is 3 mm / 0.11" or above, use thick wire (#24 or 25).
*2 Optional stitching head is required.
*3 Depending on the sheet weight, sheet thickness, booklet thickness or grain direction, the booklet spine may be marked by the transport belts, or the booklet may not be arranged properly on the delivery conveyor. (In this case, the kicker may not be used.)
*4 The production speed is affected by operation mode, system setting, job setting and paper condition.

StitchLiner6000

Machine Dimensions and Installation Space [Unit : mm / inch]

Height : 1,980 mm / 78.0"
(VAC-80S)

6,490 / 255.6"
5,490 / 216.2"
500 / 19.7" Maintenance
500 / 19.7" Maintenance
500 / 19.7" Maintenance

2,180 / 85.9"
1,170 / 46.1"
460 / 18.2"
870 / 34.3"
810 / 31.9"
860 / 33.9"
828 / 32.6"

| SPF-30S (Saddle-stitcher) | ACF-30S (Accumulator / Folder) | IFU-30S (Infeed Section Conveyor) | VAC-80Sa (Collator) | VAC-80Sm (Collator) |

664 / 26.2"
342 / 13.5

400 / 15.8"

HTS-30S (Three-knife Trimmer)
1,400 / 55.2"
3,930 / 154.8"
4,930 / 194.1"

(Conveyor)
1,270 / 50.0"
500 / 19.7" Maintenance

Work Space

StitchLiner6000 Specifications

Sheet Size	Width x Length	Max. 500 x 350 mm / 19.68" x 13.77" Min. 199 x 140 mm / 7.84" x 5.52"
Sheet Weight Range		Normal Paper : 53 to 210 gsm Coated Paper : 74 to 210 gsm
Stitch Thickness		Max. 5 mm / 0.19" (Booklet Thickness 10 mm / 0.39") (about 50 sheets of 80 gsm or 22# normal) Loop Stitch : Max. 3 mm / 0.11" (Booklet Thickness 6 mm / 0.23")[1]
Stitch Distance		66 to 150 mm / 2.60" to 5.90", adjusted by +/- 2 mm / 0.08" / Auto. Min. 55 mm / 2.17", with additional stitcher / Manual
Stitching Wire		#24 to #26 (0.6 mm to 0.5 mm) Option : #26 to #28 (0.5 mm to 0.4 mm)[2]
Untrimmed Booklet Size	Width x Length	Max. 350 x 250 mm / 13.77" x 9.84" Min. 140 x 99 mm / 5.52" x 3.90"[3]
Finished Booklet Size	Length	95 to 230 mm / 3.74" to 9.05" (Up to 85 mm / 3.3" depending on a condition) (Max. 240 mm / 9.45" with optional stopper)
		170 to 220 mm / 6.70" to 8.66" (When 2-hole punch is performed)
	Width	144 to 340 mm / 5.67" to 13.38" (When center base is installed)
		120 to 152 mm / 4.73" to 5.98" (When center base is removed)
		186 to 340 mm / 7.33" to 13.38" (When center base is installed and center-cut is not performed)
		90 to 167 mm / 3.55" to 6.57" (A booklet size when center-cut is performed)
		232 to 340 mm / 9.14" to 13.38" (When 2-hole punch is performed)
Trimming Width		2 to 25 mm / 0.08" to 1"
Production Speed		Max. 6,000 booklets per hour - Min. 2,900 booklets per hour (Changed in 11 steps)[4]
Voltage / Frequency		3-phase, 200-220 V, 50 / 60 Hz 3-phase 208 V, 60 Hz

[1] Limitation for stitch thickness: If the 6 mm / 0.23" width center cut (option) is performed, Max. 3 mm / 0.11" of booklet thickness. (When using the 8 mm or 0.31" width slitter, Max. 4 mm or 0.15" of booklet thickness.)
If the punch (option) is performed, Max. 3 mm / 0.11" of booklet thickness.
When the sheet block thickness is 3 mm / 0.11" or above, use thick wire (#24 or 25).
[2] Optional stitching head is required.
[3] Depending on the sheet weight, sheet thickness, booklet thickness or grain direction, the booklet spine may be marked by the transport belts, or the booklet may not be arranged properly on the delivery conveyor. (In this case, the kicker may not be used.)
[4] The production speed is affected by operation mode, system setting, job setting and paper condition.

Options

For StitchLiner5500

High-speed Offline Feeder HOF-400

Near-Line Solution for digital printing

High Speed
Max. 25,000 sheets per hour (A3)
High Pile
Sheet Feed Section : Max. 620 mm / 24.4"
Cover Feeder (CF-400) : Max. 200 mm / 7.8"
Various modular options
The HOF-400 is compatible with a wide variety of system configurations such as sheet feeding, cover feeding, accumulating, bleed trimming and center creasing depending on your needs.
Dynamic
The HOF-400 has the capability to handle variable data applications. A mark sensor enables the feeder to handle variable sheet count documents with integrity and verification.
*The HOF-400 cannot be connected to the VAC-80S.

HOF-400

For StitchLiner5500/6000

Paper Inserter IM-30

Inline sheet inserter for efficient booklet production

The IM-30 can insert single sheets, post cards, and folded sheets into a booklet stitched on the StitchLiner.

Labor-savings
Sheet insertion can be performed in-line with the StitchLiner with minimal operator involvement.
High Productivity
The IM-30 can insert a sheet at the maximum production speed of 4,000 booklets per hour with the StitchLiner connected. Faulty set eject function is employed for non-stop operation even when a feed error occurs.
User Friendliness
Intuitive touchscreen control and quality checking systems increase production efficiency with minimal errors.
Quality checking system includes: Feed section error sensor, Separation error sensor, Booklet jam sensor.
Wide Variety of Inserting Applications
Increase production capabilities with a wide range of inserting applications. Up to three sheets can be inserted into the middle of a booklet or beneath the top sheet.

IM-30

Beneath Top Sheet

Post Card

Middle of Booklet

Single Sheet
(Up to 3 sheets)
Folded Sheet

IM-30 Option
IM-SD
● The ultrasonic sensor detects that only one top sheet turns over consistently.

For StitchLiner5500

Bypass Stacker ST-40

Simple and Quick Changeover

User Friendliness
Bookletmaking and stacking can be selected by the switch on the ST-40.

High Speed
Errored sets are delivered to the built-in reject tray for non-stop operation. Collated sets delivered on the pallet are jogged for superior stack quality.
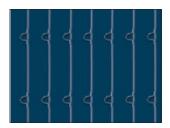
*The ST-40 cannot be connected to the VAC-80S.

ST-40

Other Options

Stitching Head

Standard stitcher head (#24 to #26 - thickness: 0.6 mm to 0.5 mm) and optional stitcher head (#26 to #28 - thickness: 0.5 mm to 0.4 mm) are available. Additional stitcher heads are available for up to 4 stitches per booklet with mounting block B-30S.

* 3 stitches are available as factory option with mounting block B-30C.

Loop Stitching Kit

An optional loop stitching kit can be fitted to the standard stitcher heads to meet varying customer needs.
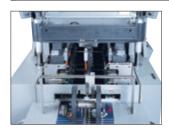
Hole Punch Device

The high speed hole punching can be performed in-line for efficient production. HP-05K (5 mm hole), HP-06K (6mm hole), or One-hole Punch Unit (fore-edge) are available.

6-page Fold Program SLRom6P StitchLiner5500 only

6-page fold sheet can be inserted to a book with simple operation. 6-page fold sheet can be collated wherever in the booklet by the combination of 6-page fold and block feed program.

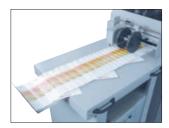### Center-Cut Device CC-06 / 1/4 / 08 / 10 / 12

Two-up production utilizing the center knives.
CC-06: 6 mm / 0.24" (Max. book thickness: 3 mm / 0.12")
CC-1/4: 6.35 mm / 0.25" (Max. book thickness: 3 mm / 0.12")
CC-08: 8 mm / 0.31" (Max. book thickness: 4 mm / 0.16")
Special Order
CC-10: 10 mm / 0.39" (Max. book thickness: 5 mm / 0.20")
CC-12: 12 mm / 0.47" (Max. book thickness: 6 mm / 0.24")
* Max. book thickness varies depending on booklet size and paper condition.

Preset Kicker PK-30

According to a preset number input on the touchscreen, a booklet is skewed to identify and separate the end of a series.

Thickness Detector HTS-TD

The HTS-TD is installed at fore-edge trimming section and checks the thickness of each booklet. In case of missing section or double sections, system stops for maximum quality control.

Cutting Waste Extractor TB-30

Powerfully extracts trim waste from the three-knife trimmer HTS-30S for longer run operation.

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