



Integrated Bindery Systems

Book finishing systems for digital print



Smart-binder

Saddle-stitcher and glue-binder for digitally-printed sheets

- In-line with a digital printer, or from a pre-printed roll and web cutter or off-line from a high-pile sheet feeder
- Produce high-quality stitched (or cold glued) and 3-side trimmed booklets at up to 7,000 booklets/hour (one up) or 14,000 booklets/hr (2-up)
- Optional perfect binding available for books up to 60mm thick
- 24x7 operation giving over 100,000 booklets/day net production output
- Number of pages in each booklet variable 'on-the-run'
- In-built integrity checking of each booklet.



Books produced by the Smart-binder

IBIS Mission Statement

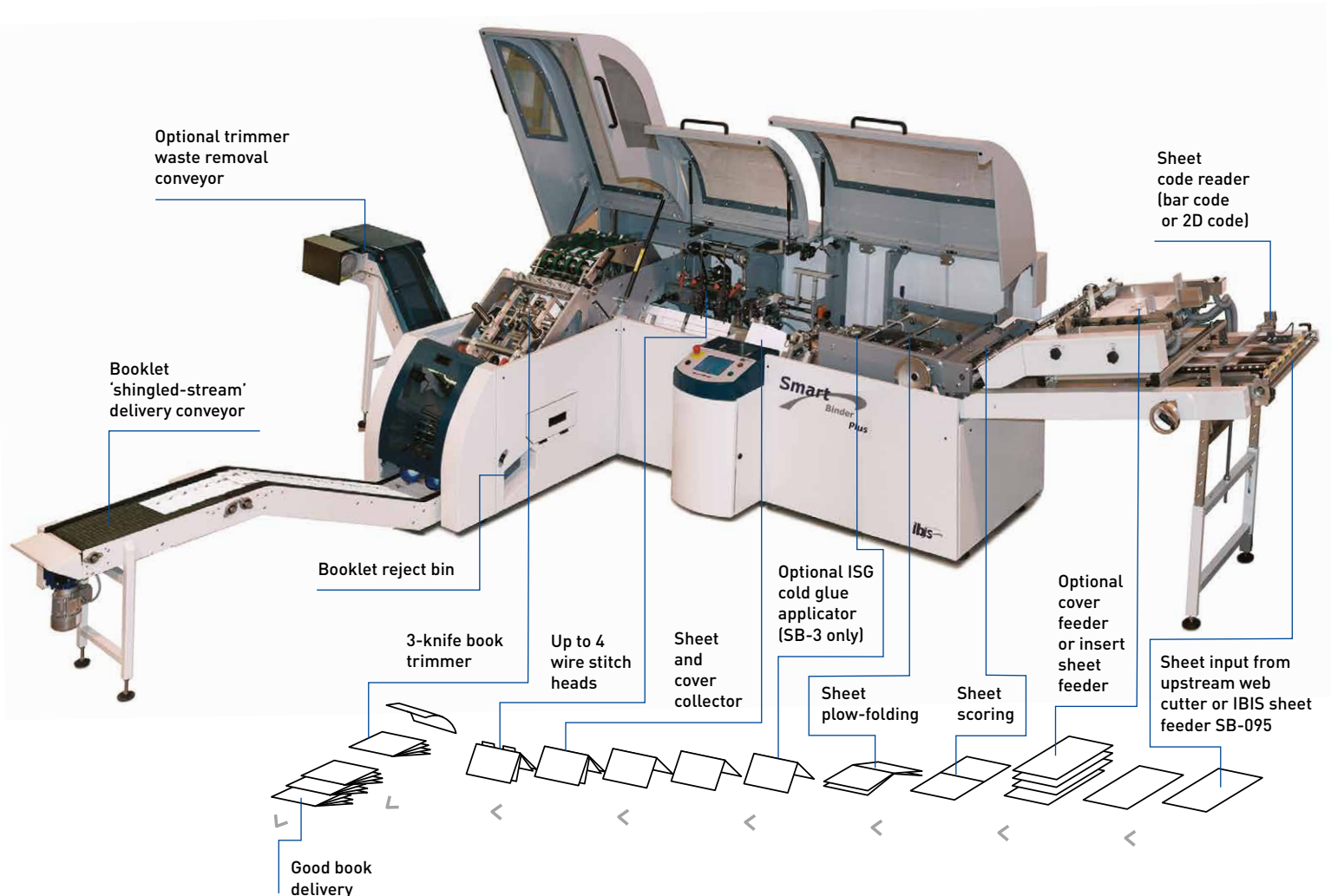
We are committed to supplying the highest quality digital finishing solutions which delight our customers, increase their profitability and encourage their loyalty over time

IBIS Innovation: moving you ahead

www.ibis-bindery.com

Description

Smart-binder process description



The Smart-binder receives printed sheets (or folded signatures) at rates up to 450 sheets/min and can produce up to 7,000 high quality stitched and trimmed booklets/hour (14,000 booklets/hour if using the optional trimmer center-knife).

The Smart-binder SB-2 provides wire stitching only of booklets up to 10mm thick. The sheets are side registered, center-scored, 'plow-folded' onto the Smart-binder saddle and collected together. After wire stitching then each booklet is 3-side trimmed before being delivered on a conveyor in a shingled stream. The Smart-binder SB-3 includes the option of ISG cold-glue binding as an alternative to wire stitching. The Smart-binder SB-4 and SB-5 includes also an in-line perfect binder for books up to 60mm thick.

A code printed on each sheet is read on the Smart-binder infeed. The numerical data in this code enables the Smart-binder to track each sheet into correctly assembled booklets and automatically perform other functions such as selective stitching/gluing and selective perforation.

If perfect bound books are needed then the sheets are collected into folded 'signatures', typically containing 16 – 28 pages, which may be ISG cold glued on the spine fold. These signatures are delivered to the in-line perfect binder and optional book trimmer (SB-4 system).

Smart-binder Features and USPs

24/7 Production System for maximum 'up-time'

- Over 140 Smart-binder systems installed world-wide
- 24/7, reliable, heavy-duty production system
- Most commonly used finishing system for high-speed digital web printers
- Continuous 3-shift 24x7 operation over many years
- Over a million booklets every month
- Outperforms other systems in its class.

Integrated Sheet and Book Tracking to ensure book integrity

- Sophisticated **data tracking** for personalized booklets
- Integrated system of sensors and software for 100% accurate tracking of each sheet
- Incomplete booklets are automatically rejected
- Separately fed covers may be checked to ensure matching with inside sheets
- Detailed 'log file' provides data on individual booklets and can be used to reprint missing booklets.

Book Quality

- **Each sheet folded individually** (competitive systems fold multiple sheets together)
- Optimum book fold quality and lay-flat
- Three-side trim for high quality finish
- Unique clamp device to minimize book spine corner tearing when making books up to 10mm thick.

Bind-on-demand for book personalization, or short job runs

- Unique ability to **vary book thickness on-the-run** without adjustments
- Trimmer uses gravity-registration to process books with a variable thickness
- Integrated sheet and book tracking makes the Smart-binder a true 'bind-on-demand' system.

Accurate Cover-To-Text Matching

- Optional **code reader on the cover feeder**
- Integrated software for personalized cover-to-book matching.

Multiple Configurations

- Variety of **system configurations**
- The SB-2 produces wire-stitched booklets only
- SB-3 also provides ISG cold gluing
- SB-4 and SB-5 systems offer both saddle-stitching and fully automated in-line perfect binding
- May be configured to operate either in-line with the printer, near-line from a roll unwinder and sheeter, or off-line from a sheet pile feeder
- Possible to operate both in-line and off-line with quick changeover.

Enhanced Production Speeds give more booklets each shift

- Up to **7,000 booklets per hour** (14,000 in 2-up mode)
- Web speeds up to 130 meters/min (426 feet/min)
- **200 meters/min (650 feet/min)** with an extra in-line buckle-folder.

Unique ISG cold-glue binding for enhanced book quality

- IBIS unique and patented **ISG cold glue binding** option
- Cold-glued books are stronger and lay flatter than wire-stapled books
- Automated changeover between stapling and gluing.

Extended model Smart-binder -X, -W and -XW

- Extended SB-X model increases the maximum spine length from 320mm (12.6") up to 457mm (18")
- Can produce **A5 portrait booklets in 2-up mode at 11,000 booklets/hour**
- Wider version SB-W model increases max book width from 230mm (9") up to 273mm (10.75") 'spine to foreedge' dimension.

Unique Smart-Buffer system

- Sheet buffer system SBS-100 allows the Smart-binder to run at a different speed to the in-line printer
- Allows Smart-binder to stop without stopping the printer
- increases in-line **system running efficiency**.

Customization to give you competitive advantage

- Smart-binder system customization available for large **variety of applications**
- Connect to envelope inserters, stackers, folders, in-line booklet drills, knife folders and numerous other options
- Additional sheet pile feeders, cover and insert feeders, in-line cover gate-folding, pile loading trolleys, trimmer center-knife, card and reply envelope tipping, dynamic sheet perforation, hole punching and much more.

Ease of use and maintenance

- **Easy to operate**
- Good access and visibility
- Easy and economical to maintain.

Compact Footprint

- **Very compact** overall system footprint.

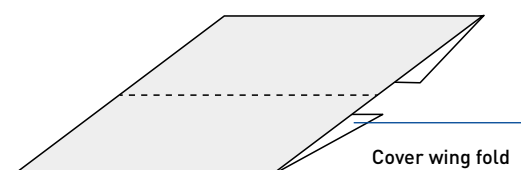
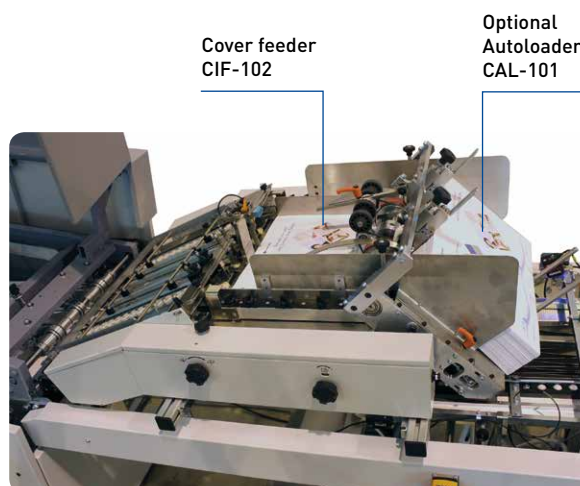
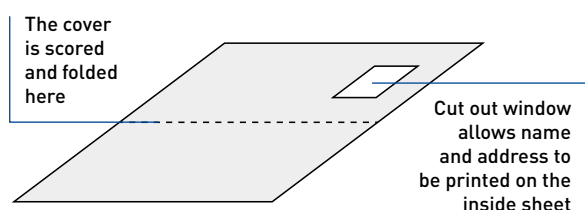
IBIS Bindery Systems

Cover feeding

The optional Cover Feeder (optional CIF-102) automatically feeds a cover sheet on top of the last sheet of each booklet. An 'Insert' sheet may also be fed at any position inside the booklet.

An optional code reader may be used to check that covers or inserts 'match' the other sheets in each booklet using a coded ID number printed on both the inside sheets and the covers.

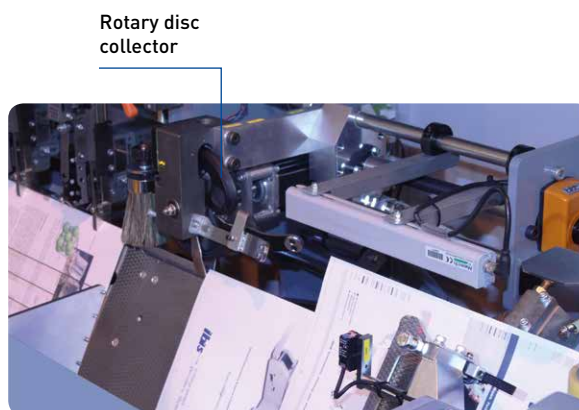
The Cover Feeder may be fitted with an optional Autoloader (option CAL-101) which increases the maximum cover pile height from 20mm to 200mm. An additional cover or insert sheet feeder (optional CIF-101) is available in case both a Cover *and* an Insert sheet feeder is needed, or *two* Cover feeders are needed.



Collection of sheets and covers

A rotary disc collects sheets in groups and then drops these onto the saddle.

This system allows the last sheet (or cover) of the book to be closely followed by the first sheet of the next book, which avoids the need for the printer or web cutter to pause when running in-line.

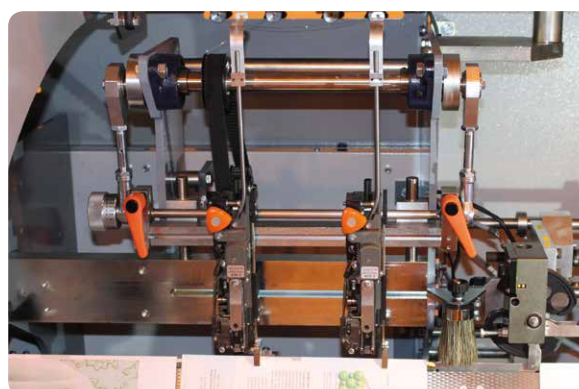


Wire stitching

Up to 6 Hohner wire-stitch heads may be fitted. A special drive system (option ASA-100) may be used to automatically adjust the staples to match the book thickness.

The optional stop-stitch system SDI-100 deactivates the stitching process automatically under bar code control, when not needed.

Optional loop stitching (Omega/Ringoesen) is available instead of normal flat stitching.

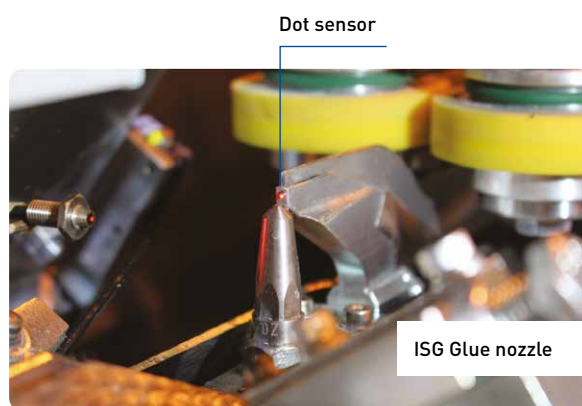


High-quality binding option using ISG (cold-glue binding)

An optional cold glue applicator nozzle applies a row of glue dots to the inside fold of each sheet and cover (models SB-3 and 4 only) as part of the folding process.

This unique binding option ('ISG') provides a higher quality alternative to conventional wire stapling and is a patented IBIS solution. A light sensor detects each dot of cold glue and stops the Smart-binder immediately if the nozzle is blocked to ensure only correctly bound booklets are produced. After gluing, the sheet and cover are pressed together to ensure a high quality bind.

ISG cold glue binding offers a stronger bind, better booklet lay-flat, and an easier-to-use alternative to conventional wire stapling. The SB-3 can switch automatically on-the-run between wire stitching and ISG cold gluing, under bar code control. ISG gluing requires no adjustment when changing on-the-run between minimum and maximum book thickness.

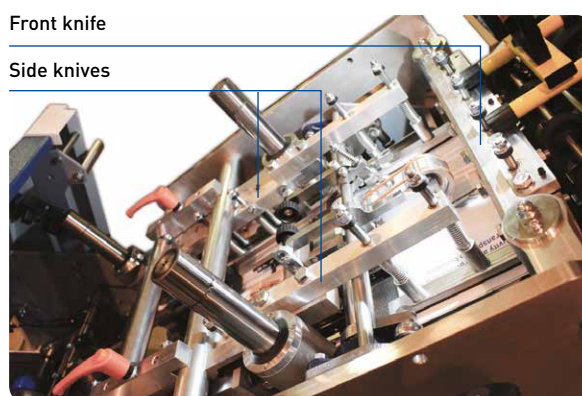


Booklet trimming

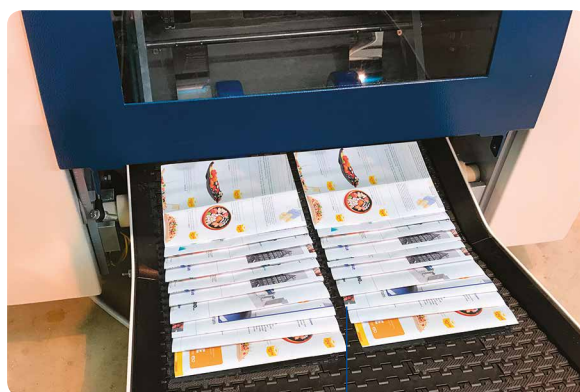
The Smart-binder is normally supplied with a heavy-duty 3-knife book trimmer, capable of cutting books up to 10mm thick. Alternatively just a single (front knife) trimmer, or no trimmer, may be used. Trimming may not be required if producing signatures for perfect binding or thread sewing.

The unique book transport system allows book thickness to be continually changed without having to stop the machine for manual adjustments.

An optional special spine clamping system may be used to eliminate book spine corner 'tearing' when making thick booklets.



Trim-off waste paper 'strips' may be delivered into a bin next to the machine using the optional waste conveyor TWC-100. Alternatively, the Smart-binder trimmer may be connected to a centralised vacuum waste extract system



A centre-knife may be easily installed to allow 2-up production of small format booklets

IBIS Bindery Systems



Book delivery

Booklets are delivered in a 'shingled stream' on the delivery conveyor.

Batching gaps are created automatically in the stream to create a pre-determined number of booklets in each batch. Alternatively the booklets (or signatures) may be delivered into a downstream module such as the optional booklet Stacker, Inserter or Perfect Binder.

Optional booklet stacker

The optional stacker BSS-11 may be connected in-line to the Smart-binder delivery to produce 'compensated' piles of booklets up to 330mm high.

This provides 'operator-free' system operation for long periods.

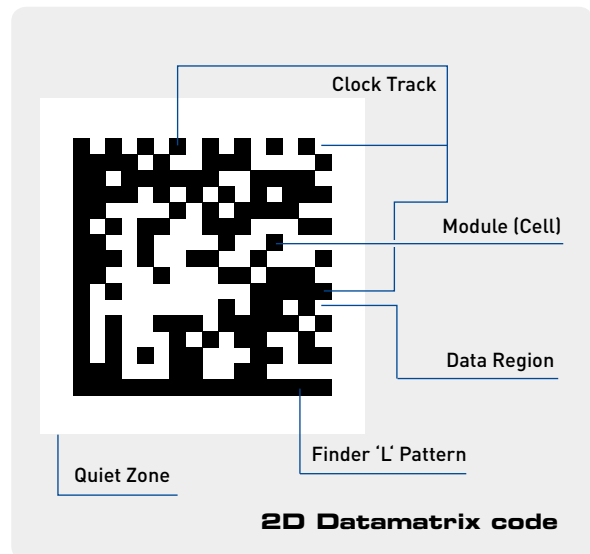
Booklet quality control, Personalised booklet production and Smart-data Analysis

A bar code or 2D reader reads a code printed on each sheet. The Smart-binder then tracks each sheet through to complete booklets.

The number of sheets may vary from one booklet to the next to allow personalised booklets. An automatic reject gate diverts any 'incorrectly assembled' booklets into a reject bin. Booklets are rejected if the page sequence is not correct (or if there is a risk it could not be correct), or if they are not of the required quality.

Data is available to allow rejected books to be automatically re-printed.

The optional SAS-100 Smart-data Analysis System displays all Smart-binder performance data recorded over selected time periods and may be linked to combine data from multiple machines.



Optional perfect-binding

Smart-binder systems SB-4 and SB-5 include an in-line perfect binder in order to produce books up to 60mm thick.

The perfect binder (either the single PB-600R or 4-clamp PB1200R) may be connected directly to the Smart-binder delivery (SB-4) or may be fed directly from the web cutter (SB-5).



Feeding the Smart-binder from a sheet feeder (off-line operation)

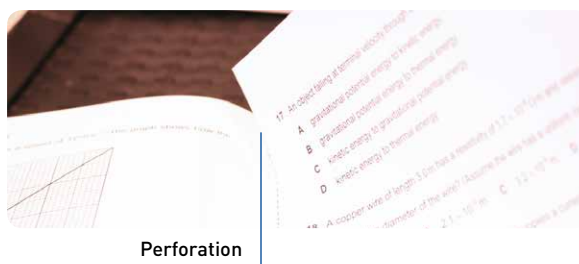
Two different high-pile sheet feeders are available. These may be loaded with up to about 7,000 printed and coded sheets. Feeder version SB-095 is used if the system is to be always fed off-line from the sheet feeder. Feeder version SB-097 allows feed from an upstream web cutter (near line or in-line operation) in addition to off-line feed from a sheet pile. The SB-095 feeder may be provided with an optional loading trolley to reduce pile reload time to about 35 secs.



SB-095 feeder with optional loading trolley

Sheet perforation

The optional sheet perforation module DMP-100 or DMP-101 perforates each sheet on demand under automatic bar code control. Up to 4 lines of perforation may be applied to each sheet, parallel to the booklet spine, to allow, for example sheet tear-out.



Perforation

Sheet rotation and folding

The optional sheet folder F-100 may be used to buckle-fold each sheet prior to entering the Smart-binder infeed conveyor.



F-100
buckle-folder

This allows small format booklets to be produced from a large format sheet containing 8 or more pages. Use of the buckle-folder (without sheet rotation) also allows the minimum paper stock weight to be reduced, or allows maximum web speed to be increased from 130 metres/min up to about 180 metres/min or faster.

The folder may also be fitted with a 90 degree sheet rotator on the infeed (model RF-100 rotator/folder). This enables small format booklets such as A5 or 5 1/2 x 8 1/2" to be produced from a web width of 450mm or 18", and avoids having to change to a 'narrow' web.

Sheet buffer module for in-line operation

The sheet buffer module SBS-100 receives printed sheets directly from a web cutter and in-line printer. It stores these sheets and then refeeds them one-by-one directly into the Smart-binder (first in/first out).

The buffer allows the sheet feed rate to be automatically reduced, for example when making 8 or 12 page booklets, without slowing down the printer. It also allows the Smart-binder to stop for up to 2 mins without stopping the printer, thereby increasing printer running efficiency.



SBS-100
buffer module

Specifications

Smart-binder specifications

Input Sheet size and Cover size	Sheet Width: Min 210mm. Max 320mm* Sheet Length: Min 250mm. Max 464mm	Maximum Output speed	7000 books/hour in 1-up mode 14,000 books/hour in 2-up mode (using trimmer center-knife)
Trimmed Book size If using the optional trimmer center-knife then minimum booklet spine length reduces to 95mm.	Book Width: Min 120mm. Max: 225mm‡ Spine Length: Min 210mm. Max 320mm*	Maximum Input speed	130 metres/min web speed (426 feet/min) 180- 200 metres/min with additional F-100 folder (min 60gsm) 450 sheets/min (off-line)
Trim-off	Front: 4 – 25 mm Sides: 4 – 20mm	Paper stock weight	Normal minimum: 50gsm With additional F-100 buckle folder: 40gsm
Book Thickness	Minimum: 4 pages (1 sheet) Maximum: 10mm	Wire stitches	12mm staple. 0.4 – 0.6mm dia round wire
* Note: Model SB-X increases max to 457mm ‡ Note: Model SB-W increases max to 273mm		Optional loop stitching available	



Smart-binder Videos

www.ibis-bindery.com/ibis-videos-most-popular.htm

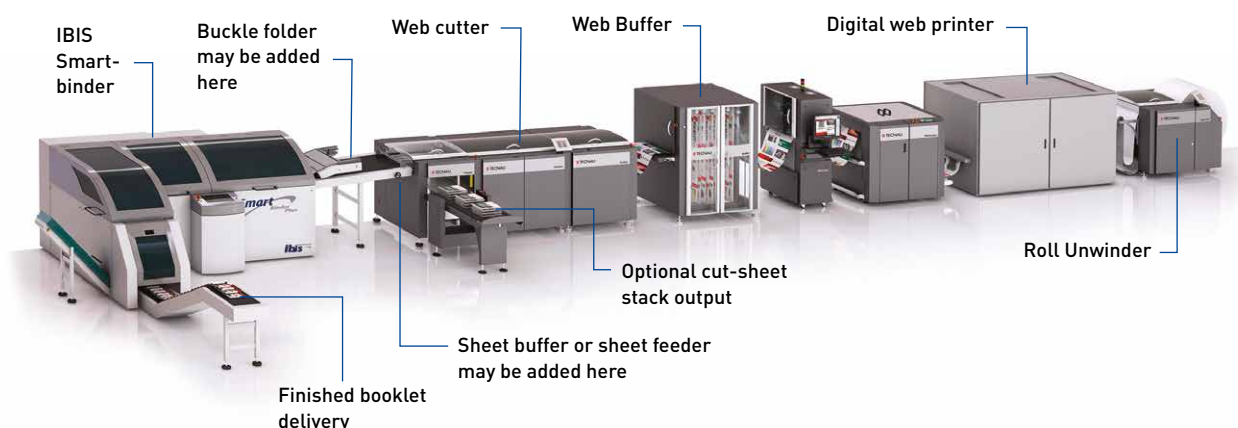
Smart-binder performance table

(A4 booklet production at 100 metres/min web speed):

Number of SRA3 sheets in booklet (excluding separately-fed cover sheet)	Number of A4 pages in booklet (excluding separately-fed cover sheet)	Web speed (meters/min) 100 m/min = 328 feet/min	Output rate (books or sigs /min) @100% efficiency*	Output rate (books or sigs /min) @90% efficiency*
2	8	61	100.0	90.0
3	12	92	100.0	90.0
4	16	100	81.4	73.3
8	32	100	54.3	48.9
12	48	100	27.1	24.4
16	64	100	20.4	18.3
24	96	100	13.6	12.2
32	128	100	10.2	9.2
40	160	100	8.1	7.3
50	200	100	6.5	5.9

System Configurations

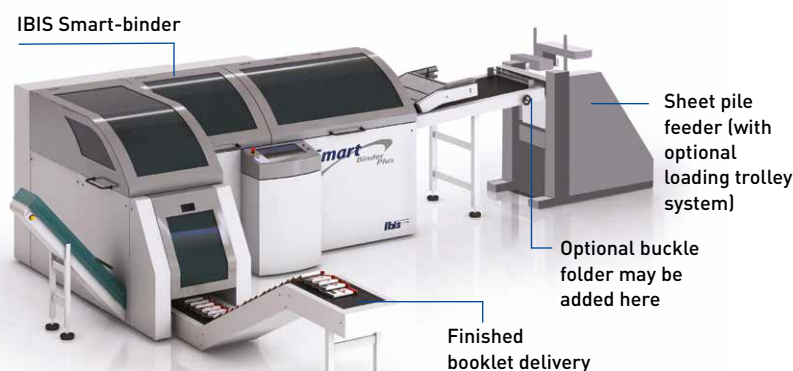
1. In-line Smart-binder fed directly from digital printer and web cutter



2. Near-line Smart-binder fed directly from roll unwinder and web cutter

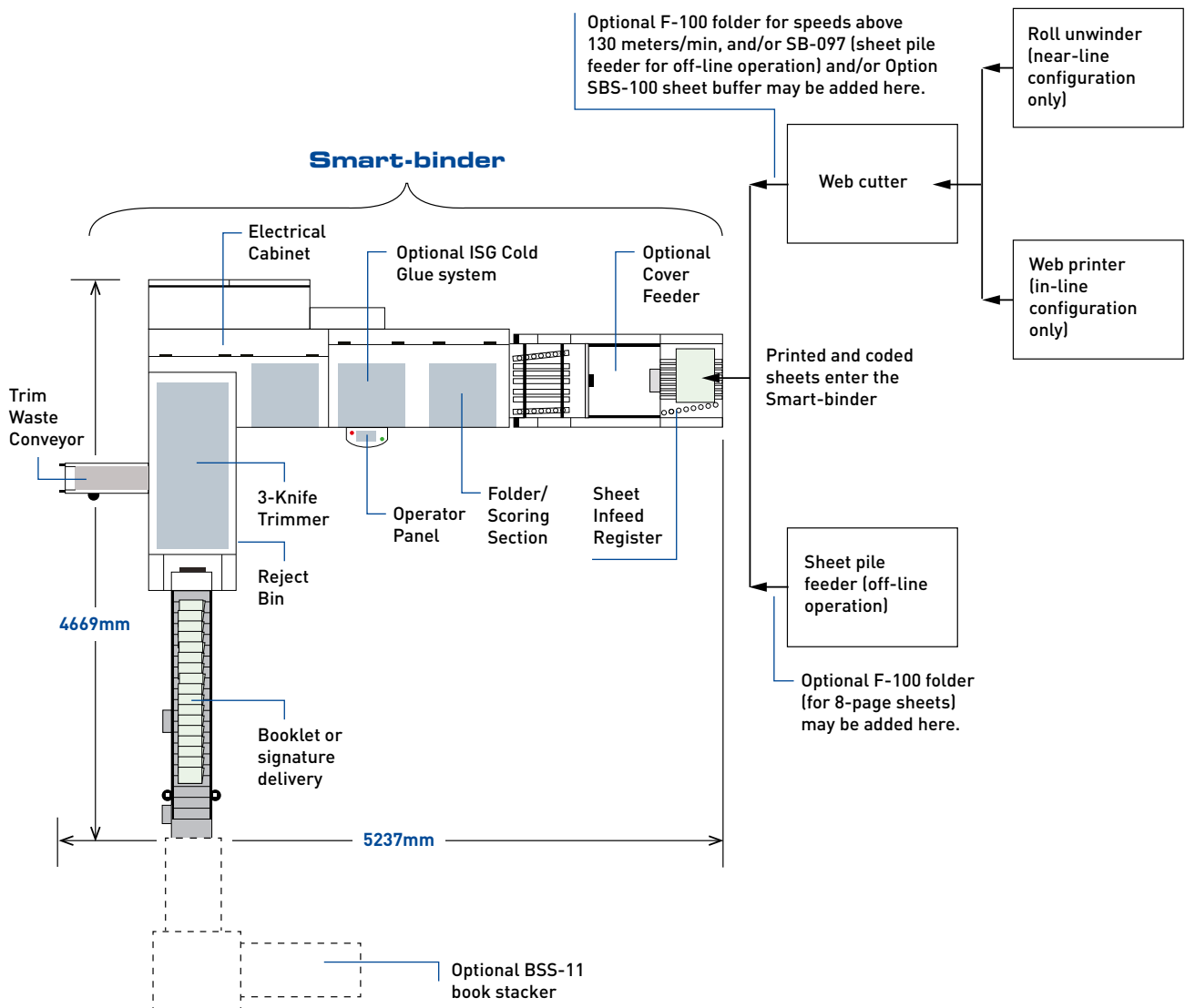


3. Off-line Smart-binder fed directly from sheet pile feeder



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Smart-binder system floorplan



Market Segments served by the Smart-binder

The Smart-binder is ideal for all short-run or time-critical printing

Most common Smart-binder applications

- Healthcare and medical insurance
- Other insurance documents
- Exam papers
- Product manuals
- Legal and Financial documents
- Government papers
- Church bulletins
- Music books, Pharmaceutical booklets, short run magazines, etc.

Smart-binder Customer feedback from around the world



O'Neil Data Inc., USA
Steve Ellithorpe,
Operations Manager,
O'Neil Data Systems,
Los Angeles, states:

"We have built up years of experience in running

four IBIS Smart-binders at our production site in LA. These machines proved to be solid performers and capable of operating at peak production rates over a long time periods. Our first thought, therefore, when setting up a new O'Neil facility in Plano, Texas was to look to IBIS for additional finishing equipment. We recently installed additional Smart-binder systems in Plano which are now operational and contributing well to this large new production site. We are pleased to have become one of the largest users of IBIS Smart-binders in the USA."



AMF Impresion Variable S, Chile

AMF purchased an IBIS Smart-binder SB-3 fed from a high pile sheet feeder to product examination booklets.

AMF's Operations manager, Rodrigo Santelices:

"Our new off-line IBIS Smart-binder system is fed with piles of printed 4pp sheets which it feeds at high speeds. It produces for us high quality stitched and 3-side trimmed 8 1/2 x 11" examination booklets containing a variable number of pages. We also have the option of IBIS's patented ISG cold glue binding system on this machine. This provides a unique new alternative to conventional wire stitching. The Smart-binder is a very heavy-duty and reliable system that is already performing well for us."



Markus Esser and his 're-manufactured' Smart-binder 'Plus HS'

Esser printSolutions, Germany

Markus Esser, Esser printSolutions GmbH, Karlsruhe, Germany:

"We are constantly searching for new possibilities which our customers can profit

from. One example is the manufacture of handbooks, brochures and product operation manuals with variable "On Demand" content. The first IBIS saddle-stitcher (Digi-stitcher) system was installed at Esser PS 13 years ago and was replaced with a Smart-binder about 9 years ago. These machines enabled us to fulfil our requirements in the optimum way. We have been pleased with the Smart-binder performance. To expand our digital finishing capabilities IBIS have now installed an additional IBIS Smart-binder, the latest model 'Plus HS', which is fed from a Hunkeler unwinder, web cutter and MBO folder at web speeds up to 180 meters/min".



Maqprint, France

In their print factory close to Limoges, France Maqprint use a unique system using a Smart-binder to produce stitched and trimmed booklets from rolls printed on an HP web printer.

Philippe Sans (owner of Maqprint):

"When we explained to IBIS what we needed, they constructed a customized finishing system for us. The system runs very reliably and is a key component in enabling us to meet our customer's requirements."



Integrated Bindery Systems



Commitment statement

IBIS is committed to offering our customers the highest quality digital finishing solutions and we will always:

- Act with openness and integrity in all our dealings with you, respond within one working day and respect the confidentiality of information you give us.
- Only sell to you if we are confident that we can satisfy your requirements.
- Review how our equipment may be customized to suit your specific needs.
- Test and demonstrate your finishing job prior to sale, if needed.
- Continue to work with you after installation until we achieve pre-agreed system performance.
- Give you continued technical support in the future.

I look forward personally to helping you put into operation a complete and highly-effective book-finishing system which will increase your competitiveness and grow your business.

For further information, don't hesitate to call me.

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John Cracknell
Managing Director, IBIS Bindery Systems

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