



# The BookMaster® One passport personalisation system

The introduction of a new passport can be an exciting, but stressful endeavour. With IAI's innovative and easy-to-operate passport personalisation systems, you'll have one less thing to worry about. Ideal for higher-volume projects, IAI's versatile BookMaster One system provides secure, reliable, automated passport personalisation at high speeds.

**Suits your project demands.** With its modular and highly configurable design, BookMaster One allows you to choose the functionalities and throughput required for your specific passport project. The system's flexibility also ensures that future upgrades can easily be accommodated for.

**High-level security features.** BookMaster One performs full personalisation in one go. Using state-of-the-art laser and inkjet technologies, the system can apply IAI's proven, high-security features such as Laser Colour Inkjet (LCI™), ImagePerf® and ImagePerf/REV™, among others, during the personalisation process.

**Proven machine concept.** BookMaster One has a proven performance with many passport projects worldwide. With its robust, industrial design — it is safe and easy to operate and maintain. Built to last and fully compliant with CE and UL safety standards, the system provides high uptime and high yield. Simplified setup and operation ensure short start-up and switch-over times. The system's thoughtfully designed laser and inkjet engines help

minimise consumables usage and maintenance cost. Moreover, all functions are conveniently performed in single, seamless pass — including the integral verification of all applied personal data. The finished product is a consistent, high-quality passport.

## Highlights

- Scalable in speed up to approximately 800+ pp/h
- Fully automated, one-pass personalisation
- Modular design, fully configurable
- Full colour inkjet printing and/or high-quality laser engraving
- Personalised, high-level security features such as ImagePerf, ImagePerf/REV, ImagePerf/TLI, ImagePerf/VLI, LCI and NumberPerf®
- Support for third-party security features
- Contactless chip personalisation
- Verification of applied data and security features
- Upgradable and easy to operate and maintain
- Proven performance in the security documents market

# What functionalities do you require?



## INPUT

The input unit can be equipped with a double input tray to accommodate increased book capacity and/or support for working in batch mode with multiple booklet types. Lockable trays are optionally available for added security.



## BOOK IDENTIFICATION

Documents can be identified by reading a pre-printed number or barcode directly from the document. Alternatively, e-passports can be identified by reading pre-programmed information from their integrated chips. The system then retrieves the required data from the host computer for the next step in the personalisation process.



## CHIP ENCODING

The unit can be equipped with one to five encoding modules, containing up to four programming heads each. The BookMaster One system uses a defined and documented interface, allowing customers to use the encoding software of their choice. Moreover, the chip can be tested prior to programming to ensure it works properly. Rejected booklets and/or those with malfunctioning chips are sent to the reject bin without further processing.



## CLEANING

For passports with a polycarbonate data page, the unit removes dust and other particles from the data page's photo area to ensure flawless, uninterrupted engraving.



## LASER ENGRAVING

For passports with a polycarbonate data page, the photo and personal data is laser engraved into the data page (page 2 of the booklet). The engraving unit can contain one to five engraving heads, depending on desired speed and functionality.

To ensure proper placement, a camera is used to align data relative to pre-printed marks. Several laser-engraved security features are available, such as Multi Laser Image (MLI), Stereo Laser Image (SLI) and tactile laser engraving. Additionally, laser engraving can be done on the title page (page 1) for securing the backside of the data page.



## INKJET PRINTING

BookMaster One provides high-quality, full-colour inkjet printing on both polycarbonate and paper data page surfaces.

For passports with a polycarbonate data page, inkjet printing with CMY inks is combined with a laser engraved greyscale photo resulting in a secure and durable Laser Colour Inkjet (LCI) image on the data page — displaying the holder's photograph in high-quality full colour. Immediately upon printing, the ink is cured by UV light and hardens instantly. For added durability, an optional, translucent varnish ink can be applied on top of the colour image, which is also cured with high-powered UV light.

For passports with a paper data page, the system's full-colour, industrial inkjet engine applies the photograph, personal data and MRZ data.

For both types of passports, the inkjet unit can print both the data page and the adjacent page (page 3) within the same print run. The inkjet printer can contain up to six industrial, piezoelectric Drop on Demand printheads and supports the application of CMYK visible inks and RGB UV fluorescent inks.



## LAMINATION

For passports with a paper data page, an optional flatbed laminator can securely apply a security foil onto the personalised paper data page further safeguarding personalised information.



## IMAGEPERF

ImagePerf is the replication of the holder's photograph that is used to easily verify the holder's original image, thus guaranteeing its authenticity. ImagePerf uses specialised laser technology to create an exact replica of the holder's photograph by perforating minute holes through the polycarbonate or paper data page substrate. When held up to light, the perforated image is clearly visible — making it easy to compare it with the original photograph and authenticate the passport as genuine.

BookMaster One also offers an ImagePerf/TLI (Tilted Laser Image) feature for thicker polycarbonate data pages and an ImagePerf/VLI (Variable Laser Image) feature for paper data pages. In both instances, different images are perforated in a way which makes each of them visible in the data page when viewed from various angles. These optically variable security features are highly effective in posing an extra threshold against fraud.

ImagePerf/REV (REVERSE) goes a step further and combines the holder's photograph applied on the front side of the data page to a secondary photo applied on the reverse side of the data page. This feature protects against manipulation of the original photograph should it ever be attacked from the reverse side of the data page.



## NUMBERPERF

For the effective prevention of page swapping, BookMaster One can be configured to apply the highly secure NumberPerf feature wherein the passport number is laser perforated through both

the passport's visa pages and back cover. The passport number can contain up to nine digits and can be positioned on the top or bottom of the page. Individual NumberPerf perforations that comprise the passport number can be perforated in conical or special-shaped perforations such as stars, triangles or squares.



## VERIFICATION

Cameras cross-check all applied visual data and features, while a chip reader checks the electronic data to ensure that the personal information has been applied correctly. Passports that do not pass verification are automatically sent to a reject or rework bin.



## LABELLING

A label containing personal text, number and barcode is applied to the back cover of the passport thus simplifying the logistic downstream process.



## OUTPUT

Finished books are rotated spine up or down and conveyed to the output tray. To facilitate easy counting, the system stacks the books ten-by-ten. To accommodate the need for greater capacity or for sorting batches, a double output tray is also available.

"Our customers benefit from our 25+ years of laser and inkjet-based innovations and system design expertise."





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**BOOKMASTER® ONE // PERSONALISATION SYSTEM**



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