



74Karat



Digital Offset Press for B2

**High-End
in Quality and Speed**

Setting the Tone in a Growth Market



With the 74 Karat digital sheetfed offset press, KBA is dictating the trends in the fast-growing 52 x 74 cm market segment with respect to innovation, integrated production, print quality, ease of operation and net product performance.

The 74 Karat is designed for four-colour printing in the range of short and medium runs. Tight deadlines, increased target group orientation and pricing pressure, paired with the demand for maximum possible quality, are characteristic of this market.

More and more prepress studios, printing companies with digital prepress and digital service providers are putting their money on the 74 Karat in order to meet the challenges of this market.



Kevin Despain
Rastar Digital Media, Inc.,
USA

"We are colour fanatics. That's our business. The 74 Karat offers the same colour quality day in, day out."



Gert-Jan Bluijs
Nederlof Repro,
Netherlands

"With the 74 Karat we can at last offer our customers the quality they have always wished for from digital print."



Wolf-Dieter Grütter
Druckerei Grütter GmbH & Co. KG,
Germany

"With the 74 Karat, we were in a position to print a year-end business report in an advance run of only 100 copies in a quality that could not be matched later using a 10-colour machine."



Michael Burman
FE Burman Ltd., Great Britain

"The combination of waterless offset printing in conjunction with the Gravuflo inking unit in the 74 Karat produces first-class printing results. We produce at least 15 jobs per shift. The new option of in-line varnishing will have significant effects on our throughput and delivery times."



Michael Andersen
Rohland & more Mediengesellschaft mbH,
Germany

"In the past, the customers wanted to print special colours because they always wanted to have exactly the same colours. Thanks to the repetitive accuracy of the 74 Karat, this requirement can be met even without special colours."



Jory A. Siegel
Universal Press, Inc., USA

"We are very satisfied with the 74 Karat! This press opens up new market opportunities for us and speeds up business."



Gerhard Schmidrathner
Niederösterreichisches Pressehaus
Druck- und Verlagsgesellschaft m.b.H.,
Austria

"We have decided in favour of the 74 Karat because, in comparison to its rival products, it brings the advantages of uncompromising one-man operation, cost-effective use for runs of 300 to 10,000 sheets, short set-up times and outstanding register, and because it comes into colour so fast."

Users' opinions of the 74 Karat

Compact and user-friendly



The 12-ton 74 Karat high-tech press for waterless digital offset printing is characterised by a very compact design and minimum space requirements. The double-size plate cylinders, the four Gravuflow short-train inking units and the two imaging units are arranged vertically to the side of the central triple-sized impression cylinder.

One-man operation

The 74 Karat is designed for efficient and cost-effective one-man operation. The inking and printing units are located on one side of the press, while the feeder and delivery are positioned together at the other side. Practically all functions can be controlled directly from the operating console at the delivery.

The ink cartridges can be exchanged quickly to allow simple, clean replacement of the ink even while the press is running, thus reducing cleaning and waste to a minimum.

The 74 Karat uses waterless PEARLdry plates by Presstek. These are inserted into the press in two cassettes of 20 plates each, which is sufficient for 10 jobs. The plates are changed fully automatically. The used plates are unloaded and dropped into a storage tray, before the new plates are drawn in. This means that the next job can be processed with a minimum of delay.



- 1. Impression cylinder:**
consists of three segments and gripper systems, whereby each sheet remains in the grippers for two cylinder rotations
- 2. Two imaging heads:**
(one head for each plate cylinder) allows the simultaneous imaging of all four colour separations
- 3. Blanket cylinders:**
with two blankets each
- 4. Plate cylinders:**
each divided into two segments with separate drive motors and encoders, making it possible to carry out imaging independently and at high speeds while the machine is at a standstill. This rules out imaging errors through vibration caused by the press, as can occur with other DI presses.
- 5. Patented, keyless Gravuflow™ inking unit:**
consists of only two rollers, the ink forme roller and the Gravuflow screen roller, for constant full inking of the printing plate regardless of the ink requirements.
- 6. Fully automatic plate changer:**
for loading and unloading the plates
- 7. Ink cartridges:**
clean and simple ink changes
- 8. Feeder and delivery on the same side of the press:**
makes work much easier during one-man operation
- 9. Stream feeder with front and side lays:**
guarantees accurate feed register and high flexibility in the choice of printing material
- 10. Delivery:**
the delivery of the sheets is controlled by means of suction rollers and blowers. A high-performance powder sprayer allows accurate speed-dependent powdering.
- 11. Varnishing unit (optional extra) and**
- 12. IR/hot-air dryers (optional extra):**
for in-line finishing and for short drying times

Highlights of the 74 Karat

Colour and register stability

- ▶ within each individual print
- ▶ throughout the entire print run
- ▶ from run to run
- ▶ from 74 Karat to 74 Karat worldwide
- ▶ from the 10th sheet onwards

Top "high-end" offset quality

- ▶ Waterless offset - brilliant colour, sharp dots
- ▶ Soft reproduction of the finest gradations (2% - 98%)
- ▶ No ghosting
- ▶ Superb solids

Integrated varnishing unit (optional extra)

- ▶ Water-based varnishing for immediate printing of the reverse of the sheet using the same forme, for faster finishing and product refinement

Standardised printing process

- ▶ Solid densities and tone reproduction to ISO 12647-1/2/3
- ▶ Colour management (match-the-proof)
- ▶ Repetitive accuracy

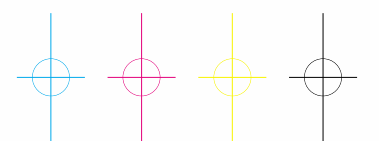
Cost-effective high quality offset printing

- ▶ For runs of 500 to 10,000 sheets
- ▶ Fast job throughput, from RIP to production printing approx. 17 min. (job-dependent)
- ▶ Start-up waste until the first saleable sheet max. 10 sheets
- ▶ One operator for CTPress and printing

Remote print & proof

- ▶ All-digital data transfer
- ▶ Distribute then print
- ▶ Spatial independence of pre-press and press
- ▶ Transfer of job data, substrate and subject-dependent characteristics, register settings and colour-space profiles

Subject to technical modifications

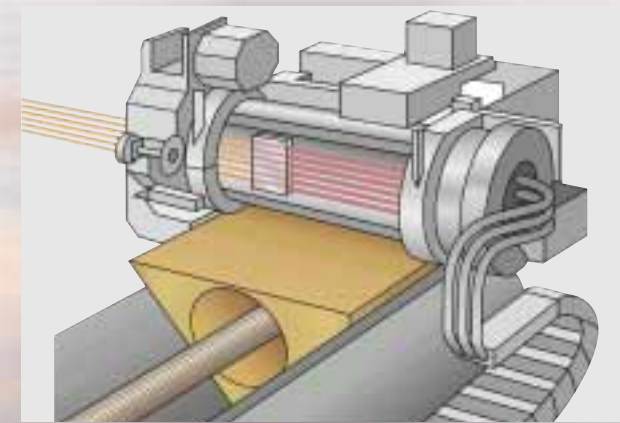


Quality printing without operator stress



The 74 Karat incorporates a powerful stream feeder. As with all high-quality printing presses, the infeed possesses exact front and side lays for precise alignment of the printed sheets after they have been removed from the pile and before they are picked up by the swing gripper. This concept guarantees perfect feed register when printing both sides of a sheet. The thermal PEARLdry printing plates from Presstek, one of the leading suppliers of direct imaging technologies, are ablative plates. This means that the developing process can be eliminated. After imaging, the plates are simply washed out with water. This shortens job cycles and is friendly to the environment. In addition, none of the problems typical of wet offset printing (e.g. ink-water balance) occur with the 74 Karat.

A high-precision optical system bundles the laser beam on the plate



Exact register without ghosting

The exact imaging of the printing plates directly on the two plate cylinders and the completion of four-colour printing without gripper transfers on the triple-size impression cylinder permit an exact register without time-consuming and waste-intensive corrections.

The plate and blanket cylinders of the 74 Karat are double size. The two plates on each plate cylinder are inked alternately with their appropriate colours, first black/cyan, then magenta/yellow. The sheet to be printed runs around the impression cylinder twice without any gripper transfers, and is printed with all four colours. Before each contact with the relevant printing plate, the four inking units complete one rotation without plate contact. This ensures uniform plate inking and ghost-free printing, regardless of the subject.

Gravuflow™ short inking unit

The revolutionary, temperature-controlled Gravuflow™ inking unit has no ink keys, and brings the press into colour extremely quickly. This reduces set up times as well as waste. Even with large production runs, constant printing quality is guaranteed. With each rotation of the ceramic-coated screen roller, a thin coat of ink is applied to the single-sized ink forme roller. A doctor blade removes the excess ink from the Gravuflow roller. This leads to fast, uniform printing results without the operator constantly having to intervene. He has time for other tasks.

The 74 Karat is thus the ideal means of production for high-quality printing in short to medium runs, with a printing quality which stands out clearly above comparable DI presses on the market.

Integrated register correction



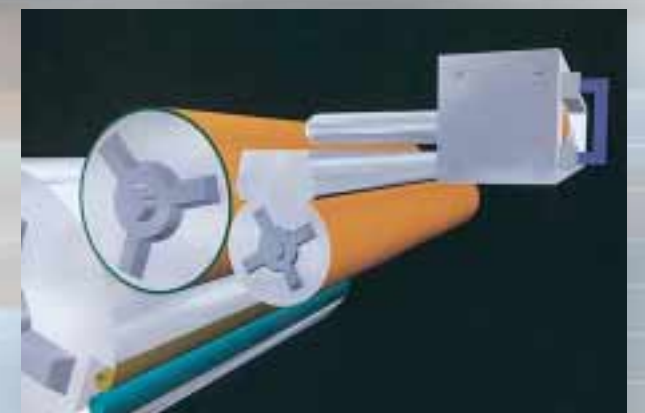
The software of the 74 Karat supports innovative algorithms which compensate for the material-dependent changes in the dimensions of the paper during four-colour printing. This ensures a high degree of register stability without the register corrections that are frequently necessary in conventional offset printing.

The modern imaging system of the 74 Karat consists of two thermo-optical imaging heads for constant, dot-sharp image quality and very high repetitive accuracy during printing.

Each head has 40 laser diodes. Imaging is done at up to 80 l/cm with a resolution of 2,540 dpi and a dot size of approx. 15 µm.



Even colour distribution



Gravuflow™ inking unit without ink keys

Productive and cost-effective

The 74 Karat combines high-quality waterless offset printing with a fully digital workflow and a high degree of automation.

Exact job calculation

A complete job change with blanket washing, plate change, imaging in the press, cleaning and inking of the new plates lasts about 17 minutes, depending on the individual job data. The startup waste until the first saleable sheet is printed amounts to a maximum of 10 printed sheets. This means that job throughput times can be planned very accurately.

Compared to other DI presses in this format class, the individual operations within the job change have been rationalised substantially, which is reflected in shorter job cycles.

The high production speed of 10,000 sheets per hour also makes it possible to print jobs of 15,000 copies and more with the same cost-effectiveness. The waterless offset plates allow runs of up to 100,000 copies, as may also occasionally be printed on the 74 Karat in larger printing companies.

With a substrate versatility covering materials from 60 to 350 g/m² or 0.06 to 0.3 mm thickness, the press is also ideally suited for printing cardboard. The maximum sheet format is 520 x 740 mm, the minimum format 210 x 297 mm.

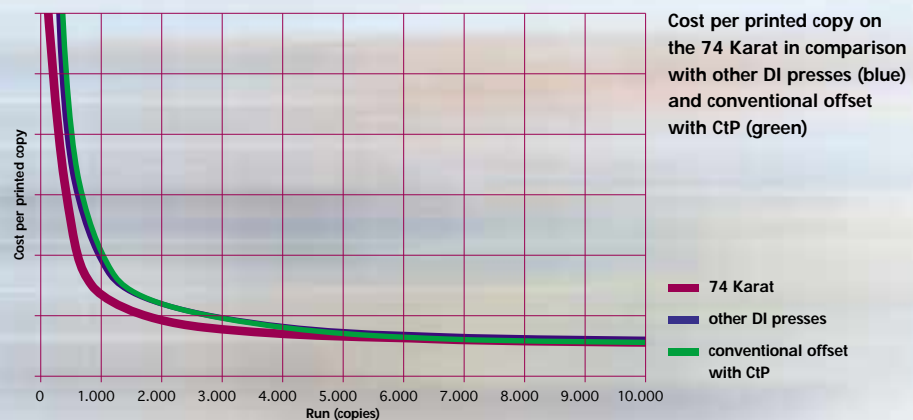


Faster with varnish



The dispersion varnishing unit for the 74 Karat, which has been available as special equipment since IPEX 2002, extends the utilisation profile of the press in the field of in-line finishing. In addition, the varnishing unit permits immediate printing of the reverse of the sheet, after renewed imaging of the printing plates, thanks to the drastic reduction in the drying time.

With appropriate imposition to permit further use of the same forme, it is even possible to print the reverse without any waiting time whatsoever. An important advantage of the 74 Karat here is that the sheet is printed from below. This means that the pile only has to be rotated by 180°, but does not have to be turned. As a rule, it is possible to cut the varnished sheet after only an hour. The drying time for any further processing that may be required, such as folding, is also drastically reduced. The result: more jobs per day and very short delivery times.



Digital workflow with predictable results

With its interface to prepress, the 74 Karat becomes a productive output medium in a continuous digital workflow. Through the operating console, the printer has full access to the printing jobs to be processed. While the jobs are being prepared, they can be copied onto the internal hard disk for

advance inspection. This serves as an additional quality control.

The 74 Karat workflow is comparable with the Brisque workflow by Creo, in which PS, PDF and RIPped data can be imposed.

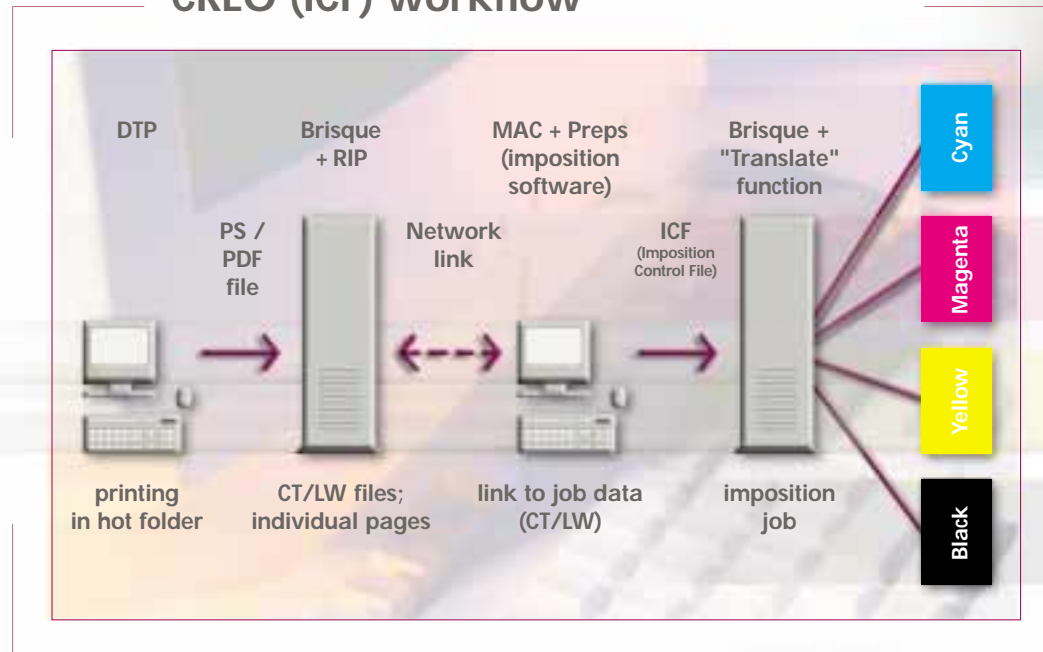


From the prepress directly onto the plate

With the 74 Karat, all colour corrections are performed by the CM module, which calibrates the press for a standard colour space or reference print environment, such as Euroscale Cromalin, SWOP or MatchPrint. This procedure ensures that each file is properly produced in the specified colours and with the specified dot gain, which guarantees a consistent, predictable – and superb – print quality.

Proof generation is an integral part of the production cycle. Within the colour management workflow the digital proofer can be adjusted to match the press characteristics. As a result, the proofer simulates the 74 Karat, which in turn means that the print matches the proof exactly.

CREO (ICF) workflow



Match-the-Proof

An optimised workflow has been developed to ensure a maximum degree of proof matching. It is based on a production environment with Brisque front-end systems from Creo, but can also be integrated into other workflow environments.

The job on the 74 Karat is imaged by the Expose engine within the press and not by the RIP solution at the prepress stage. In terms of job responsibility, the 74 Karat logically distinguishes between file and proof preparation and file output or print production.

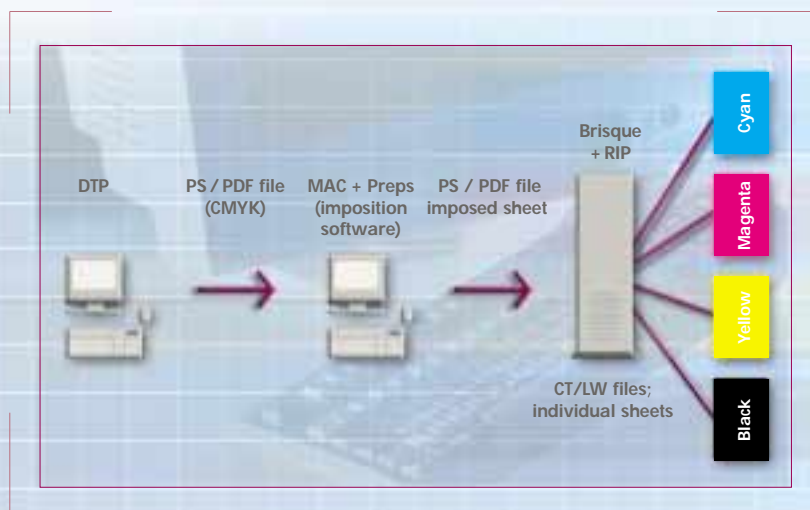
Highly colour-accurate digital proofs can be printed out on the Iris4Print proofer, which offers a high level of accuracy and reliability, as well as powerful colour control options, thanks to its innovative features and functions.

Precision colour management

Colour management is an integral part of the 74 Karat workflow. The sophisticated digital workflow is the key to predictable and reproducible results on the 74 Karat. The printing press becomes the reference point for all colour management activities. Its performance range is stored in profiles with all relevant production parameters, including paper/ink combinations and screen rulings. The prepress processes are calibrated in such a way that the required results are obtained. All colour adjustments are effected before transfer to the printing plate.



PostScript / PDF workflow



Sights on new markets

Its high proof-matching accuracy also makes the 74 Karat an ideal tool for printing jobs that can be received and handled via the Internet. Even with complicated and critical printing jobs, the personal signature of the customer on the first printed sheet can generally be dispensed with.

Softproofs in conjunction with the relevant Internet portals and accurately calibrated computer screens or remote proofs using accurately calibrated printers extend the possibilities of the "distribute - then print" scenario with the 74 Karat, including transfer and quality control of the print data via the Internet.

Such functions are components of the "printanet" Internet and e-Commerce solution, which was jointly developed by httpprint europe - Deutschland - GmbH and Koenig & Bauer AG and which was presented to the public for the first time at the international Print 01 exhibition in Chicago.

With its outstanding strengths, colour and register stability, high offset quality, standardised printing process and cost-effectiveness, alongside the possibilities for developing new business options, the 74 Karat is an interesting alternative to other DI presses available on the market in this format class.



Technical Specifications

Paper and Image Formats

Minimum sheet size:	W: 297 mm	L: 210 mm
Maximum sheet size:	W: 740 mm	L: 520 mm
Maximum print format:	W: 735 mm	L: 508 mm
Stock thickness:	0.06 - 0.30 mm	
Stock weight:	60 - 350 g/m ²	

Maximum Speed

10,000 sph (job-dependent)

Plates

Presstek PEARLdry aluminium plates
20 plates per cassette (sufficient for 10 jobs)

Ink

Optimised waterless inks packed in 2kg cartridges

Press Dimensions

(excluding console, air cabinet and chiller)

L x W x H:	3,880 x 2,200 x 2,150mm
Weight:	approx. 12t

Maximum Pile Height

Feeder:	600mm
Delivery:	600mm

Power Requirements

65kVA

Imaging Parameters

Resolution:	imaging at 100 dots/mm = 2,540 dpi
Diodes:	40 per imaging head
Minimum dot size:	approximately 15 µm

Recommended Operating Environment

Temperature:	18 - 26°C
Relative humidity:	approx. 55%

Typical System Configuration

RIP:	Creo Brisque
Digital proofer:	Creo Iris

With in-line varnishing unit (optional)

Maximum printing speed	8,000 sph (job-dependent)
Stock thickness:	0.10 - 0.30 mm
Stock weight:	90 - 350 g/m ²

	glossy or matt-coated
L x W x H:	3,880 x 2,310 x 2,400 mm

Subject to technical modifications



74Karat

Printed on the



74 Karat from Karat Digital Press GmbH.

Texts or illustrations contained in this brochure may not be reproduced in any form, either in part or in full, without the express permission of Koenig & Bauer AG. Illustrations may vary depending on the type and equipment of the press and may show optional extras not included in the basic price of the press. Subject to technical modifications without prior notice.

Please direct enquiries to the Sales Department at:

Karat
Digital Press
a KBA Company

Karat Digital Press GmbH
Postfach 020164, D-01439 Radebeul
Tel: +49 (0)351 833-2530
Fax: +49 (0)351 833-2690
info@karatpress.de, www.karat-digital-press.de

 **KBA**

Koenig & Bauer AG, Werk Radebeul
Postfach 020164, D-01439 Radebeul
Tel: +49 (0)351 833-0
Fax: +49 (0)351 833-10 01
office@kba-planeta.de, www.kba-print.de

KBA (UK) Ltd.

5 Century Court, Tolpits Lane, Watford
Hertfordshire, WD18 9PX
G.B.
Tel: +44 1923-819933
Fax: +44 1923-213411

KBA North America Inc., Sheetfed Division

291 Hurricane Lane, Williston, VT, 05495-0900
U.S.A.
Tel: +1 (802) 878-9400
Fax: +1 (802) 878-7512
getinfo@karatusa.com, www.kba-northamerica.com