

# LITHRONE G44

*advance*



44" Offset Printing Press

**KOMORI**

## Komori's Lithrone advance series takes offset print production to the next level

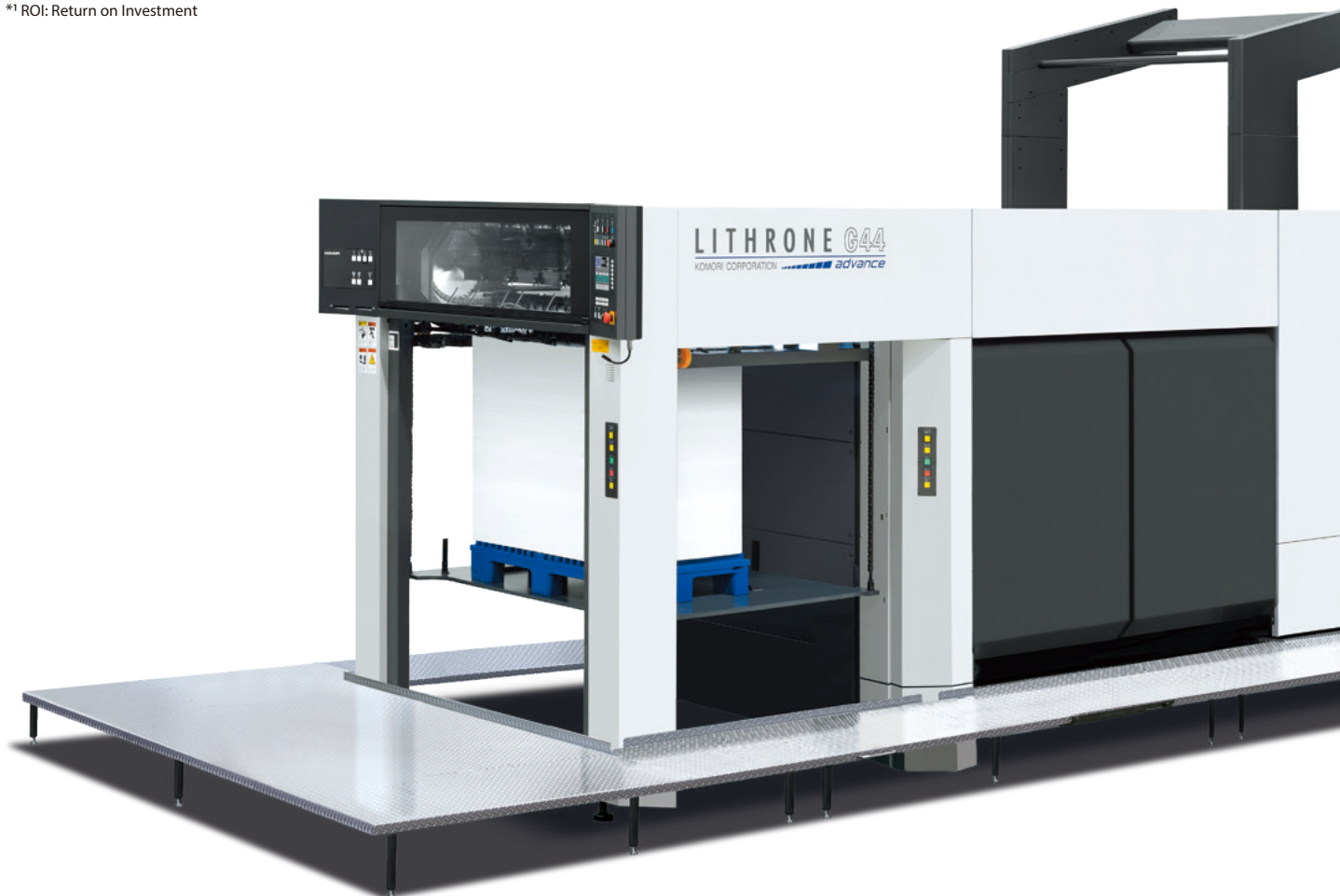
### The Lithrone G44 advance provides **world-class ROI**

Komori developed the advance series, which offers world-class ROI\*1, in order to improve productivity and profitability for printing companies. In addition to a high return on press investment, advance presses fully support digitalization making them the most formidable production press available.

Using KP-Connect Pro to link prepress, press and postpress processes optimizes overall production, helping to create smart factories that optimize productivity with minimal effort. This is what makes the advance series the clear frontrunner in achieving digital transformation for printing companies.

The Lithrone G44 advance offers a unique maximum sheet size of 840 mm x 1,150 mm, perfect for larger package printing, with the same operability of a 40-inch model. The ability to create more efficient impositions from the larger sheet size also dramatically improves productivity. The powerful paper feed and delivery of the Lithrone G44 advance provides sustained, stable, high-speed production on thin paper, such as for large B-size publications, as well as board stock production for multi-imposition package printing, making it a powerful and highly versatile printing machine.

\*1 ROI: Return on Investment



## advance × KP-Connect for optimal productivity

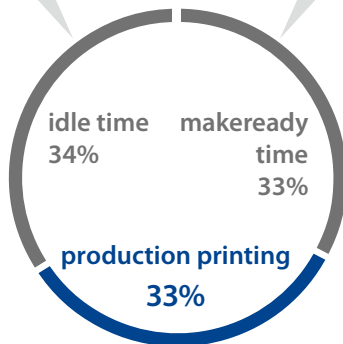
According to the data, on average, only 33% of press operating time is spent on production printing\*2.

In conjunction with KP-Connect Pro, the new advance press is able to transform makeready and idle time into production printing.

### Factors that interfere with productivity

Legacy methods of delegating processes and communicating information create downtime, such as waiting for plates or paper

Manually configuring and adjusting settings for items such as feeder and delivery are time consuming



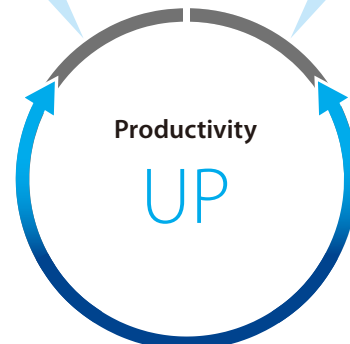
### After introducing KP-Connect Pro and advance presses

#### The KP-Connect advantage

KP-Connect Pro minimizes downtime by **digitalizing the connection between processes**

#### The advance advantage

Advance automates configuration and adjustments, **shortening makeready time**



#### The advance advantage

**High-speed, stable operation** through improved paper feeding and delivery also increases productivity while production printing

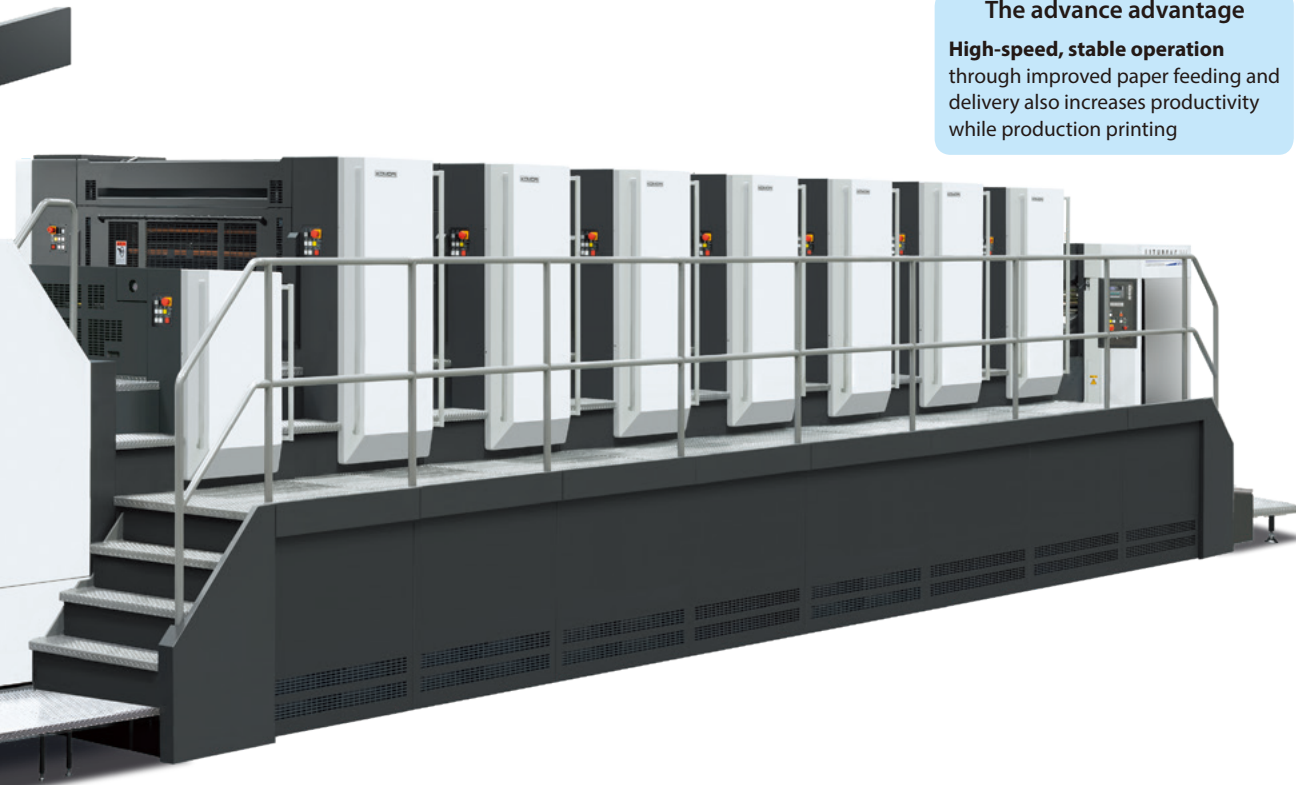


Photo: GL-744A+C

\* Model in photograph includes optional specifications.

\*2 In-house survey Of the 45 companies that use the KHS-AI (51 machines), results were calculated from 31 companies that mainly use four colors and exclude package users.

# Creating smart factories using CONNECTED AUTOMATION

The digital transformation is sweeping the print industry. Through Connected Automation will print providers be able to take advantage and arrive at the new smart factory model. Komori's key to Connected Automation and achieving the smart factory model is through use of Komori's KP-Connect Pro. KP-Connect Pro software enables unified management of a range of devices and information, to better maximize productivity.

## Three advantages of advance presses and KP-Connect Pro

### Visualization

#### Link production processes and monitor operations

- Print room operating status can be checked in real-time, even when off-site
- Operators can grasp the progress of connected processes and status of important materials such as plates and paper, for more efficient makeready
- Automatically create a variety of reports, using actual results data, helping to improve productivity



### Automation

#### Automatic job linking between prepress, press and postpress

- Job information from the scheduler is automatically carried over to the press, reducing time spent on configuring complex settings
- Print operators can specify automatic output of printing plates without stopping production\*1

\*1 Conditions may apply in regard to compatible manufacturers



### Optimization

#### Digitalization of process management, for optimization overall production

- Shifting from legacy methods (such as job tickets and telephone contact) to digitalization greatly reduces time spent on process management
- Automatically schedule optimal job order with less time spent on makeready and arrangements, for instance by prioritizing fast turnaround jobs or grouping together jobs that use the same ink



## KP-Connect Komori Solution Cloud

### KP-Connect Basic

#### Monitor operations remotely, anytime, anywhere

KP-Connect visually analyzes and graphs real print operation data, helping to improve productivity.

### KP-Connect Pro

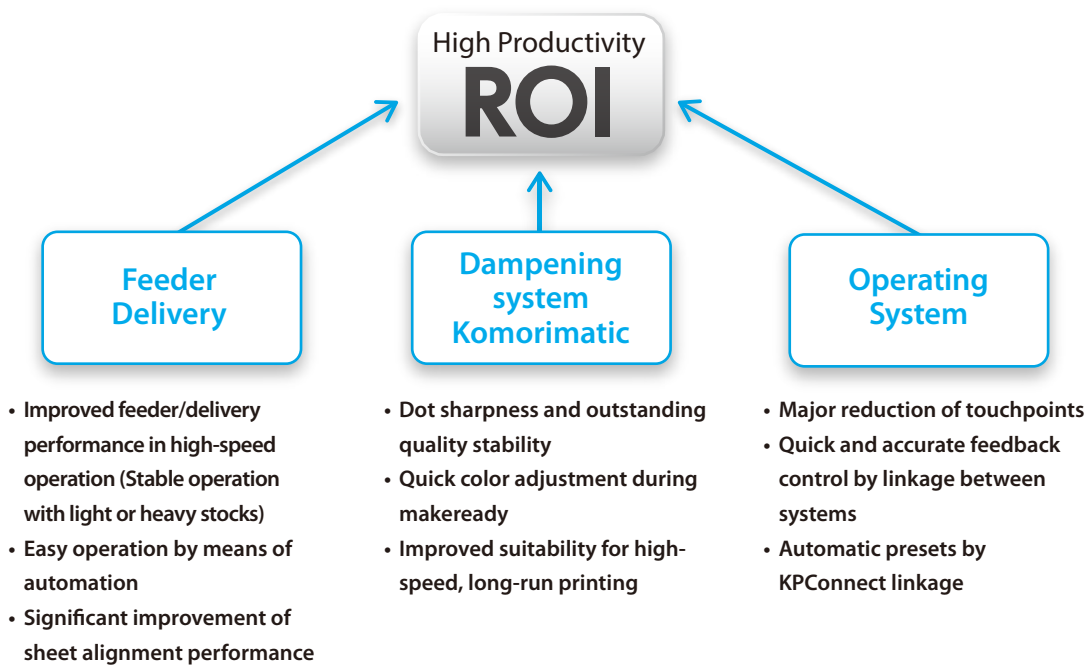
#### Links all devices, to visualize and optimize entire site

Monitor progress of all jobs, in realtime, at a glance, including prepress, press and postpress. Connected Automation, including MIS and production scheduling, increases overall site efficiency.

## advance presses offer high ROI

ROI is the lifeblood of printing companies, and the advance series of presses is dedicated to providing world-class ROI. Komori achieves this high ROI by focusing on three areas.

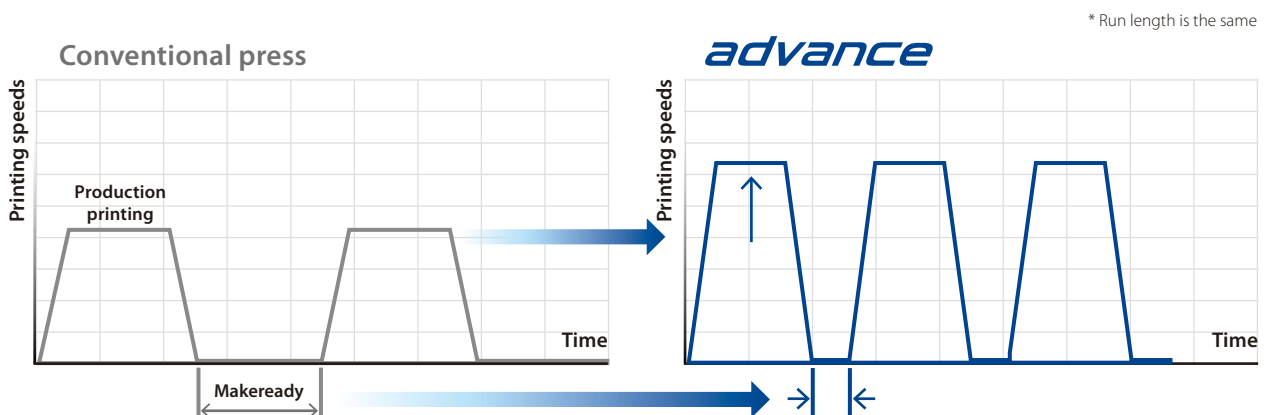
$$\text{ROI Return on Investment} = \frac{\text{Return Profit } (\hat{=} \text{Productivity})}{\text{Investment Capital investment } (\hat{=} \text{Initial investment} + \text{maintenance costs})}$$



### Reasons for increased production efficiency

Improved paper feed and delivery allow for shorter production printing time when printing speed is increased. Additionally, shorter makeready time allows for more jobs to be handled in the same amount of time. Improved production efficiency enables downsizing, for instance by handling jobs previously carried out on three presses on two presses instead, thus increasing productivity.

Additionally, shorter makeready time allows for more jobs within a given timeframe.





## Wide, 44-inch model for superior flexibility, with excellent productivity for package and commercial printing

With its unique format size, the Lithrone G44 advance is not only excellent for commercial printing, but significantly streamlines production for the packaging market. It is well suited to use folding carton stocks and card grade stocks and, the additional image area can greatly reduce paper costs through better impositions. Despite its wide size, the Lithrone G44 advance is easy to operate and does not require special large format equipment and installations.



**Unique format size allows more efficient imposition, increasing profitability** Unique

The wide 840 mm x 1,150 mm max printing size is effective for a variety of impositions including package printing, publishing, the growing gang-run printing market and many B sizes.

Optimal size for impositions for packaging for daily necessities (small boxes)



Paper size	40"	44"
Impositions	16	25
Paper area	100%	120%
Imposition ratio	100%	156%

Cost effective printing of large boxes



Paper size	40"	44"	56"
Impositions	1	2	2
Paper area	100%	120%	200%
Imposition ratio	100%	200%	200%

**Most efficient**

**Greatly shorten the time required for job changeover**

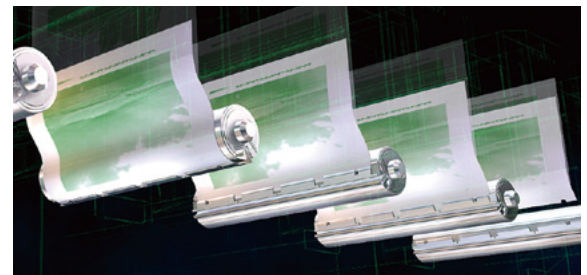
**Parallel Makeready**

Plate changing, blanket washing, pre-inking and air/register presetting can all be carried out simultaneously with the press of a button. Parallel Makeready can also be combined with faster color startup via the KHS-AI to reach production printing as quickly as possible. This greatly reduces makeready times and significantly contributes to improved ROI. The more job changes required for short runs, the more Parallel Makeready's advantage becomes apparent, streamlining operator work-load.

**Change plates simultaneously in minimal time, regardless of the number of press units**

**A-APC (Asynchronous Automatic Plate Changer)**

The A-APC carries out fully automated, simultaneous, multi-color plate changes, greatly reducing non-productive time and increasing efficiency.



New : New feature Unique : A unique Komori feature. Applies to following pages.

\* Includes optional features.

\* Figures show Komori measurements under specific conditions. No warranty is implied.

\* Use the 2D barcodes on pp. 14-15 to view video of each feature.

## Impressively fast and more stable production

High-performance paper feed and delivery is indispensable for more productive, high-speed operation. The high-speed technology of the Lithrone GX series has been fully applied to the advance series, it enables stable, high-speed printing on both thin and thick paper alike. Komori also paid particular attention to ease of operation, reducing operator workload to even allow for one-man operation.

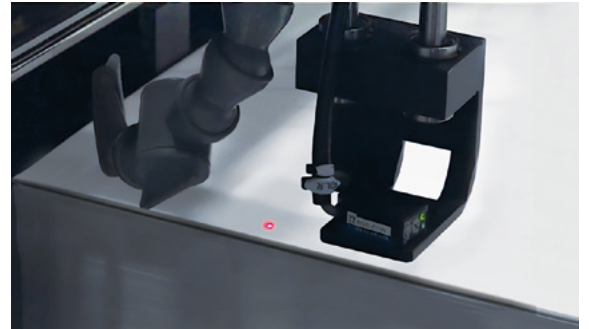




## Smart and easy paper loading

### Feeder pile guide pointer New

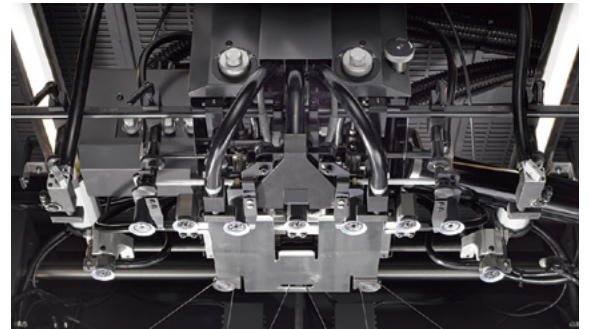
Operators can load paper into approximate position using two pointers on each side of the feeder pile. The press will automatically take over lateral paper feed adjustments, reducing the operator skillset and workload.



## Better air flow, for stable, high-speed feeding of all types of paper

### Sucker box New

Redesigned air efficiency for paper handling allows for stable, sheet-by-sheet separation, whether dealing with a thin, supple paper or a thick, rigid paper. Optimization of suction head position also helps stop the paper from bending within the sucker box, for stable operation at the highest speeds.



## Stable paper feed, even with wrap or wave curled product

### Front lay New

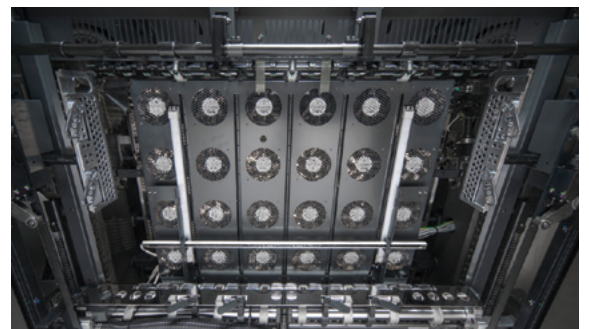
The register front lay has also been radically redesigned. Structural improvements to the lay hood, at the point of contact with the paper, ensure a stable feed, even for difficult paper that tends to warp or wave.



## Exceptional sheet alignment even during high-speed printing

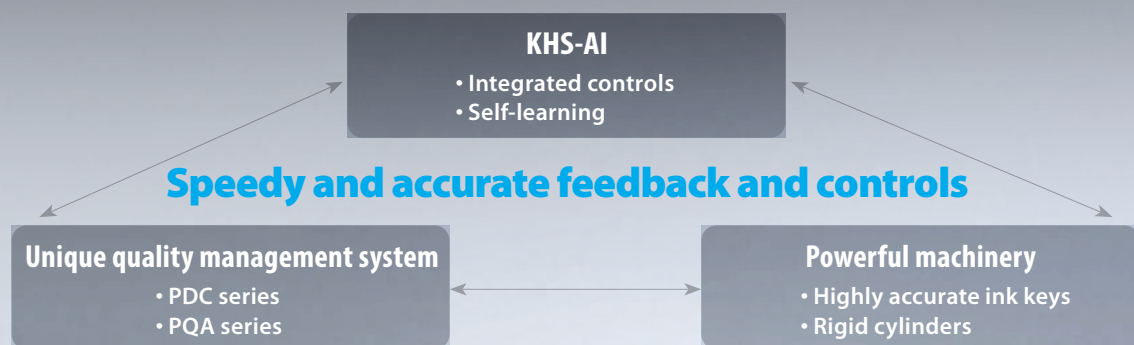
### Delivery fan zone New

Fan control zones have been increased to 11 areas. Optimal air controls allow paper alignment to be fine-tuned for type and size. High-performance paper delivery improves efficiency during high-speed printing.



## Supports digitalization. Unique Komori systems drastically reduce operator workload

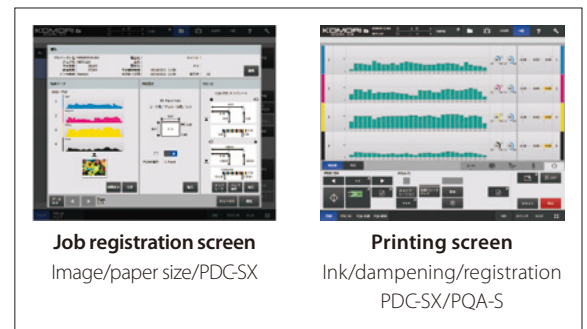
KHS-AI is an integrated, self-learning control system that fully supports operators, from job start-up to production printing, reducing makeready time and paper waste. Furthermore, connecting to KP-Connect allows production information to be shared digitally, helping to optimize production. All color measurement and control devices are originally developed by Komori. Synergy between reliable production (such as ink keys with high accuracy and followability) and systems ensure faster color and registration adjustment and dramatically shorter makeready times. The systems also provide swift and accurate automatic feedback, freeing operators from time-consuming in-run adjustments.



### Simple, one-screen operation, for ease of use

**KHS-AI, ease of use** New

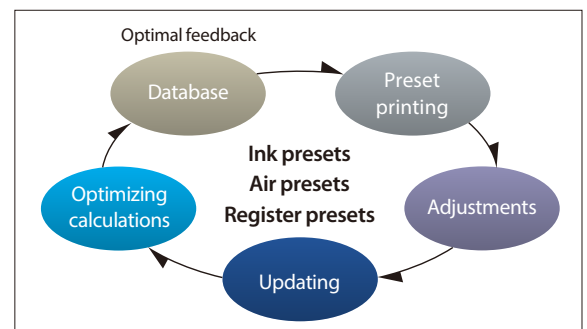
During job registration, makeready and production printing, all necessary information for each phase is gathered onto a single screen. Adjustments can be made during production printing while monitoring registration, ink and dampening. The number of touches required to switch screens has also been reduced, shortening configuration time and helping to prevent human error. Additionally, job settings can be automated via KP-Connect Pro, reducing configuration time by approximately 85% compared to previously.



### More efficient makeready through self-learning

**KHS-AI, high precision preset function** Unique

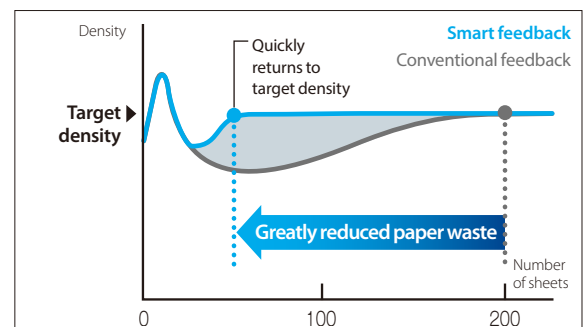
Ink key adjustments, air levels and print register can be automatically preset according to paper size and stock information taken from job data, greatly reducing makeready time. Self-learning tools are also installed to update data with each use, further fine-tuning presets.



### Machine-regulated density, saves on time and paper

**KHS-AI, smart feedback feature** Unique

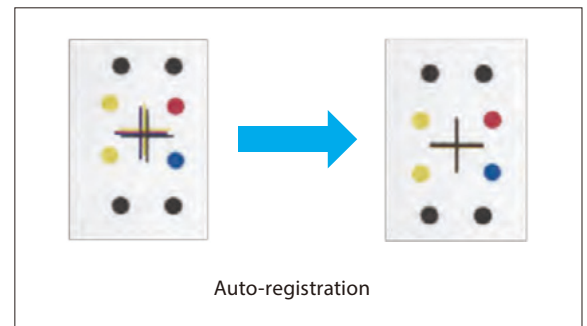
A unique Komori feature that provides quick feedback when density levels differ from target density, and is capable of responding even to initial falloffs in density. Density is measured with PDC-SX, and the amount of ink applied to the roller is then adjusted based on any calculated excess or shortcomings. These unique ink fountain controls can re-adjust to target density within around 30 sheets, dramatically reducing paper waste.



### Automatic color and register controls, with no need for a loupe

**PDC-SX (Spectral Density Control)** Unique

PDC-SX not only measures color but also registration, feeding results back to the press. This also applies to register on the back of the sheet. This reduces wasted time, workload and paper when registration does not match.

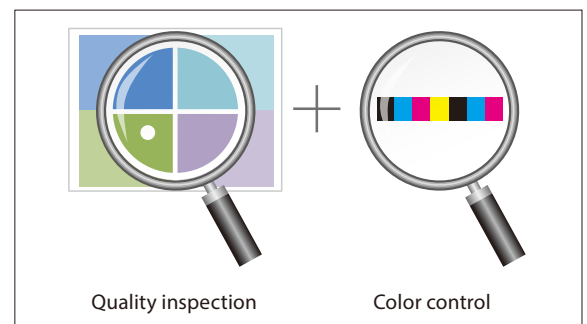


### Operator-free quality while printing

**PQA-S V5 (In-line Print Quality Assessment System for Sheetfed)** Unique

**Quality inspection:** Checks for printing problems and prevents misprints from passing to postpress

**Color control:** Measures color bar and automatically adjusts to match and maintain target density



\* Includes optional features.

\* Figures show Komori measurements under specific conditions. No warranty is implied.

\* Use the 2D barcodes on pp. 14-15 to view video of each feature.

# A new package production machine for the SDGs\*1 era

Komori's advance series enhances package printing. Makeready costs have been minimized by reducing time and work spent on processes such as changing and cleaning special colors, preparing coaters or changing out thick paper, helping to increase profitability even during short-run printing.

\*1 SDGs : Sustainable Development Goals





## Stable, high quality with Komori's unique dampening system

### Komorimatic **Unique**

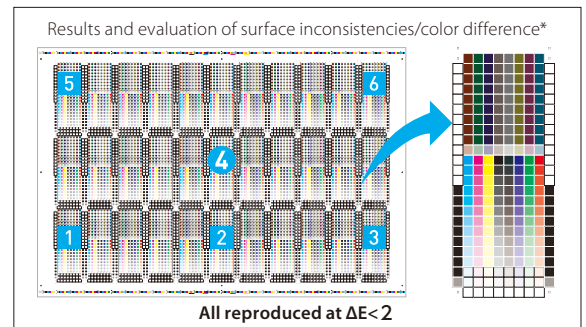
Komori's unique dampening system, Komorimatic, offers the sharp dots and fast color acquisition, with increased effectiveness for high-speed long runs. The four dampening rollers and reverse-slip system creates a thin film of water that is uniform in both the lateral and vertical directions while using the minimum required amount of water. Maintaining a stable water and ink balance minimizes surface inconsistencies. Also well-suited for environmentally friendly, alcohol-free printing.



## Superior dot shape reproduction reduces waste of a portion of the product due to color variation in step and repeat jobs. **Unique**

When printing multi-up images for packaging, it is important to minimize color difference from lead to tail. The Komorimatic dampener on advance presses minimizes color inconsistencies by providing a highly consistent and stable water layer. When coupled with precise ink key and ink film control from the Komori inker, color consistency is optimized providing expert color reproduction, less waste, and increased profitability.

\* Color difference compared to standard density is measured at 6 locations when printing 500/2,000 sheets, using ④ on the 500th sheet as standard. 25%, 50% and 75% CMY gray patches are used.

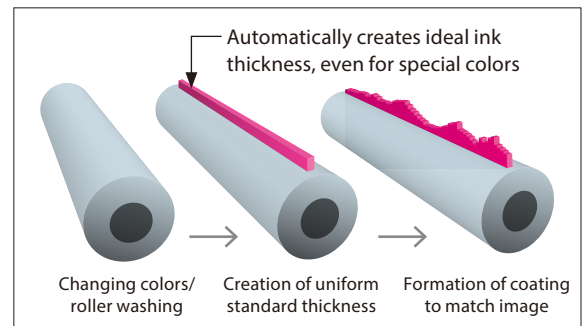


## Quick color acquisition for repeat jobs

### Special color-compatible pre-inking **New**

Pre-inking has been further strengthened, allowing for a variety of special colors to be reproduced with a high degree of accuracy. Past data can be called up when repeating jobs to automatically create the ideal ink thickness, even for special color. This greatly reduces paper waste and shortens time required for color matching.

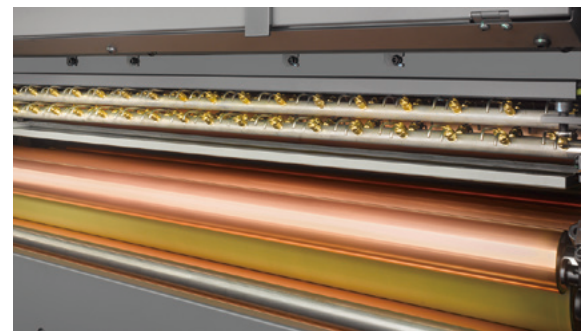
\* Requires PDC-SX (optional).



## Eliminates turbidity after roller washing

### Special surfactant for ink rollers **Unique**

Package printing involves a large number of color changes, making roller washing very time-consuming, particularly when changing from a deep color to a lighter Komori's special surfactant lifts surface staining to deep clean the roller, minimizing turbidity.



## Coater plate changing can be quickly handled by a single operator

### Coater Clamp System advance **New**

A new tension mechanism was adopted for coater clamping. Plate tension can be adjusted by manipulating a single adjustment on the gripper and tail side, allowing for easy plate changing by a single operator. Coater blanket and photopolymer plate changing time is shortened by approximately 40% compared to previous.



\* Includes optional features.

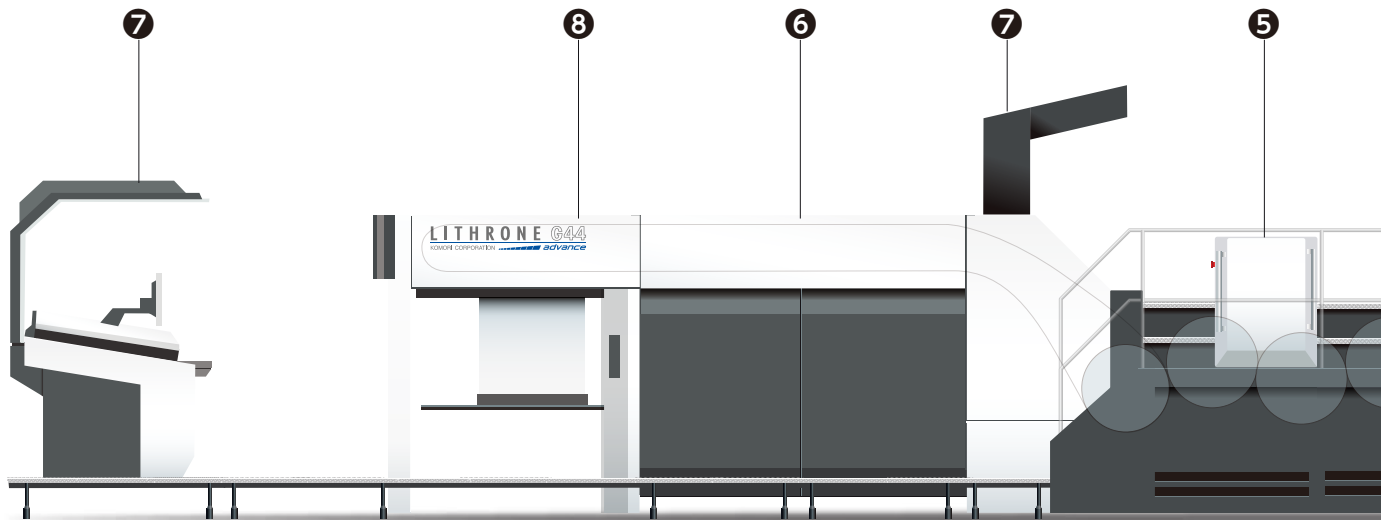
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\* Use the 2D barcodes on pp. 14-15 to view video of each feature.



# Functionality to meet a wide range of needs and further increase ROI

The advance presses offer a wide line-up of features to increase ROI, making them suited to all types of printing, including commercial, publishing and package printing.



## 7 Quality control

A variety of systems to drastically increase productivity.

All uniquely developed by Komori, these systems allow for quick and highly accurate register and color matching and maintain quality during production printing.



- **KHS AI** KHS-AI ● ● ●
- **PDC-SX** Spectral Print Density Control-SX ● ● ●
- **PDF comparator system** ● ●
- **PQA-S V5** Print Quality Assessment System (Sheet) V5 ● ●
- ① **Quality inspection**
- ② **Quality inspection + color control**
- **Automatic mask creation** ●
- **Sheet numbering system** ●
- **KID** Komori Info-Service Display ● ●

## 5 Coater

Coater blankets and photopolymer plates can be easily changed by a single operator, greatly reducing makeready time. Also compatible with aluminum based blankets and photopolymer plates.



- **Coater Clamp System advance** ●
- **Coater Semi-APC** ●

## 8 Delivery

Allows for high-speed printing on thin or thick paper.

The automatic non-stop delivery system is particularly well-suited for package printing, which requires frequent paper changes.



- **Delivery fan zones** ●
- **Manual non-stop delivery system** ● ●
- **Automatic non-stop delivery system** ● ●
- **Extended delivery** ● ●
- **Double delivery** ● ●

## 6 Dryer

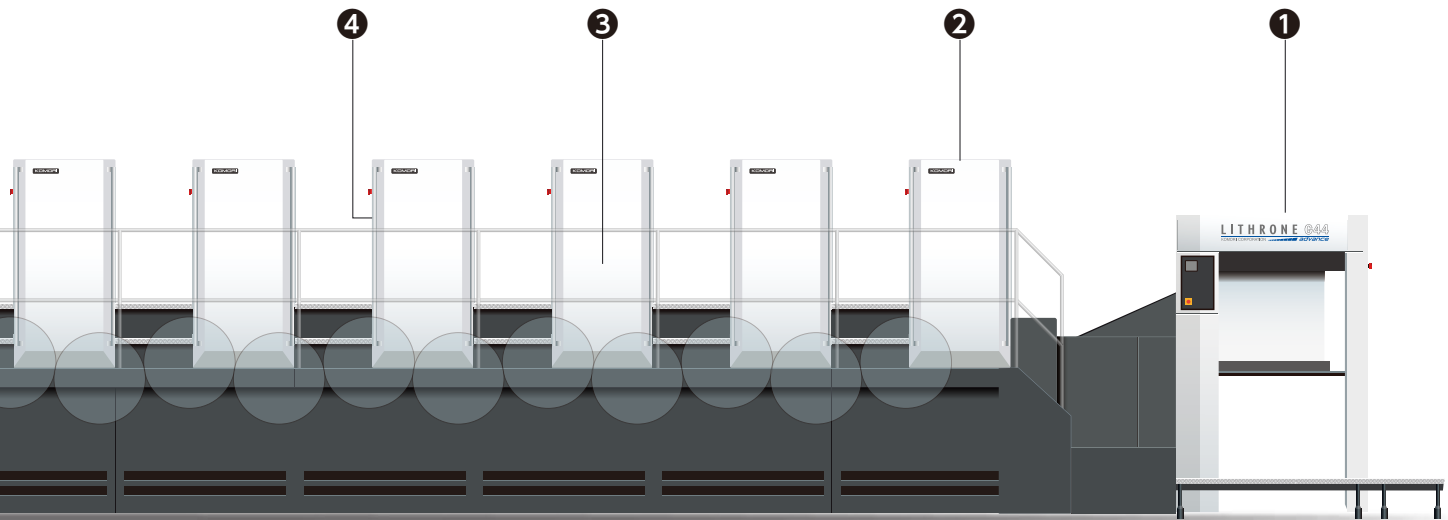
Komori's unique drying system, combines ecology, economy, quality and reliability.



- **H-UV** ● ● ●
- **H-UV L ( LED )** ● ● ●
- **UV** ● ●
- **IR** ●

\*URL for above QR codes: <https://komorisolutions.com/video/en/g44a.html>

- ... High-speed printing
- ... Short makeready
- ... Quality
- ... Reduced paper waste
- ... Environment/safety



### 3 Automatic Washing/Cleaning System

Efficient automatic washing/cleaning by means of an automatic control program.

Use of pre-soaked cloth for automatic blanket washing and automatic impression cylinder cleaning shortens cleaning time and reduces cloth consumption, making it friendlier on the environment.



- Automatic blanket washing ● ●
- Automatic impression cylinder cleaning ● ●
- Automatic ink roller cleaning ●
- **Special surfactant for ink rollers** ●

### 1 Feeder

Automates paper settings and adjustments during printing.

Easy to operate and assists stable, high-speed printing on thick or thin paper.



- **Feeder pile guide pointer** ●
- Automatic height adjustment of feed board entry guides ● ●
- Manual non-stop feeder system ●
- Automatic non-stop feeder system ●
- Automatic pile height control ●
- Sucker box ●
- Front lay ●

### 4 Plate changing system

Uses a benderless clamping mechanism, for more efficient plate changing without the need for plate tail-edge bending. The line-up includes semi-APC (semi-automatic), full-APC (fully automatic) and A-APC (which allows plates to be changed for all colors at once in 1 minute and 25 seconds).



- Semi-APC Automatic Plate Changer ●
- Full-APC Fully Automatic Plate Changer ●
- **A-APC Asynchronous Automatic Plate Changer** ●

### 2 Unit/other

Includes a system to prevent UV ink mist from scattering, for increased environmental friendliness. DC blowers also help to reduce power consumption and heat levels.



- **Komorimatic** ● ● ●
- A-APC/automatic blanket washing parallel control ●
- Ink mist extractor fans ●
- Ink mist removing device ●
- **DC blower** ●

\* Restrictions apply regarding availability on different models and available combinations of features.

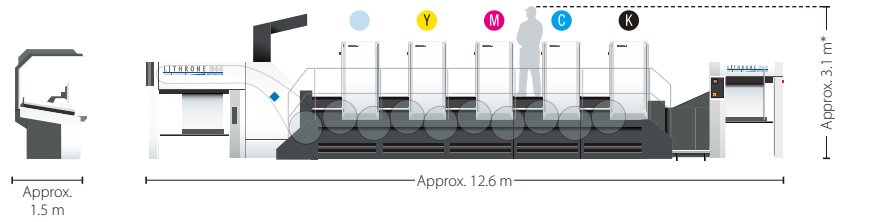
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## Examples of custom setups/major applications

### LITHRONE G44 advance (44" Offset Printing Press)

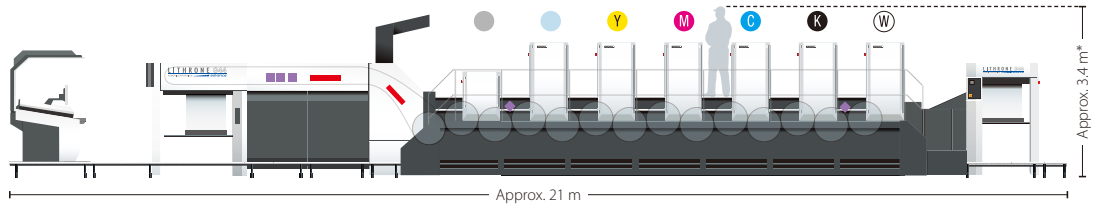
#### General commercial printing

5-color standard (example setup: GL-544A)  
Special colors/overprint varnish,  
quality inspection + color control



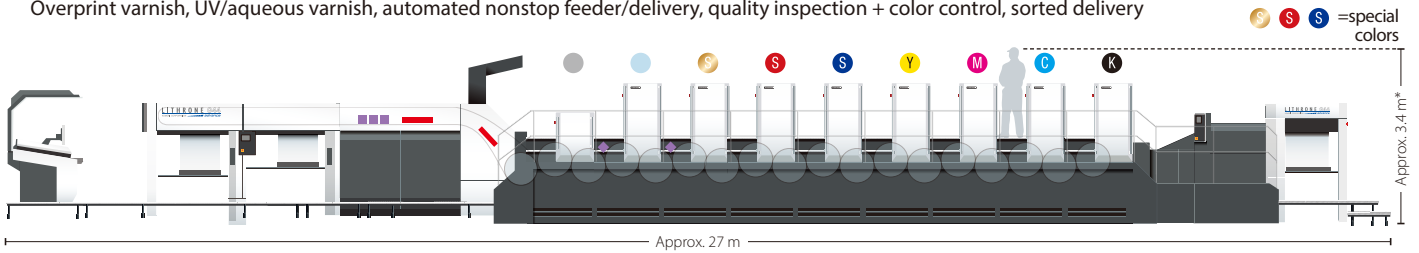
#### Package printing: Setup for printing using special colors, metalized paper/transparent film, various varnishes and other package needs

6-color with coater on 300 mm plinth (example setup: GL-644A + C + extended delivery)  
White ink, overprint varnish, aqueous/UV varnish, quality inspection + color control



#### Package printing: Package printing setup for large runs, with automated, non-stop equipment

8-color with coater on 300 mm plinth (example setup: GL-844A + C + extended/double delivery)  
Overprint varnish, UV/aqueous varnish, automated nonstop feeder/delivery, quality inspection + color control, sorted delivery



\* Assuming a standing, 180 cm tall operator. For machine dimensions, see specifications below.

\* Additional workspace, not included in machine dimensions, is required for installation, such as for surrounding equipment/cabinets and paper transport

## Specifications

LITHRONE G44 advance (44-inch Offset Printing Press) specifications						
Model		GL-444A	GL-544A	GL-644A	GLX-744A	GL-844A
Number of colors		4	5	6	7	8
Max. printing speed	sph	15,000				
Max. sheet size	mm(in)	840 × 1,150 (33.1 × 45.3)				
Min. sheet size	mm(in)	460 × 620 (18.1 × 24.4)				
Max. printing area	mm(in)	820 × 1,140 (32.3 × 44.9)				
Sheet thickness range	mm(in)	0.04 - 0.8 (0.0016 - 0.031) (0.08 - 1.0 (0.0031 - 0.040) Skeleton transfer cylinder specification)*1				
Plate size	mm(in)	900 × 1,150 (35.4 × 45.3)				
Blanket size	mm(in)	1,050 × 1,160 (41.3 × 45.7) [including aluminum bar]				
Feeder pile height	mm(in)	1,250 (49.2)				
Delivery pile height	mm(in)	1,250 (49.2)				
Dimensions	Length (L)	mm(ft)	11,305 (37'1")	12,640 (41'6")	13,975 (45'10")	15,310 (50'3")
	Width (W)	mm(ft)	3,910 (13') [ 5,650 (18'6") with blower cabinet ]			
	Height (H)	mm(ft)	2,368 (8') [ 2,850 (9'4") with safety cover open ]			

Note:

Komori reserves the right to change specifications on machines without notice to improve reliability, functionality or design. Komori carries no obligation for use that does not correspond to the standard safety measures for products noted herein and other precautions. The technical information in this catalog constitutes an explanation of the general operations of the product and grants no rights or license belonging to Komori Corporation or third parties. The photographs in this catalog include some special specifications. Specifications are current as of November 2022. Specifications and photographs are subject to change at a later date due to product improvements.

- \*1 Transfer cylinder gripper pad adjustment is necessary when the printing paper is thicker than 0.5 mm.
- \* Maximum printing speed may differ depending on chosen specifications and printing conditions.
- \* Performance and values may differ depending on specifications. Specifications are also subject to change due to product improvements or other reasons.

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