Specifications

LITHRONE GX40 advance

advance

LITHRONE GX40 advance (40-inch Offset Printing Press) specifications						
Model			GLX-540A+C	GLX-640A+C	GLX-740A+C	GLX-840A+C
Number of colors			5	6	7	8
Max. printing speed		sph	18,000			
Max. sheet size		mm(in)	750 × 1,050 (29.5 × 41.3)			
Min. sheet size		mm(in)	360 × 520 (14.2 × 20.5)			
Max. printing area		mm(in)	740 × 1,040 (29.1 × 40.9)			
Sheet thickness range		mm(in)	0.06 - 1.0 (0.002 - 0.039)			
Plate size		mm(in)	811 × 1,055 (31.9 × 41.5)			
Blanket size		mm(in)	935 × 1,060 (36.8 × 41.7) (including aluminum bar)			
Feeder pile height		mm(in)	1,550 (61) (Plinth 450 (17.7))			
Delivery pile height		mm(in)	1,550 (61) (Plinth 450 (17.7))			
Dimensions	Length (L)*1	mm(ft)	17,640 (57'10")	18,818 (61'9")	19,996 (65'7")	21,174 (69'6")
	Width (W)	mm(ft)	3,980 (13'1") (5,710 (18'9") with blower cabinet)			
	Height (H)	mm(ft)	2,603 (8'6") (3,084 (10'1") with cover open, plinth: 450 (1'6")			

*1 Total press length includes the feeder/delivery steps and the operation stand. Dimensions differ when options such as a double coater or drying unit are selected. The total length of the press differs depending on the region.

* Dimensions include 450 mm plinth and Extended Delivery.

* Max. printing speed may differ depending on chosen specifications and printing conditions.

* Performance and numbers may differ from specifications herein, and specifications may also be modified for product improvements.

40-inch Offset Printing Press

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 December 2022. Specifications and photographs are subject to change at a later date due to product improvements.

ISO 9001
ISO 14001
JQA - QMA10134
JQA - EM1949
Tsukuba Plant

GLX-40A | en | JPN | 16P | N01 | 1 | Dec.2022 | 3.1K | MP

KOMORI

Achieving improved productivity and digital transformation for package printing flagship model

Lithrone GX40 advance package printing solution offers **world-class ROI**[*1]

The Komori Lithrone GX40 advance series takes productivity to the highest level with added specifications and features to include the needs of the packaging market, most notable is the capability to run a larger sheet size up to 750 × 1,050, sheet thicknesses up to 1mm and stable, high-quality printing up to 18,000 sheets per hour. In particular, "Super Short Makeready," devised to reduce changeover time, including special color, minimizes job changeover times. Additionally, it also supports multi-units that contain printing units and coaters. A 450 mm plinth especially-made for production of heavy stocks is standard, and a large number of variations can be configured, including a 900 mm plinth option, an automated feeder/delivery device that enables non-stop production in combination with logistics, multiple delivery piles, and extended dryer specifications.

Furthermore, amidst the need for production rationalization in package printing, KP-Connect Pro connects prepress, press, and postpress to optimize the entire production process and further maximize productivity.

The Lithrone GX40 advance is truly Komori's flagship model in package printing.
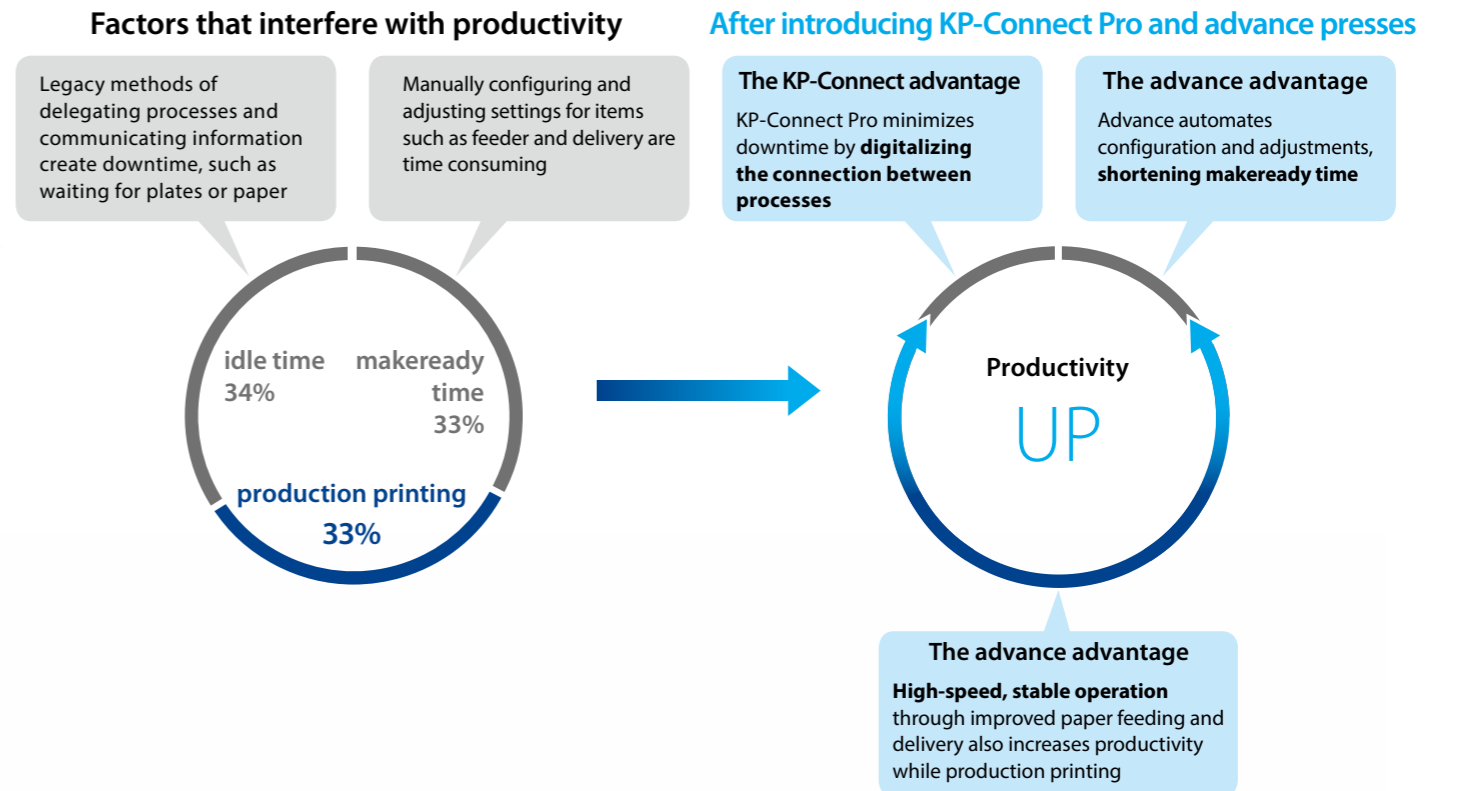
[*1] ROI: Return on Investment

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

idle time 34%
makeready time 33%
production printing 33%

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**

Productivity
UP

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

Photo: GLX-640A
* Model in photograph includes optional specifications.

[*2] In-house survey. Of the 45 companies that have the KHS-AI (51 machines), the results were calculated from 31 companies that mainly use four colors and excludes 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 analogue methods (such as job tickets) to digitalization greatly reduces time spent on process management
- Automatically scheduling 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 visualy analyzes and graphs real print operation data, helping to improve productivity.
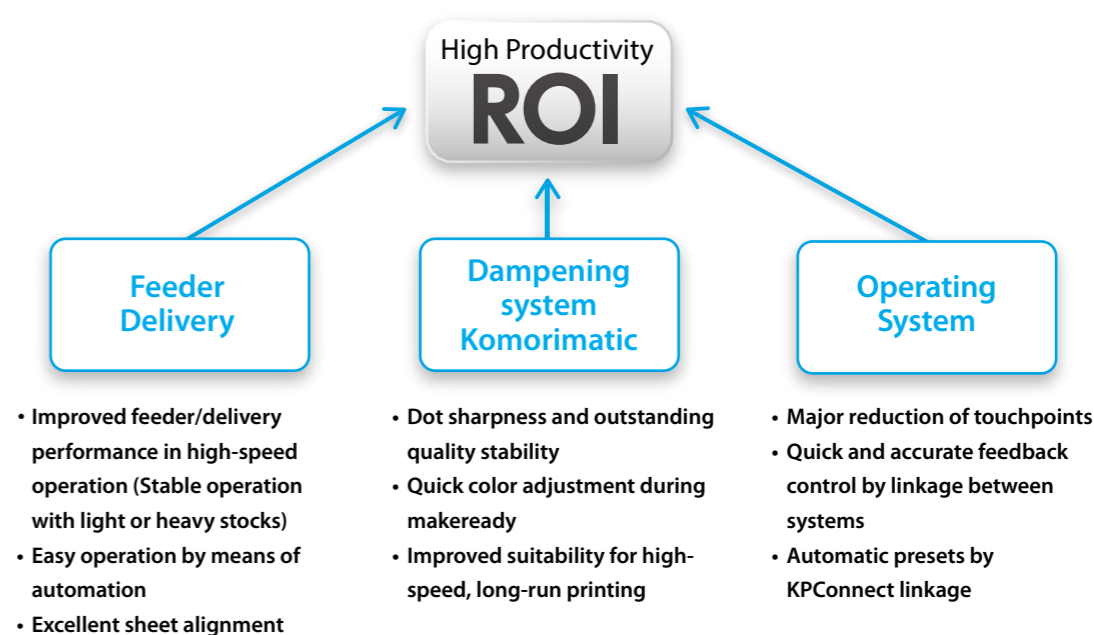
KP-Connect Pro

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.

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

High Productivity ROI

Feeder Delivery
- Improved feeder/delivery performance in high-speed operation (Stable operation with light or heavy stocks)
- Easy operation by means of automation
- Excellent sheet alignment

Dampening system Komorimatic
- Dot sharpness and outstanding quality stability
- Quick color adjustment during makeready
- Improved suitability for high-speed, long-run printing

Operating System
- Major reduction of touchpoints
- Quick and accurate feedback control by linkage between systems
- Automatic presets by KPConnect linkage

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.

* Run length is the same

Conventional press

Printing speeds / Production printing / Time / Makeready

advance

Printing speeds / Time
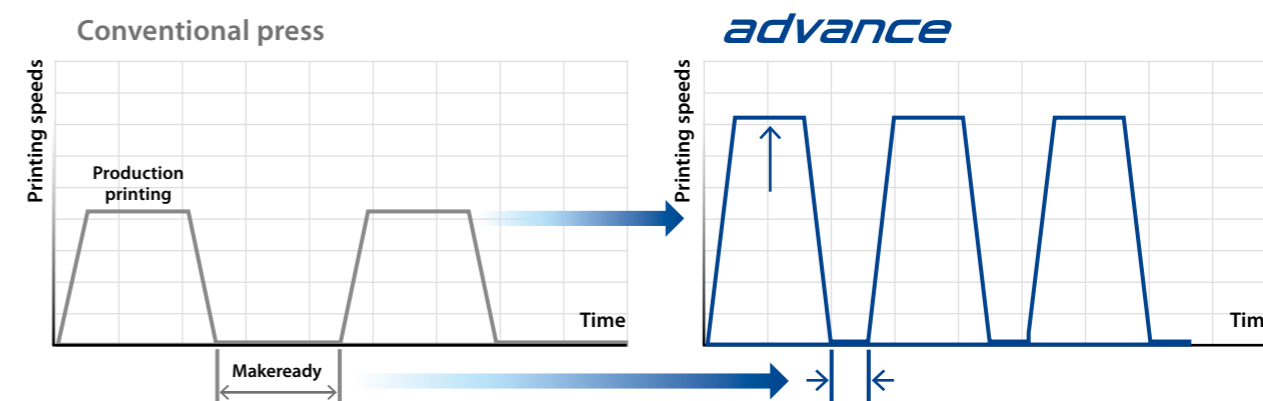
Supports digitalization.
Unique Komori systems drastically reduce operator workload

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.

KHS-AI
- **Integrated controls**
- **Self-learning**

Speedy and accurate feedback and controls

Unique quality management system
- **PDC series**
- **PQA series**

Powerful machinery
- **Highly accurate ink keys**
- **Rigid cylinders**

Simple, one-screen operation, for ease of use
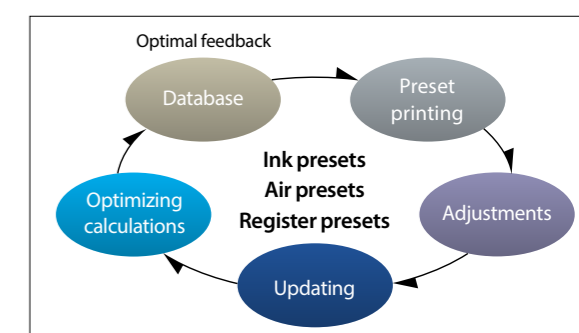
KHS-AI, ease of use   New

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.

Job registration screen
Image/paper size/PDC-SX

Printing screen
Ink/dampening/registration
PDC-SX/PQA-S
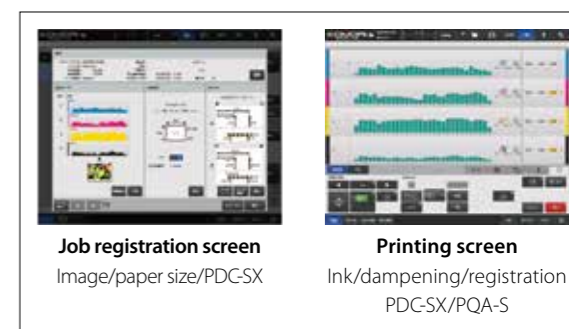
More efficient makeready through self-learning

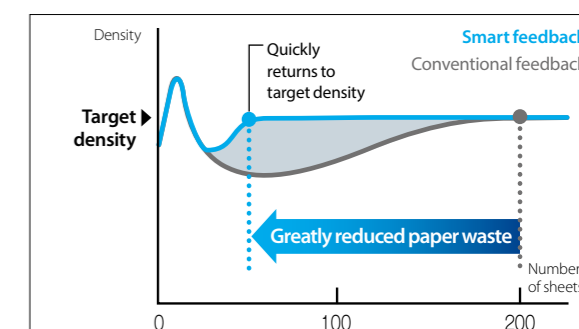### KHS-AI, high precision preset function   Unique

Ink key adjustments, air levels and registers can be automatically preset according to paper size/paper information from the job information, greatly reducing makeready time.

Optimal feedback

Database → Preset printing → Adjustments → Updating → Optimizing calculations → Database

Ink presets
Air presets
Register 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.

Density
Quickly returns to target density
Smart feedback
Conventional feedback
Target density
Greatly reduced paper waste
Number of sheets
0   100   200

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. Moreover, by feeding back the measured color difference to the printing press, it is possible to efficiently approximate the L*a*b* values of the target color, which strongly assists printing in accordance with the international standard ISO12647-2, G7, and Japan Color standards.

Auto-registration
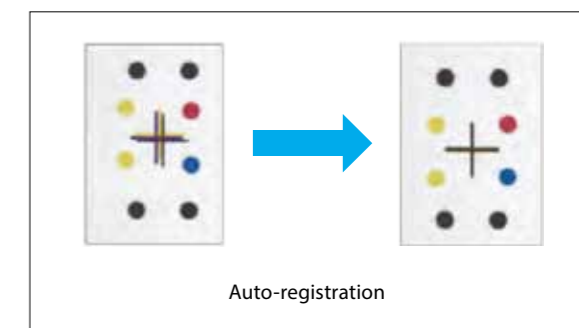
Operator-free quality while printing while printing   Unique

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

Automatic registration: Measures dedicated registration marks to automatically adjust for and maintain unit-to-unit registration

Quality inspection   Color control   Automatic register control
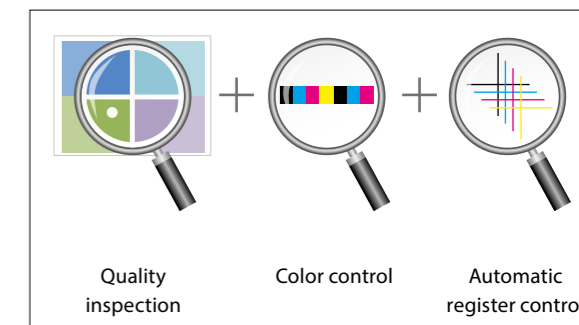
New : New feature   Unique : A unique Komori feature. Applies to following pages.

* Includes optional features. * Use the 2D barcodes on pp. 12-13 to view video of each feature.

Super Short Makeready dramatically improves efficiency in short run production of package printing

One of the challenges in the package printing process is the long start-up time due to cleaning, special color matching and varnish preparation during job changeovers. To reduce the time needed for this common process, Komori proposes a "Super Short Makeready" solution, which combines multiple functions to help reduce start-up time even for short run package printing.

Changeover operations are performed in parallel (concurrently) to minimize changeover time

Parallel Makeready

Package printing is becoming increasingly diversified and short run, requiring very fast changeovers that include special colors and coating. With Komori's parallel makeready, plate changing, blanket washing, pre-inking and air/register presets can all be carried out in parallel (concurrently) with the press of a button. Furthermore, the ink roller can run independently for cleaning, which allows simultaneous operation with coater plate changes. This can significantly reduce job changeover time, including that of the coater.

Shorten makeready time

The below graph compares Lithrone GX40 advance 6-color plate changing, 3-color changing, and coater plate changing.
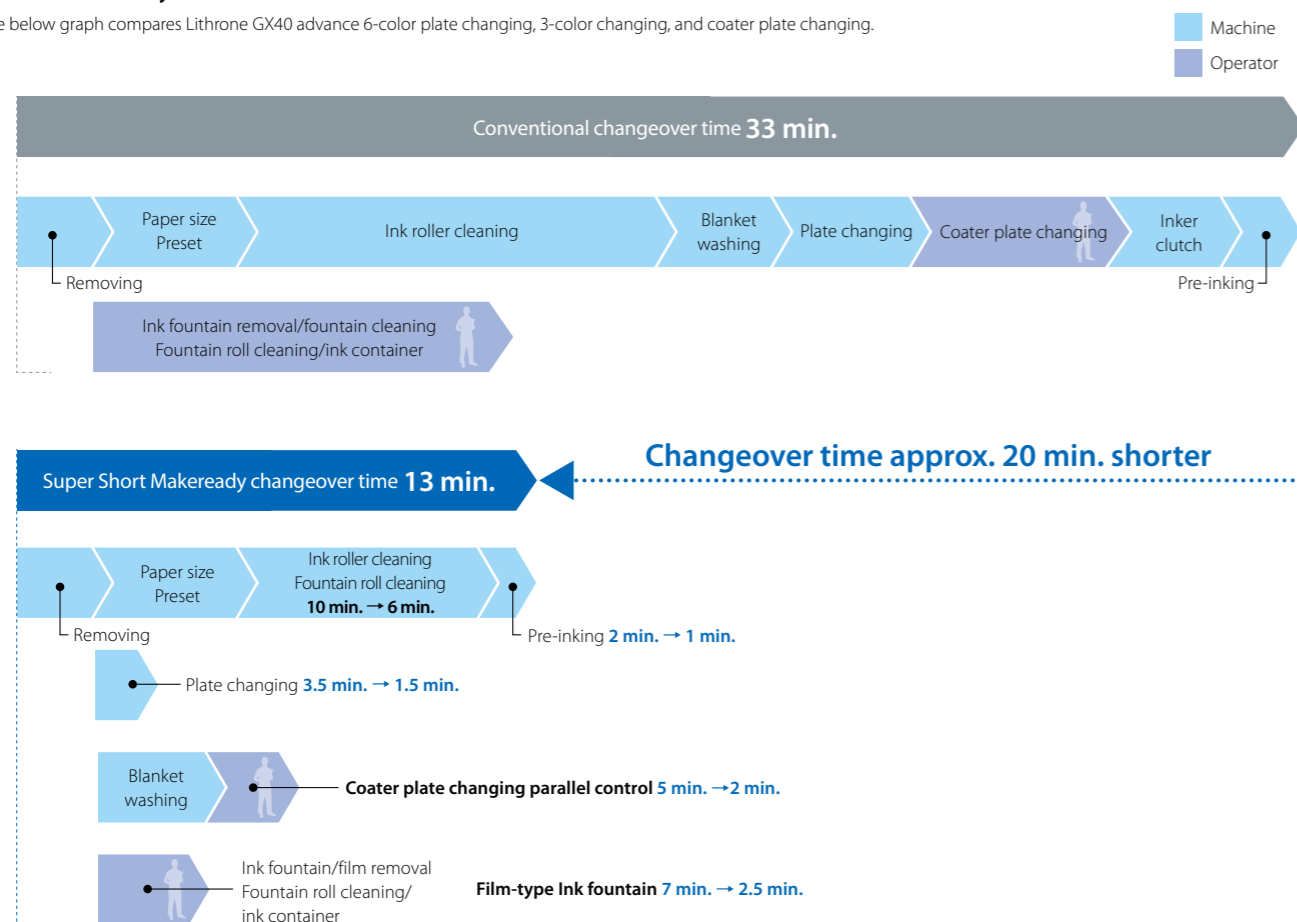
■ Machine
■ Operator

Conventional changeover time **33 min.**

| Removing | Paper size Preset | Ink roller cleaning | Blanket washing | Plate changing | Coater plate changing | Inker clutch |
Pre-inking

Ink fountain removal/fountain cleaning
Fountain roll cleaning/ink container

Changeover time approx. 20 min. shorter

Super Short Makeready changeover time **13 min.**

Removing — Paper size Preset — Ink roller cleaning Fountain roll cleaning **10 min. → 6 min.**
Pre-inking **2 min. → 1 min.**

Plate changing **3.5 min. → 1.5 min.**

Blanket washing — Coater plate changing parallel control **5 min. → 2 min.**

Ink fountain/film removal Fountain roll cleaning/ink container — Film-type Ink fountain **7 min. → 2.5 min.**

Plate changing completed in 1 min. 25 seconds regardless of number of colors

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.
Note that parallel makeready allows operators to perform color change operations simultaneously.

Simply peel off the film to easily clean the fountain

Ink fountain film   New

Ink fountain film can speed up color changes. The next ink color can be loaded simply by replacing the dedicated film and cleaning the ink roller easily, reducing the operator's workload and work time.
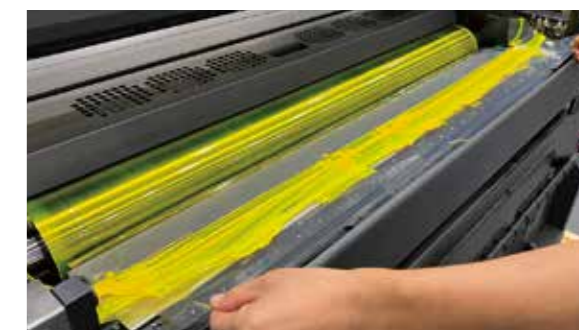
Eliminates turbidity after roller washing

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 Semi-APC

Previously, plate changing needed to be carried out by two people. However, a new tension mechanism automates the process, allowing plates to be changed quickly by a single operator. Simply open the cover, line up the plate with the guides and press the button (the process takes approximately 2 min.).
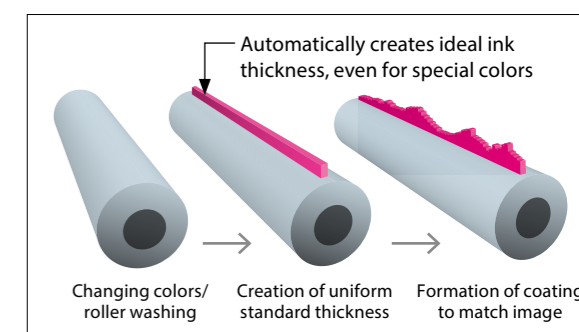
Quick color acquisition for repeat jobs

Pre-inking Plus   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).

Automatically creates ideal ink thickness, even for special colors

Changing colors/ roller washing → Creation of uniform standard thickness → Formation of coating to match image

* Includes optional features.
* Figures show Komori measurements under specific conditions. No warranty is implied.
* Use the 2D barcodes on pp. 12-13 to view video of each feature.

Specialized for package printing, stable over long runs

Komori's advance series enhances package printing. This reduces machine downtime and work processes, such as paper changeover during final printing, and ensures production time, thereby increasing profitability even for short run package printing.

Additionally, by standardizing ink types, Komori's new Smart Color*[1] technology can eliminate the need for color changing and allow for color controls similar to those used for process colors, further shortening makeready time.

*[1] This is a solution that reproduces a wide range of special colors by adding orange (O) and green (G) to CMYK.

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 reduction 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.

Results and evaluation of surface inconsistencies/color difference*
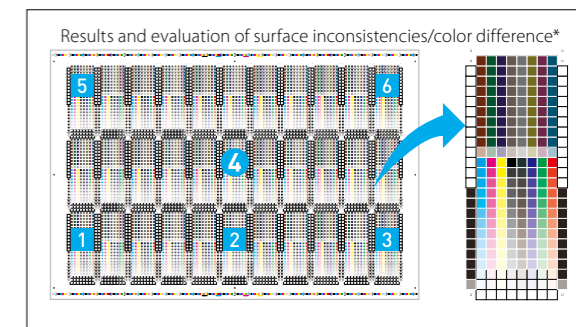
Zero stops for restocking increases productivity

### Automated non-stop feeder/delivery/pusher

Komori's non-stop feeder and delivery allows paper to be restocked while the press remains running, significantly increasing production rates. Not only are heavy manual tasks reduced for the operator, but waste is reduced and production rates increase because the press remains in a steady-state condition throughout the run. By using a pusher together with the feeder, the circumferential directions of the delivered paper are automatically aligned, thereby reducing the operator's workload.

Accurately returns to proper ink density at re-start

Ink roller disengagement mechanism during production stops   New

When the press is stopped, the ink roller is disengaged to prevent ink transfer to the form rollers during non-run time. Suppressing ink transfer during downtime preserves the original ink train state so it is quicker to return to savable print quality.

Printing   Roller disengagement
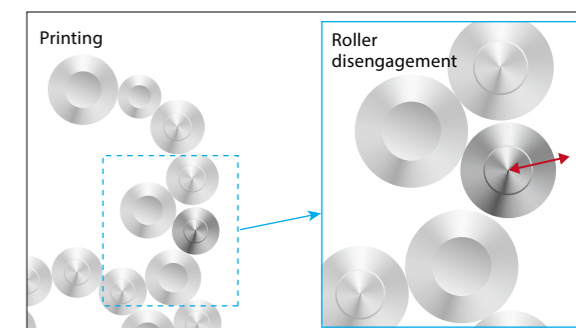
Dust removal increases productivity

Dust removal unit   New

A dust removal unit is located prior to the printing unit to clean the sheet surfaces and prevent contaminants from entering the print process, increasing consistency, quality and productivity. This feature is particularly beneficial to package printing environments where the higher volume of dust, debris and lint from converting heavy stocks can quickly degrade the performance of ink, water and plates in the offset process.
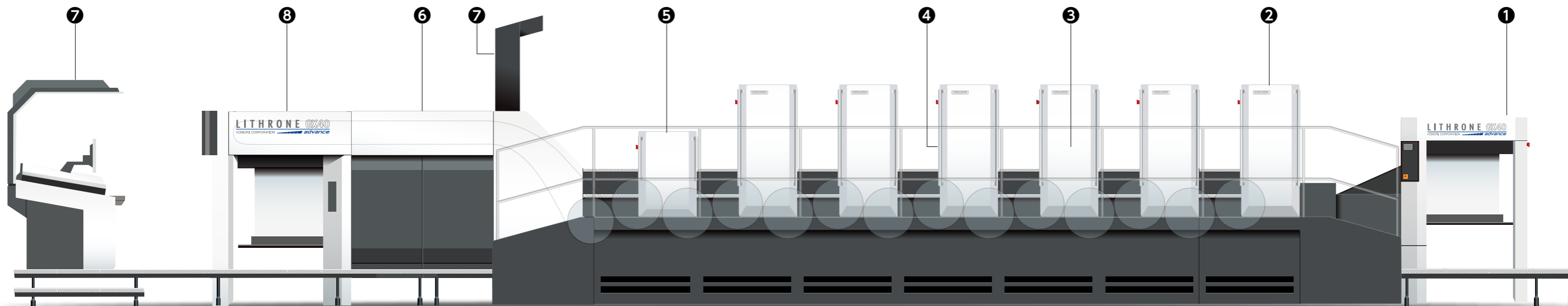
* Includes optional features.
* Figures show Komori measurements under specific conditions. No warranty is implied.
* Use the 2D barcodes on pp. 12-13 to view video of each feature.

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.

Legend:
- ● … High-speed printing (pink)
- ● … Short makeready (light blue)
- ● … Quality (orange)
- ● … Reduced paper waste (blue)
- ● … Environment/safety (green)

❼ 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.

Feature		Colors
• **KHS AI**	KHS-AI	light blue, orange, blue
• **PDC-SX**	Spectral Print Density Control-SX	light blue, orange, blue
PDF comparator system		light blue, orange
• **PQA-S V5** Print Quality Assessment System (Sheet) V5		orange, blue
① **Quality inspection**		
② **Quality inspection + color control**		
③ **Quality inspection + color control + automatic register control**		
Automatic mask creation		light blue
Sheet numbering system		orange
• **KID** Komori Info-Service Display		light blue, orange

❺ 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.

Feature	Colors
• **Coater Semi-APC**	light blue
• Anilox roll changer	light blue
• Coater body stop mode	orange

❸ 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.

Feature	Colors
• Automatic blanket washing	light blue, green
• Automatic impression cylinder cleaning	light blue, green
• Automatic ink roller cleaning	light blue
• **Special surfactant for ink rollers**	light blue
• A-APC/automatic blanket washing parallel control*1	light blue

*1 If parallel control is equipped, A-APC enables plate changing and blanket washing to be performed simultaneously.

❶ Feeder

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

Feature	Colors
• Feeder pile guide pointer	light blue
• Automatic height adjustment of feed board entry guides	pink, light blue
• Manual non-stop feeder system	pink
• **Automatic non-stop feeder system**	pink, light blue
• Automatic pile height control	pink
• Sucker box	pink
• Front lay	pink

❽ 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.

Feature	Colors
• **Delivery fan zone**	pink
• Manual non-stop delivery system	pink, blue
• Automatic non-stop delivery system	pink, blue
• Extended delivery	pink, orange
• Double delivery	orange

❻ Dryer

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

Feature	Colors
• H-UV	orange, light blue, blue
• H-UV L (LED)	orange, light blue, blue
• UV	orange, blue
• IR	orange

❹ 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, full-APC (fully automatic) and A-APC (which allows plates to be changed for all colors at once in 1 minute and 25 seconds).

Feature		Colors
• Full-APC	Fully Automatic Plate Changer	light blue
• **A-APC**	**Asynchronous Automatic Plate Changer**	light blue

❷ 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.

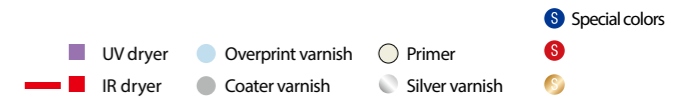| Feature	Colors
• **Komorimatic**	light blue, orange, blue
• Ink mist extractor fans	green
• Ink mist removing device	green
• DC blower	green
• **Ink fountain film**	light blue
• Inker stand-alone drive	light blue

*URL for above QR codes: https://www.komorisolutions.com/video/en/gx40a.html

* Restrictions apply regarding availability on different models and available combinations of features.
* Figures show Komori measurements under specific conditions. No warranty is implied.

Examples of custom setups/major applications

■ UV dryer   ● Overprint varnish   ○ Primer   S Special colors
▬■ IR dryer   ● Coater varnish   ● Silver varnish

## LITHRONE GX40 advance (40-inch offset printing press)

Single-pass printing with multiple varnishes and multiple curing stations

7-color coater plinth 450 mm specification(configuration example: GLX740 + C + DU + DU + C + extended delivery)

White ink, overprint varnish, aqueous/UV varnish, quality inspection + color control + automatic register control

Approx. 3.4 m*

Approx. 25 m

Extended delivery
Adding a UV or IR dryer boosts drying performance.
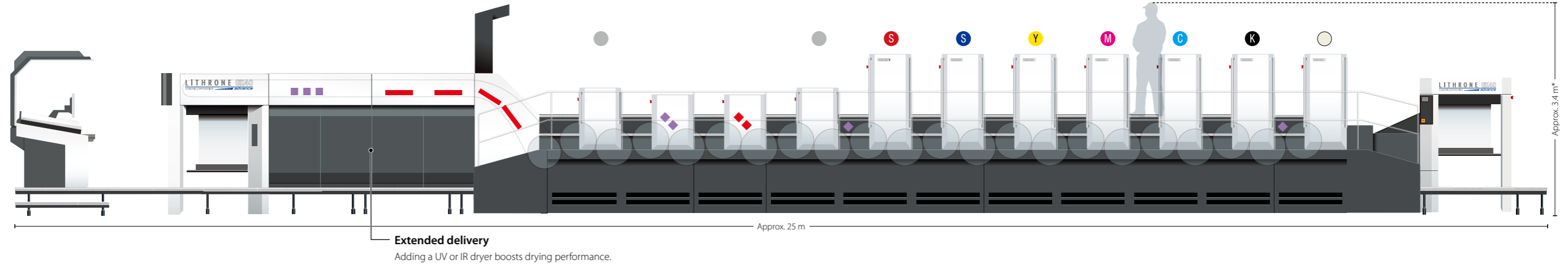
A wide range of configurations using special colors, aluminum vapor deposition, transparent films, and various varnishes

7-color coater plinth 450 mm specification(configuration example: GLX740 + C + DU + DU + C + extended delivery)

White ink, overprint varnish, UV varnish, quality inspection + color control + automatic register control

Approx. 3.4 m*

Approx. 23 m
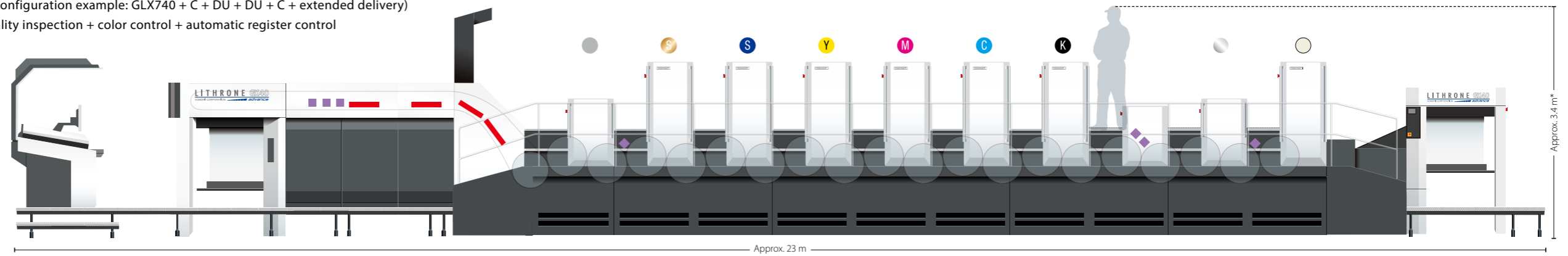
Configuration for package printing using Smart Color technology, which does not require color changing

8-color coater plinth 900 mm specification(configuration example: GLX840 + paper dust remover + C + non-stop operation system + extended/double delivery)

Smart color 6-colors, overprint varnish, UV varnish, paper dust remover + anilox changer, automated non-stop feeder/delivery,

quality inspection + color control + automatic register control, sorted delivery

Approx. 3.8 m*

Approx. 28 m

Double delivery
Paper can be delivered to either of two deliveries, enabling continuous press operation while delivering printed sheets. Can also be used to separate paper waste.

Anilox roll changer
Fully automated anilox roller changeover for a safe and short changeover.

Sheet cleaning unit
A dust removal unit is located prior to the first unit to clean the sheet surfaces and prevent contaminants from entering the print process, increasing consistency, quality and productivity.