



KONICA MINOLTA

# Intelligent Quality Care IQ-501

## Accurio*Press* Series



INTELLIGENT  
QUALITY CARE 

Giving Shape to Ideas

# Continues providing service that is the key to **innovation** at digital printing sites

Changes anxiety in production sites to a sense of security and strengthens the relationship of trust with our customers.



**Automated adjustments**

**Real time correction**

**Automated Inspection**

» IQ-501 Solutions



Adjustments before printing are automated to reduce the workload, **strengthening print productivity.**





# IQ-501 Intelligent Quality Optimiser

Distinctive Konica Minolta technologies offer:

- Auto adjustment functions such as front-to-back registration and colour adjustment
- Auto creation of printer profiles and color verification functions
- Auto-correction functions for real time colour and front-to-back registration
- In-line inspection and auto purge recovery functions
- Auto image diagnosis and adjustment functions



Instead of being performed by personnel, the IQ-501 now performs monitoring and correction of front-to-back registration and colour variation during printing, **making print quality more reliable.**

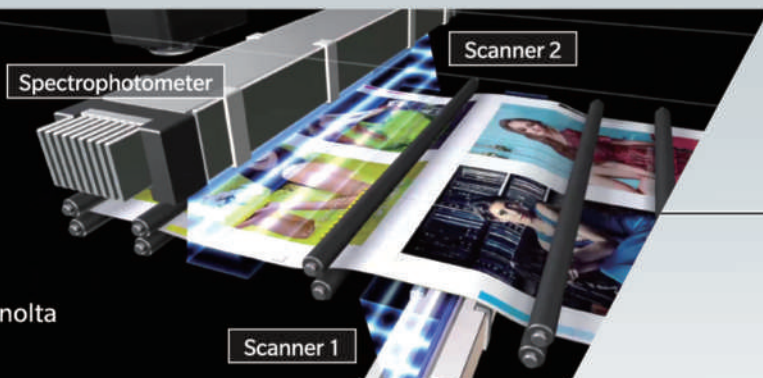


The IQ-501 performs inspection of defects mixed in printed matter and performs reprinting, **contributing to a reduction in time required up to delivery of products.**

# Proposes an **ideal** process at printing sites

## Hybrid colour measurement technology

Inside the IQ-501, two scanners and a spectrophotometer manufactured by Konica Minolta Sensing deliver high speed and high accuracy.



### 01

#### Automation of pre-print adjustment

Effected work process

Machine colour tone/density adjustment

Front-to-back adjustment

Expands production time by reducing man-hours for work such as front-to-back registration and colour adjustment necessary for pre-print adjustment

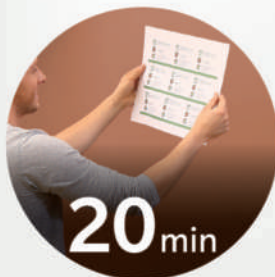
Significantly reduces pre-adjustment time

Achieves highly accurate measurement requiring no skill

Anyone can make appropriate adjustments for the machine through simple operations

[Example effect]

Time required for front-to-back registration adjustment\*



Offline operation



IQ-501 operation

\*The result time could change depending on the skill of the worker and the measuring environment.

### 02

#### Automated creation of printer profiles

Effected work process

Creation of printer profiles

Colour verification

Simplifies measuring work at the time of printer profile creation and colour verification

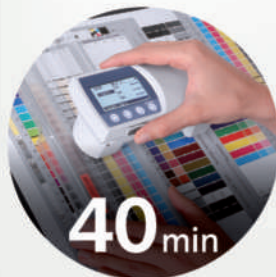
Significantly reduces the time required for density measurement, which is performed multiple times

Achieves highly accurate measurement

Profile creation and colour verification can be performed on the machine

[Example effect]

Time required for printer profile creation\*



Offline operation



IQ-501 operation

\*The result time could change depending on the skill of the worker and the measuring environment.





# 03

## Automation of monitoring and correction during production

Effected work process

Printing

Post-processing

Reduces downtime during printing and the workload to deliver stable print quality

No need for additional work due to the need to stop production for sampling inspection or correction

No need for human work such as colour reproducibility checks, etc

Minimises variation in front-to-back registration accuracy

[Example effect]

Confirmation of front-to-back registration accuracy during printing



Sampling check/correction

Offline operation



Real time monitoring/correction

IQ-501 operation

# 04

## Automation of inspection work

Effected work process

Inspection work

Re-printing

Significantly reduces the load of inspection work, achieves quick delivery and improves quality reliability

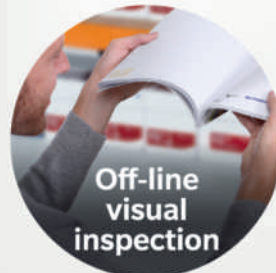
Achieves 100% inspection, which has a high work burden, in real time and with high accuracy

Automatically removes poor quality printed matter and performs re-printing

Reduces quality issues by preventing mixing in of poor quality printing matter

[Example effect]

Inspection of products



Off-line visual inspection

Offline operation



In-line auto inspection

IQ-501 operation

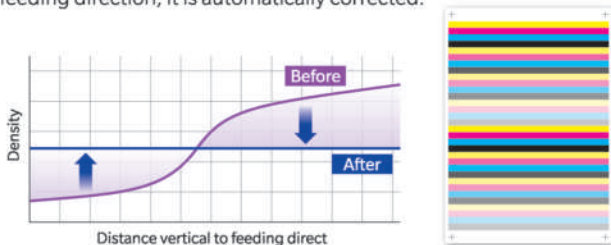


**Automatically adjusts colour/front-back registration in a quick and skill-less manner prior to print production**

“Intelligent Quality Optimiser” automatically performs all of the operations that have been required for adjustment of colours and front-to-back registration. This not only reduces the time required for measurements but also enables skill-less and accurate adjustments with no fear of errors. In addition, it contributes not only to higher quality/stability of the print products but also to shorter turnaround due to improved productivity resulted from shorter adjustment time.

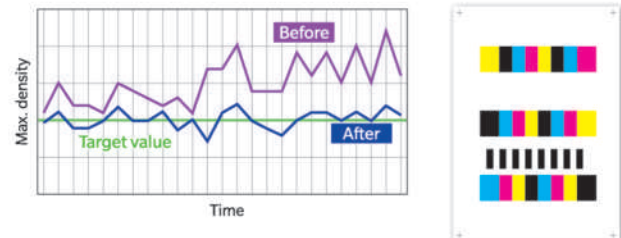
### Density balance auto adjustment

If density unevenness is detected in the direction vertical to the feeding direction, it is automatically corrected.



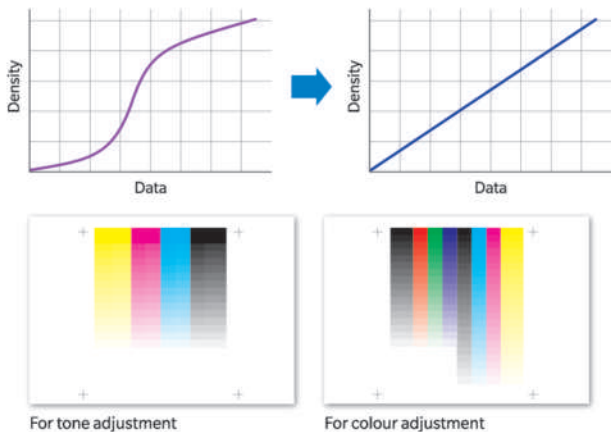
### Max. density auto adjustment

By automatically correcting the density at 100% CMYK single colour output, the target level can be maintained. Constant solid density keeps image quality stable, including tone correction.



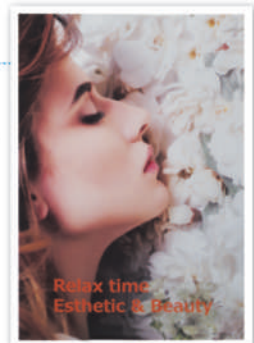
### Colour density control

Using the stock and screen to be actually printed, density adjustment and tone correction are automatically performed. The correction is made on CMYK process colours as well as on RGB+3C gray chart so that highly accurate correction is ensured.



### Smooth gradation due to tone correction

Improves the quality of skin tone and gradation that tend to show bandings resulting in streaks and uneven colouring.

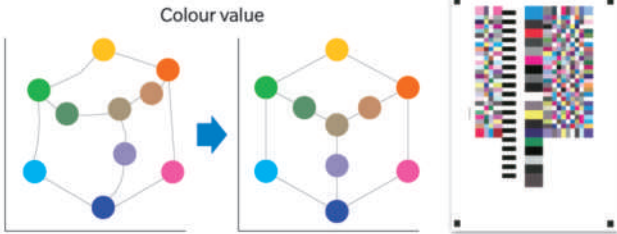


For the output of sheet where various files including package/tag, business card, images of high density, design with different tint colours are imposed, it is not necessary to worry about as long as the output is made with adjustments on density balance across the sheet and on maximum density completed prior to the printing.



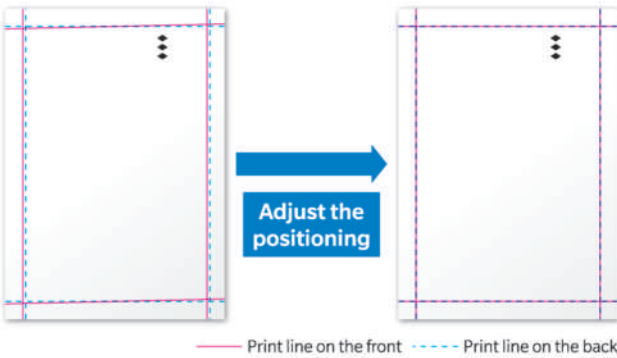
## Gray balance adjustment (Exact Color)

Printing CMY mono colour ~ CMY mixed colour (tertiary colour), a deviation from the reference of each colour is automatically corrected. This helps put the colour gradation in linear as well as improve the gray balance.



## Front-to-back registration auto adjustment

Specify the media and tray that are actually used. Then the front-to-back registration will be automatically adjusted. Front-to-back registration is adjusted by adjusting the vertical/horizontal position as well as the image skew. It is also possible to automatically perform periodical adjustments at an interval of every 100+ sheets.



### Gray balance adjustment

Specifically helps minimise the deviation of mixed gray.

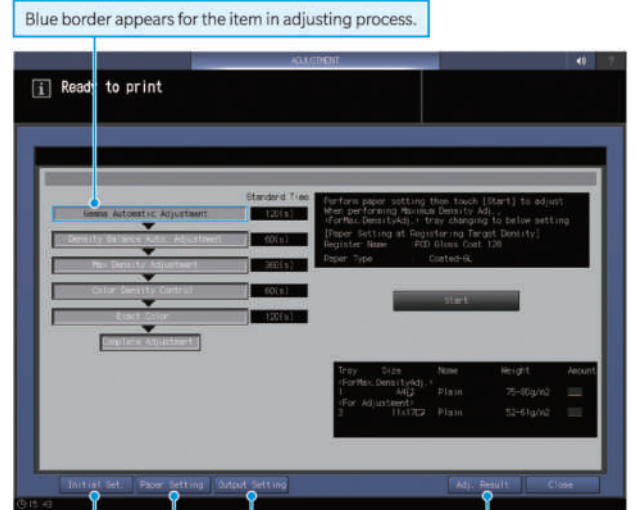
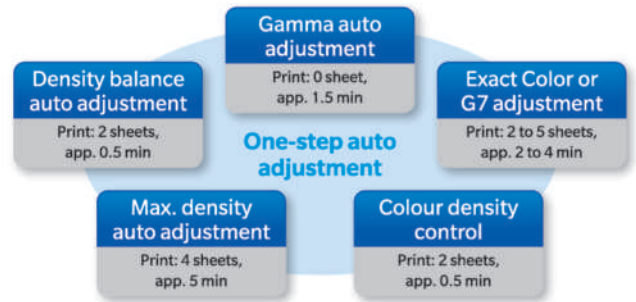
### Front-to-back registration auto adjustment

For the thick paper used for business card, shop card, coupon printing, where front-to-back registration requires attention, it is possible to deliver high quality print products and to suppress the cost increase caused by print waste thanks to automated adjustment on front-to-back registration.



## One-step (packaged) auto adjustment

"Gamma adjustment", "Max. density adjustment", "Density balance adjustment", "Colour density control", "Gray balance adjustment", these five items shown on the left can be collectively performed. Since it is not necessary to individually adjust each item, you can efficiently proceed with the prior adjustment. In addition, you can select any adjustment items and perform adjustment of selected items collectively.



Items to be adjusted can be selected from "Default Settings" in advance.

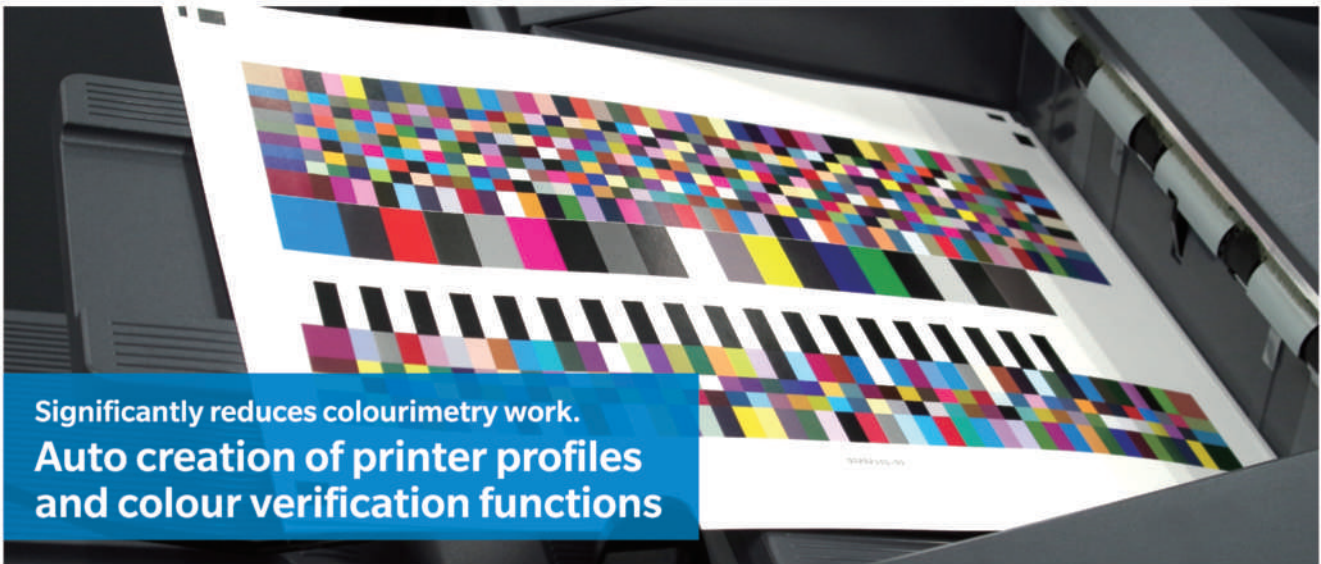
Select the output tray for max. density adjustment.

Verifies the adjustment settings.

When adjusting the max. density, the tray for this purpose switches to the setting used for target density setting.







Significantly reduces colourimetry work.  
**Auto creation of printer profiles  
 and colour verification functions**

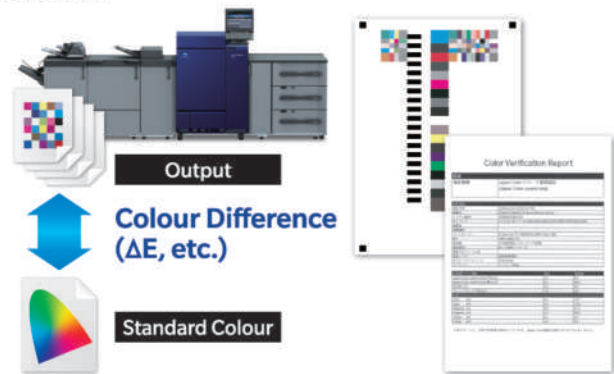
### Creating a printer profile

It is necessary when a new media type is to be used. Printer profile that is manually created by measuring the chart printed on the sheet in the past is now automatically created. As the result, the time consumed for this procedure is shortened from approx. 40 min to 2 min.



### Colour verification

It is necessary to be performed prior to the output of jobs where the faithful colour reproduction is essential or when the printer profile is changed. The result of measurements on colour difference between the printed colour and the reference colour will be reported.



## How much time IQ501 can save you

#### Case 01 Front-to-back registration adjustment

20 min. with possible input error Manual adjustment	10 min. requires scanning operation Semi-auto adjustment
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**2 min.\***  
 IQ-501 auto adjustment

#### Case 02 Density balance adjustment

10 min. requires scanning Semi-auto adjustment
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**2 min.**  
 IQ-501 auto adjustment

#### Case 03 Printer profile making

40 min. requires long time Manual adjustment	15 min. off-line scanning Semi-auto adjustment
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**2 min.**  
 IQ-501 auto profile making

\*with accurate registration adjustment

Remarks: Time is approximate and depends on skill and conditions





**Quality control/auto correction during printing.  
Real time colour control &  
front-to-back registration adjustment**

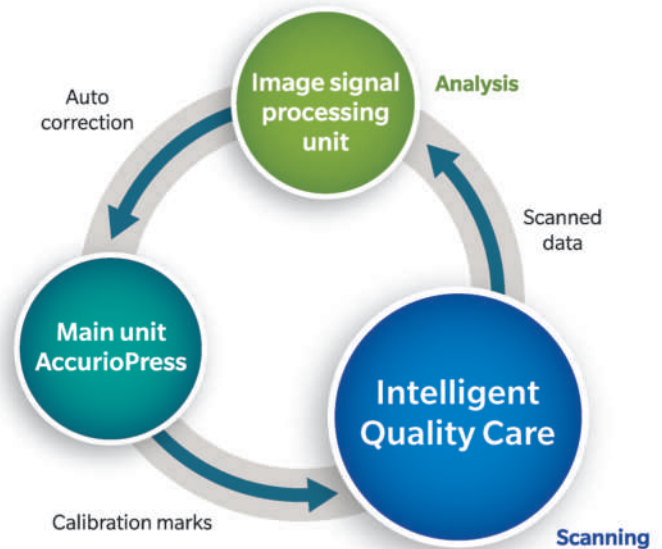
Turning ON “Auto Image adjustment” of Job Ticket will print charts for gradation adjustment and register mark for front-to-back registration adjustment on the margin around the image area, allowing for tone correction and front-to-back registration adjustment in real time. To do this, it is necessary to secure blank margins along the edge using A4+ or A3+ format.

### Real time tone correction

Based on the information obtained in the output density control that has been performed prior to the printing, variation of tone is monitored, and tone correction is performed as necessary. Colour patches of CMYK and RGB+3-colour gray are alternately output. However, output of such patches is performed only when the sheet has a blank margin around the image.

### Real time front-to-back registration monitoring/correction

Using the actual paper and trays, the average front and back position movement of 20 printed sheets is controlled during printing to correct the position at all times when in position fluctuations are detected. Since the back side is corrected in the same way as the front side, accurate print positioning can be maintained. It is possible to handle printed matter that has a margin. Especially, even though accuracy used to drop due to external factors, stable printing now can be performed. Also, if an abnormal printing position occurs suddenly, a function is provided to interrupt printing.



Paper sizes compatible with real-time gradation and front-to-back registration adjustment

Standard sizes	SRA3, SRA4 or paper with margins in the sub-scanning direction
Nonstandard sizes	225mm or more in the sub-scanning direction



Intelligent Quality Optimiser not only ensures the colour reproduction but also minimises the colour fluctuation during printing using real time tone correction function.



Real time registration adjustment ensures stability in print quality that is critical for the print application that needs an accurate trimming or for booklet with page numbers.

Example:  
Chart for tone correction and register marks are printed on the blank margin.



Tone correction is performed by outputting CMYK and RGB+3C alternately.



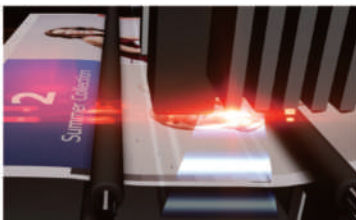


Significantly reduces 100% inspection man-hours after printing.  
**Real time auto inspection function**

In addition to auto colour adjustment and registration and the real time correction function, an in-line automatic inspection function is realised by installing the Auto Inspection Unit UK-301 and the Purge Unit RU-702 in the IQ-501. This significantly reduces inspection time, achieves highly reliable inspection with high precision, and saves manpower needed for 100% inspection. In order to maintain product quality, inspection work used to require a lot of man-hours and effort. However, such inspection work has been reduced, and an even better relationship with customers is built through short delivery times and fewer quality issues.

**UK-301 realises highly accurate inspection at high speed**

The Auto Inspection Unit UK-301 consists of a high-performance CPU and memory/HDD, and instantaneously instructs analysis of images loaded by the IQ-501 scanner in real time or changes the output tray when a defect occurs during printing. During printing production, the unit scans all printed matter, compares it with the basic image, and determines the presence or absence of dirt, missing pages, disarranged pages, etc.



Detection of dirt on paper



**ON/OFF setting of auto detection function**

Operation is by simply turning ON Auto Inspection upon print start.



**In-line auto inspection function options**

- Relay Unit RU-518
- Auto Inspection Unit UK-301
- Purge Unit RU-702
- Intelligent Quality Optimiser IQ-501
- Video Interface VI-513

\*The VI-513 cannot be used together with the VI-509. \*The RU-511 does not operate.



## Auto sorting function and recovery function after detection

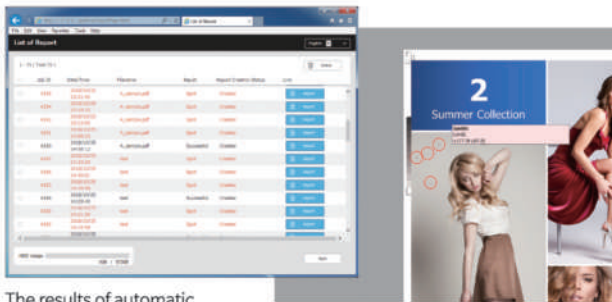
Printed matter on which dirt or the like is detected is discharged to the purge tray of the RU-702. After discharge, because reprinting begins from the detected page using the recovery function, only prints of a certain quality are discharged to the main tray. In order to maintain the correct print order, all printed papers after the detected printed matter are ejected to the purge tray. Depending on settings, recovery printing can be changed from automatic to manual.

\*Trays after the RU-702 cannot be specified as the major purge tray.



## Confirmation of inspection result history

Via the Web, it is possible to use the HDD in the UK-301 to store printing trouble information and images that occurred and check the result list and quality trouble areas.

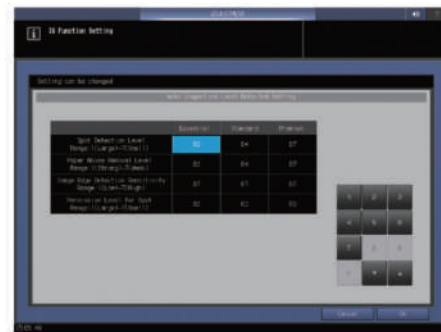


The results of automatic inspection are recorded on a report page on the Web.

The location, type and level of quality problem areas can be confirmed.

## Customise setting of inspection accuracy

The inspection accuracy level can be changed according to the user's environment. Four levels can be set, including Spot, Paper noise removal, Image edge detection sensitivity and Permission level of spot.



## Realising auto image diagnosis/adjustment function Auto quality adjustment function

The automatic quality adjustment function automatically diagnoses the image quality level of the machine and suppresses print quality problems caused by deterioration of image quality. Because the machine itself makes judgments about simple problems or sudden problems, the number of service calls and maintenance service hours in the customer environment is reduced. This contributes to expansion of production operation time.



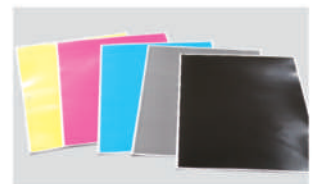
## Simple image diagnosis

Outputs a diagnostic chart and performs image quality diagnosis for such issues as streaks and spots.



## Detailed image diagnosis

Outputs detailed diagnostic charts based on the result of simple diagnosis from prepared diagnostic charts, and further automatically performs detailed image diagnosis and image quality adjustment.



## Quality auto recovery function

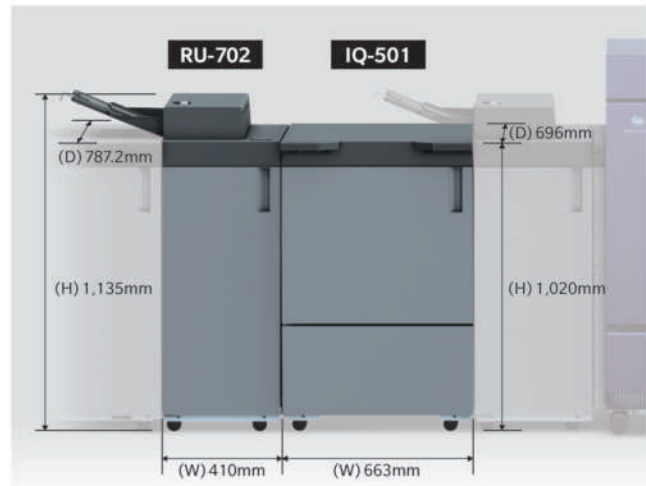
Makes the best adjustments of the machine and tries to restore quality depending on the type that was automatically diagnosed.

## Auto transfer of diagnosis results and remote diagnosis

Information such as the image quality level of the machine diagnosed by the setting can be automatically transferred to the nearest service department. Also, a similar diagnosis can be performed remotely.

## Majour Specifications: Intelligent Quality Optimiser IQ-501

Type	Console
Product Category	Automatic image reader
Configuration	Colour IQ-501 + VI-511 (image processor, basic option)
	BW IQ-501 + VI-512 (image processor, basic option)
Functions	Single pass duplex in-line scanner + spectrophotometer <ul style="list-style-type: none"> <li>• In-line scanner 1: rear side</li> <li>• In-line scanner 2: front side</li> <li>• Spectrophotometer: colourimetry on the front surface (spectral reflectivity)</li> </ul>
Print Speed*	up to 150 ppm (A4, Letter (8.5 x 11 in.)) (depends on printer specifications)
Scan Width	Max. 350 mm (main-scan direction)
Compatible Format*	95 x 139 to 331 x 762 mm (compatible with banner format) Maximum paper size that can be used: 1,300mm
Compatible Grammage*	40 to 400 gsm (depends on the grammage of the connected printer)
Incompatible Media	Embossed paper, index paper, OHP
Power Source	100 to 240V AC 50/60Hz
Power Consumption	700W or less (including latter connected options)
Dimensions (W x D x H)	663 x 696 x 1,020 mm
Weight	Approx. 184 kg



## Inline auto inspection

### Majour Specifications: Auto Inspection Unit UK-301

Type	Piggy back (Embedded on IQ-501 back)
Product Category	Auto Inspection Unit
Max. ppm*	A4: 150 ppm, A3: 80 ppm
CPU	Intel Core i5-6500
Memory	16GB
HDD	4TB (1TB x4)
Power Source	100 to 240V AC 50/60Hz
Power Consumption	400W or less
Dimensions (W x D x H)	370 x 559 x 153 mm
Weight	Approx. 11.2 kg

### Majour Specifications: Purge unit RU-702

Type	Console
Product Category	Relay unit
Paper Size*	Straight pass: 95 x 139 mm to 330.2 x 487.7 mm Maximum paper size that can be used: 1,300 mm Output sub tray: 95 x 139 mm to 330.2 x 487.7 mm
Paper Weight*	Straight pass / Output sub tray: 40 to 400 gsm
Stacking Capacity (80 gsm)	100 sheets (A4)
Power Source	100 to 240V AC 50/60Hz
Power Consumption	600W or less
Dimensions (W x D x H)	410 x 787.2 x 1,135 mm
Weight	Approx. 85 kg

\*Specifications, option configurations, and rollout time may vary depending on the machine. Please contact our distributor.

	Automated adjustments						Real time correction		Automated inspection	
	Density balance auto adjustment	Max. density auto adjustment	Colour density control	Exact Color	Auto printer profile making	Auto front-to-back registration adjustments	Auto quality adjustments	Real time colour correction	Real time registration correction	Inline auto inspection
AccurioPress C6100/C6085	○	○	○	○	○	○	○	○	○	○
AccurioPress C3080/C3070	○	○	○	○	○	○	○	○	○	○
AccurioPrint C3070L	—	—	—	—	—	—	—	—	—	—
AccurioPress C83hc	○	○	○	○	○	○	○	○	○	○
AccurioPress C2070	○	○	○	○	○	○	—	○	○	—
AccurioPress 6136/6120	○	○	○	—	—	○	—	○	○	○

<https://www.konicaminolta.hk/hk/en-us/digital-office-detail/46-45-441/printing-solutions/intelligent-quality-care-iq501>

Product appearance, configuration and/or specifications are subject to change without notice.

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MKT-1906-675

### ⚠ Requirements for safe use

- Please read and follow the instruction manual to ensure safe operation.
- Only operate using appropriate power supply and voltage.
- Connecting the earth wire to an inappropriate place may cause explosion or electric shock. Please connect accordingly (Taiwan and the Philippines only).

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IQ501 Search