

MARKLESS REGISTER CONTROL

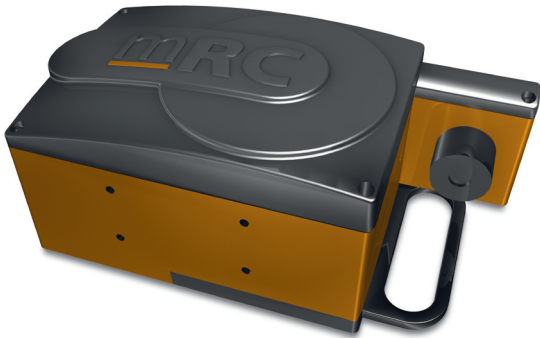


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The mRC (markless Register Control) is a fully automatic colour and cut-off register system for web offset presses. A digital camera with an integrated microprocessor ensures that the measured data is processed in real-time. The camera can use both the printed image and printed micro marks as its reference. When run in “markless” mode, the mRC uses the TIFF data as its reference.



Applications:

- Colour register in circumferential direction from printing unit to printing unit (unit to unit).
- Colour register of all colours in all directions relative to each other (colour to colour).
- Side laying the entire web using the web guide system (ink guide).
- Cut-off register.
- Side laying a web section using a turner bar.
- Correcting the lateral growth of the web downstream of the printing units compared to the web upstream of the printing units (fan-out).

What are the unique features?

- The mRC can work both with and without marks.
- On-line measurements on a free running web.
- Camera and data processing combined into one small component.
- Innovative optical technology using LED lighting.
- Easy to clean optics thanks to removable glass (IMS).
- VPN connection for remote diagnostics.
- Option of a motorised scanner for lateral pre-adjustment.
- 3 functions in 1 scanner: colour register, cut-off register and sidelay register.
- Easy to operate by means of a touch screen.

What are the advantages of the mRC?

- Less labour intensive thanks to automatic control.
- Greater net printing surface now that register marks are no longer necessary.
- Less waste because the different colours are automatically brought into register while starting up.
- Consistent quality, independent of job, printing company or press.
- Reliability due to quality, simplicity and intelligent software.
- Easy operation using a 19" touch screen.
- Easy to expand with Intelligent Quality Management for quality reporting.

Options:



- Air purge - a unique construction blows air across the lens to reduce cleaning to a minimum.
- Anti-embossing - all printing units are controlled such that ink build-up on the blankets is reduced and the wash frequency can be minimised.
- Automatic waste gate control if an error is greater than a preset value.
- Progressive control predicts and corrects for errors due to speed change before they occur.
- Front to back control ensures that the front of the printed web is brought into register with the back of the printed web.
- Compensator or phasor control: a compensator roller between the printing units is driven to enable large errors to be compensated quickly.
- Fan-out control: several mRC cameras measure the growth behaviour of the web to enable errors to be automatically compensated.
- Motorisation package for the circumferential and side-lay registers.

Specifications

Image recognition (markless):

Original:	Digital RIP data 1-Bit TIFF or TIFF/G4 files
Colours:	CMYK
Max. colour register error:	± 7.0 mm
Max. cut-off register error:	± 100 mm
Max. side-lay register error:	± 25 mm

Register marks:

ID:	 tiny	 small
Shape:	square	square
Mark size:		
Min.:	0.1 x 0.1 mm	0.3 x 0.3 mm
Max.:	0.3 x 0.3 mm	0.6 x 0.6 mm
Clearance:	5 x 5 mm	7 x 7 mm
Max. colours:	6	6

Range:

Min. side-lay:	± 1.5 mm	± 1.5 mm
Min. circumferential:	± 1.5 mm	± 1.5 mm
Max. side-lay:	± 2.5 mm	± 5.0 mm
Max. circumferential:	± 3.0 mm	± 7.0 mm

Camera:

Type:	CCD matrix
Maximum number of measurements:	40 per second
Light source:	LED
Lateral reading range:	25 mm
Focus depth:	± 14 mm
Max. web speed:	18 m/s
Minimum mark density:	0.6 D

Accuracy:

Colour register:	± 0.01 mm
Cut-off register / sidelay register:	± 0.1 mm

Operation:

19" touch screen

Temperature:

During operation:	- 5° C to + 45° C
In storage:	- 25° C to + 60° C

Impacts:

< 70 g

Vibrations:

< 7 g (11 - 200 Hz)

Certification:

CE / UL / FCC

Specifications may change without further notice.

