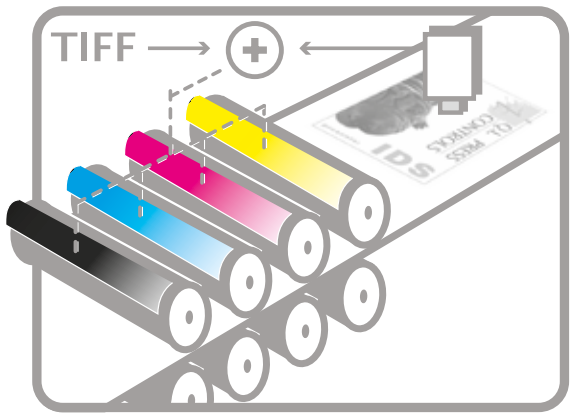
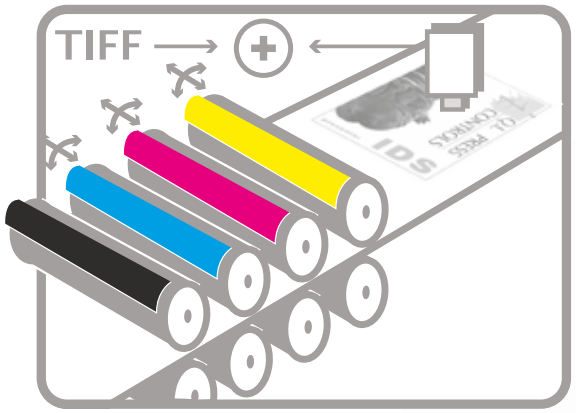
IDS-3D





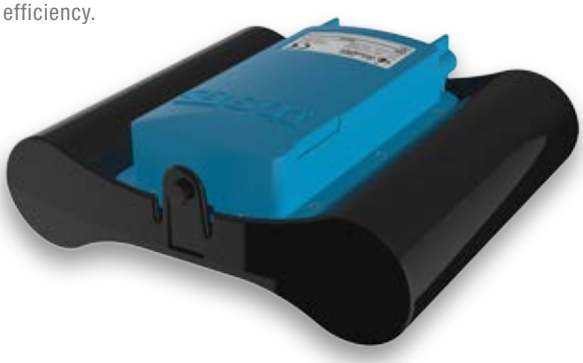
COLOUR AND REGISTER CONTROL SYSTEM

Q.I. PRESS CONTROLS

IDS-3D

COLOUR AND REGISTER CONTROL SYSTEM

IDS-3D is a fully automatic image based colour and register measuring and control system for web offset presses that also detects failures in print. A digital camera ensures that the measured data is processed in real-time and uses the digital file data as its reference. The ultimate result realized by IDS-3D is reproduction with absolute colour and register stability in products independent of job, printing company or press at minimum waste and maximum efficiency.



Applications for colour and register control by IDS-3D
- Automatic control of ink keys, ink fountain rollers and dampening units (Colour and damp control).
- Automatic control of colour register in all directions from all colours to each other (Colour-to-colour register).
- Measuring the register on multiple locations on the printing cylinder to define register deviations between plate positions and to control the web growth behaviour (Fan-out control & Plate to Plate Register).
- Alarm for the identification of production preparation failures such as incorrectly positioned plates (Production preparation failures).
- Alarm in case of production process failures (Production process monitoring).
- Press presetting tools and extensive reporting of production relevant information to optimize the printing process (Printing process optimization).

What are the unique features?
- Combined functionality of colour and register in one camera.
- Works by measurements in the print without the use of marks.
- Online measurements on a free running web.
- Automatic cleaning of the optics thanks to AIMS.
- Extensive “remote diagnostics” via VPN connection.
- Measurement of colours in print in CIELab colour values.
- Easy to operate by means of a touch screen.
- Combined control of ink and dampening.
- Detection of production preparation and process failures.

What are the advantages of IDS-3D?
- Single camera system reduces the need of multiple camera’s.
- Less labour-intensive thanks to automatic colour and register corrections.
- Less waste due to automatic colour and register optimization while starting up and recognition of incorrectly positioned plates.
- Alarms triggered by printing problems such as running dry.
- Reproduction with absolute colour stability, independent of job, printing company or press.
- Colour register information per individual page or plate position.
- Easy to expand for product quality reports via Intelligent Quality Management.

Options:
- Anti embossing: all printing units are controlled so that ink buildup on the blankets is reduced and the wash frequency can be minimized.
- Front to back register control ensures that the front of the printed web is brought into register with the back of the printed web.
- Waste gate control: dumping unsellable copies when produced.
- Error reporting button on operator screen.
- Alarm signals via traffic light.

Specifications

Camera:

Type:	3D - CMOS - 2.6 megapixel
Measurements:	60 per second– 400 DPI
Time to measure 1 Meter web width:	10 to 15 sec (depends on print)
Light source:	LED
Processor:	FPGA, Dual Core / DSP + ARM
Max. web speed:	18 m/s
Dimensions:	140 mm * 80 mm * 40 mm
Weight:	0.250 kg
Temperature during operation:	- 5° C to + 45° C
Temperature in storage:	- 25° C to + 60° C
Power consumptions:	0,16 kWh p/t during production. 0,1 kWh p/t during non production.
Impacts / Vibrations:	< 70 g / < 7 g (11 - 200 Hz)
Camera IP code:	IP67
Certifications:	CE / UL / FCC

AIMS :

Lifespan:	Approx. 9 Months, 150 refreshments

Motorized transport:

Speed:	2000 mm/s
Transport motor IP code:	IP65

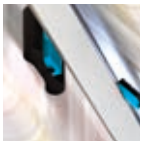
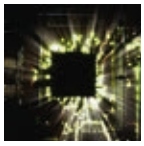
Colour and register control functionality from the image:

Digital reference image:	RIP data; 1-Bit TIFF or TIFF/G4 files
Colours:	CMYK / 2 x PMS only in colour bars.
Web stability condition:	± 3 mm (laterally + circumferentially) ± 4 mm (focus depth)
Accuracy CIELab colour value:	1ΔE
Accuracy raster percentage:	± 1 %
Accuracy dot gain:	± 2 %
Accuracy K-value:	± 2 %
Accuracy Density:	± D0.02
Accuracy Colour register:	± 0.01 mm
Colorimetrics measurements:	CIE L*a*b*, ΔE* CIELAB
Maximum colour register error:	± 3.0 mm
Minimum density:	0.6 D for CMYK
Density determination:	Density, Dot gain, Contrast

Measuring conditions:

Reference white:	Absolute, relative
Exposure profiles:	D50
Angle of observation:	2° optional: 10°
Density standards:	DIN 16536/Status-E, ANSI Status T.

Used Q.I. Press Controls owned patented technology:

Colour control from the image:
US5,774,635; EP0699132; EP 1551635; US7,040,232; NL2009786;
Print Failure detection: US5,774,635; EP0699132; US7,040,232;
Damp Control: US5,774,635; EP0699132; US7,040,232;
Register & Ribbon Control: US6,108,436; EP0850763; 2354230; US6,604,463;
AIMS: NL2008732;

Specifications may change without further notice.