IDS-3D
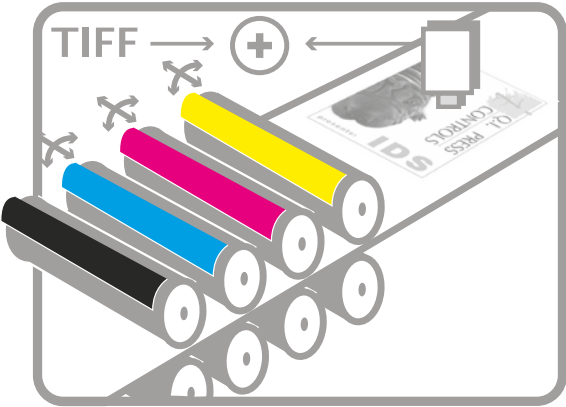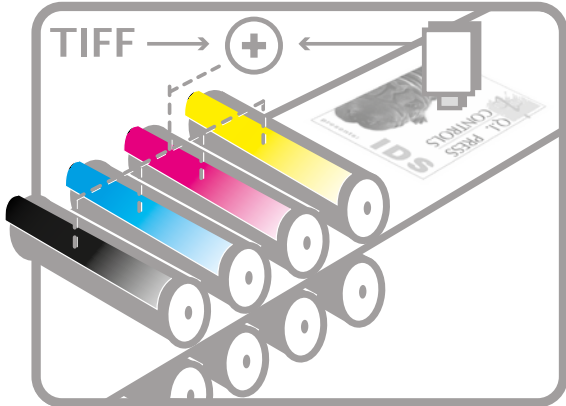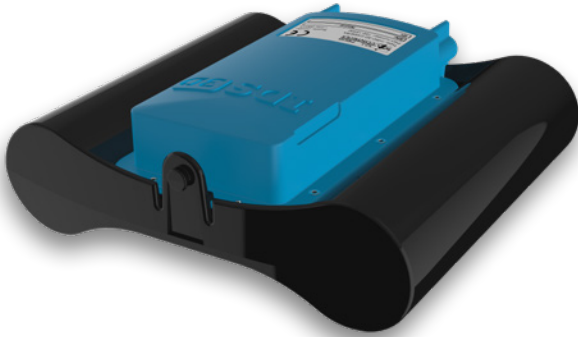
COLOR AND REGISTER CONTROL SYSTEM

Q.I. PRESS CONTROLS

IDS-3D

IDS-3D is a fully automatic image based color 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 color and register stability in products independent of job, printing company or press at minimum waste and maximum efficiency.

Applications for color and register control by IDS-3D

- Automatic control of ink keys, ink fountain rollers and dampening units (Color and damp control).
- Automatic control of color register in all directions from all colors to each other (Color-to-color register).
- Measuring the register on multiple locations on the printing cylinder to define register deviations between plate positions and to control the web growth behavior (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 color 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 colors in print in CIELab color 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 labor-intensive thanks to automatic color and register corrections.
- Less waste due to automatic color and register optimization while starting up and recognition of incorrectly positioned plates.
- Alarms triggered by printing problems such as running dry.
- Reproduction with absolute color stability, independent of job, printing company or press.
- Color 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 such 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.

Technical specifications IDS-3D

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:	59 ft/s
Dimensions:	5.5 in. * 3.2 in. * 1.6 in.
Weight:	8.82 oz.
Temperature during operation:	23° F to 113° F
Temperature in storage:	-13° F to 140° F
Power consumptions:	0.16 kWh p/t during production. 0.1 kWh p/t during non production.
Impacts / Vibrations:	< 2.5 oz. / < .25 oz. (11 -200 Hz)
Camera IP code:	IP67
Certifications:	CE / UL / FCC

AIMS :

Lifespan:	Approx. 9 Months, 150 refreshments

Motorized transport:

Speed:	6.5 ft/s
Transport motor IP code:	IP65

Color and register control functionality from the image:

Digital reference image:	RIP data; 1-Bit TIFF or TIFF/G4 files
Colors:	CMYK / 2 x PMS only in color bars.
Web stability condition:	$\pm$ 0.12 in. (laterally + circumferentially) $\pm$ 0.16 in. (focus depth)
Accuracy CIELab color value:	1 ΔE
Accuracy raster percentage:	$\pm$ 1 %
Accuracy dot gain:	$\pm$ 2 %
Accuracy K-value:	$\pm$ 2 %
Accuracy Density:	$\pm$ D0.02
Accuracy Color register:	$\pm$ 0.0004 in.
Colorimetrics measurements:	CIE L*a*b*, ΔE* CIELAB
Maximum color register error:	$\pm$ 0.12 in.
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:

Color 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.