



PRODUCTS



UNILUX[®]
The Power To See





LOL5

RUGGED, LIGHTWEIGHT
AND EASY TO USE

UNILUX[®]
The Power To See

LOL5



RUGGED, LIGHTWEIGHT AND EASY TO USE

The stroboscope LOL5 supplies the brightest, sharpest, most even illumination of any xenon light its size. Its small, rugged, lightweight design holds up in all types of operations. The LOL5 is available as handheld (for spot checking) or fixed mount version (for continuous inspection, e.g. on an articulating arm). The new portable model comes with high-performance lithium-ion batteries.

Pinpoint defect origins quickly and efficiently.

KEY FEATURES

- Superior design reflectors offer uniform area illumination
- Adjustable intensity 35% to 100%
- Flash ranges of 6,000 f/m or 12,000 f/m
- Accept remote synchronization (trigger) signals
- Optional remote control with harmonics and readout
- Self contained design - no separate high voltage power supply
- Operates 18V 2AH battery for handheld
- A wide variety of mounting methods for fixed mount



APPLICATIONS

Printing & Converting

Inspection of print quality
Print-to-die and die-to die registration
Slit edge
Laminating and coating quality

Metals

Tin mills
Surface inspection on galvanizing lines
Portable in-line inspection

Maintenance

High speed motion timing
Detection of slippage in belts & webs
Motor speed measurement
Inspection of shafts, gears, pulley and bearings
Vibration analysis

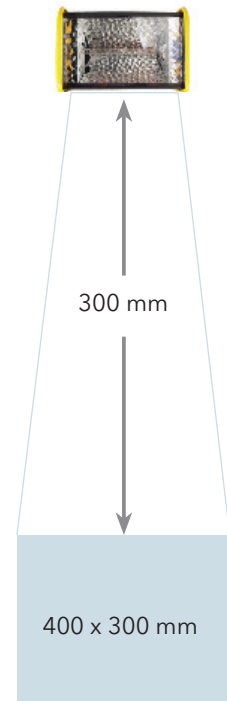
Textiles

Spinner analysis



Model number	HANDHELD	FIXED MOUNT
	03-1262-DC	03-1097-2
Power input		
Power supply	N/A	12 to 16 Volts; 30 watts max
Battery	18V 2AH	N/A
Triggering		
Pulse source	+2.5 V pk min to +24 V max zero based pulse, 100 µsec min pulse width, 2kΩ input impedance	
Contact closure or open collector	Nominal 12VDC @ 50mA; 100µsec to 1msec width	
Trigger supply	Regulated 12 to 16 Volts DC, internally connected to power input	
Intensity output	Adjustable between 35% to 100%	
Energy output		
@ 1,500 flashes per minute	0.7 joules/flash	
@ 6,000 flashes per minute	0.175 joules/flash	
Light output (in a distance of 0.3 meters)		
@ 100% intensity and 1,500 f/m	750 Lux	
@ 100% intensity and 6,000 f/m	645 Lux	
Flash duration	20 microseconds	
Intensity levels	35% to 100% continuous adjustment	
Physical dimension		
Size (L x W x H)	140 x 135 x 268 mm	140 x 135 x 97 mm
Weight	1.45 kg (2Ah battery included)	0.89 kg (lighthouse only)
Environmental		
Operating temperature range	0 to 40°C	
Humidity	95% noncondensing	

LIGHT OUTPUT & COVERAGE



INTENSITY CONTROLS

LOL-5 includes built-in intensity controls allowing the operator to toggle between two modes by pressing on the rotary dial. The two modes, flash rate and intensity, allow complete control of both flash rate (0 to 6,000 f/min) and brightness (35 to 100%).



The above LOL-5 displays a value of 5,928 flashes /minute



The above LOL-5 displays a brightness value of 100%

REMOTE CONTROL (Option)

Allows the operator rate control for hard to reach applications. The remote control provides flash rate control setting, harmonic buttons X2/+2, on/off flash signal and digital readout of flash rate.



ARTICULATING ARM

The flexible articulating arm allows 40 inches of reach when movement within a defined inspection area is needed. Prevents unit from being dropped or banged around when not being used.

Further mounting options available.





MITI-LITE

PORTABLE INSPECTION
AND PINPOINT DEFECTS
OVER A WIDE AREA

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MITI-LITE



PORTABLE INSPECTION AND PINPOINT DEFECTS OVER A WIDE AREA

The Miti-Lite illuminates the largest area of any battery operated strobe. So inspecting for surface quality, formation activity, and coating defects, or pinpointing defect origins at full production speed can be done anywhere in the process.

This stroboscope also synchronizes easily to many video recorders or cameras to provide a motion analysis tool that reduces diagnostic maintenance by 90%. Now detail study, training tapes, and fine details of surface quality are easily seen.

KEY FEATURES

- Designed for harsh conditions of steel and paper mill operations
- 3 different intensity settings
- 3 flash ranges: 6,000, 12,000 & 18,000 flashes per minute
- Phase control for camera synchronization
- Accepts remote synchronization (trigger) signals
- Superior design reflector offers uniform area illumination

SEE FINE DETAILS



(without strobe)



(with strobe)

Source: PMS GmbH/Offenburg

The Miti-Lite makes fast moving surfaces look like they are moving in slow or stop action view. This allows fine surface defects to stand out, allowing operators to use their knowledge of the product, process or equipment to determine the cause of any problem and its solution.

APPLICATIONS

Metals

Surface inspection on

- Galvanizing lines
- Tin mills
- TL & recoil lines

Paper

Analysis of

- Paper quality
- Clouding
- Hole search

Printing and Converting

Inspection of

- Print quality
- Laminating & coating quality from unwind to rewind

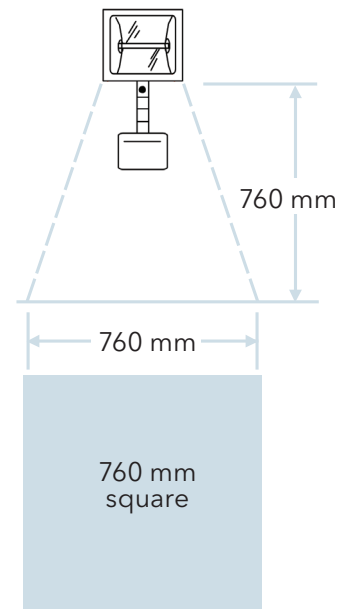


SPECIFICATIONS

MITI-LITE

Model number	03-1118-VC
DC Power Pack	Rechargeable Lithium-Ion Battery, 18V, 5AH
Triggering	
Pulse source	> +2.5 V pk, 100µs min pulse width, Input impedance 10kΩ
Contact closure	> 8 VDC @ 10mA rating
Video	1Vp-p unterminated, triggers from 50Hz-60Hz vertical sync 0-360 Degree phase delay adjustment available when using external triggering. Phase delay accuracy ± 1 degree
Energy output	
Energy per flash is set by selected intensity level as follows:	
100% Intensity	0.85 joules / flash
66% Intensity	0.43 joules / flash
33% Intensity	0.28 joules / flash
Light output	
at 100% intensity, 6,000 f/m	900 Lux (in a distance of 1 meter)
Flash duration	20 µs
Physical dimension	
Size (L x W x H)	168 x 162 x 333 mm (5Ah battery included)
Weight	2.3 kg (5Ah battery included)
Environmental	
Operating temperature	0 to 40°C
Humidity	95% noncondensing

LIGHT OUTPUT & COVERAGE



MOTION ANALYSIS

Using the Miti-Lite with either video or still cameras, allows recording and storage of images of every aspect of the machine's operation when running properly. Mill operators can use those images as reference points when checking the machine for adjustments and analysis of problems that require action be taken. This reduces diagnostic maintenance time by 90%.

ACCESSORIES



Sling pouch

Prevents dropping and allows hands free carrying of the light while mill personnel go up and down stairs and in between parts of the paper machine.

Shipping & storage case

Whether you're moving the light between mills or between machines, the softpack canvas case makes it easy to carry everything you need for inspection. With the ATA rated hard case for air shipments, you never have to worry about anything breaking in transport.

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Our knowledgeable local sales representatives will review your requirements with you to help determine which Unilux stroboscope is best for your process. We will bring our products to your facility for an on-site-demonstration. For further information visit our website at www.unilux.com. ©Unilux, Inc. 2021. All rights reserved. Specifications subject to change without notice.



HANDHELD

ACHIEVE CRYSTAL
CLEAR DETAIL,
ANYWHERE IN YOUR
PRODUCTION
PROCESS

UNILUX[®]
The Power To See



HANDHELD

WHITE STROBOSCOPIC INSPECTION LIGHTS

ACHIEVE CRYSTAL CLEAR DETAIL, ANYWHERE IN YOUR PRODUCTION PROCESS.

Unilux handheld stroboscopic lights allow you to quickly confirm quality and spot product imperfections anywhere on the line.

Each model provides powerful output to inspect fine detail in any location now made even easier by units that are one-third lighter than previous models. An adjustable flash rate and flash duration make it easy to synchronize with the speed of motion so you can inspect quality, reduce waste, and deliver the quality product that your customers are expecting. These portable units come in flood, spot and UV versions.

APPLICATIONS

Printing	Converting	Paper	Metals	Textiles
Inspection of print quality and registration, folding alignment, security print inspection and embossing quality	Trimmed edge and performance analysis Surface inspection of adhesive and coatings Die-to-die registration	Inspection of felt & wire, formation, dewatering, turbulence, bearings & gears, surface quality	Pinpoint the location and cause of surface defects	Inspection of weaving, spinning, drawing of thread or yarn

KEY FEATURES

- Range of coverage options: From tight spaces to wide open areas
- Exceptional brightness and precise control over settings to quickly and consistently spot defects
- High quality, durable metal construction
- For maintenance & portable inspection
- Different types of lenses available: Standard-FLOOD and SPOT coverage. Please ask for LED-UV strobes in case you want to inspect security elements.



HANDHELD

WHITE STROBOSCOPIC INSPECTION LIGHTS

LED1

The bright stroboscope that fits in any pocket

On-site inspection of small areas - that is the specialty of the LED1. This handy stroboscope is designed for narrow web inspection, but also for maintenance and troubleshooting, e.g. machine parts.



Model number	03-1249
Battery run time	up to 4 hours
Light output (in 30 cm distance)	1,940 lux
Coverage (in 30 cm distance)	125 mm Ø
Flash rate	300 - 50,000 flashes per minute
Flash duration	10 µs to 1% of the flash period capped at 100 µs
Size	147 x 89 x 25 mm
Weight	0.3 kg

LED3

Inspection light all-rounder for almost every application

For inspection in narrow spaces, the LED3 is twice as bright as prior models. A compact, light-weight design makes it ideal for narrow web inspection to ensure print, registration and slit quality. Available in standard flood and spot coverage.



	STANDARD FLOOD coverage	SPOT coverage
Model number	03-1247-DC-F	03-1247-DC-S
Light output (in 30 cm distance)	2,660 lux	4,990 lux
Coverage (in 30 cm distance)	220 x 130 mm	122 x 118 mm
Battery run times	up to 3 hours (w/2Ah battery) up to 7 hours (w/5Ah battery)	
Flash rate	30 - 50,000 flashes per minute	
Flash duration	2 µs to 1% of the flash period capped at 100 µs	
Size (w/2Ah battery)	132 x 107 x 234 mm	
Weight (w/2Ah battery)	1.1 kg	

LED9

The brightest, lightest, most efficient inspection light in its class

The LED9 is perfectly suited for inspection in narrow spaces. With its exceptionally bright light, you will be able to see clear detail at full production speed. Available in standard flood and spot coverage.



	STANDARD FLOOD coverage	SPOT coverage
Model number	03-1253-DC-F	03-1253-DC-S
Light output (in 60 cm distance)	1,430 lux	3,120 lux
Coverage (in 60 cm distance)	430 x 230 mm	218 x 214 mm
Battery run times	up to 2.5 hours (w/2Ah battery) up to 6.0 hours (w/5Ah battery)	
Flash rate	30 - 50,000 flashes per minute	
Flash duration	2 µs to 0.5% of the flash period capped at 100 µs	
Size (w/2Ah battery)	132 x 107 x 234 mm	
Weight (w/2Ah battery)	1.1 kg	

HANDHELD

WHITE STROBOSCOPIC INSPECTION LIGHTS

LED12

Crystal clear inspection at a distance

Solve your production and inspection problems close to their source. The LED12 has twice the light output of its predecessor and offers higher performance levels.

Model number	03-1266-DC-S
Battery run time	up to 2 hours (w/2Ah battery) up to 4 hours (w/5Ah battery)
Light output & coverage	
in 30 cm distance	300 mm Ø / 4,750 lux
in 90 cm distance	450 mm Ø / 1,331 lux
Flash rate	30 - 99,999.9 flashes per minute
Flash duration	2 µs to 1% of the flash period capped at 100 µs
Size & Weight	
w/2Ah battery	184 x 119 x 287 mm / 1.6 kg
w/5Ah battery	184 x 119 x 304 mm / 1.8 kg
Triggering	Pulse (TTL), open collector or contact closure



LED27

Powerful and extremely versatile

It is the only portable inspection strobe that features Smart Assist graphic interface for easy operation in multiple languages. Rugged metal construction ensures that the LED27 is ready to perform when you need to take it out on the line.

	FLOOD coverage	SPOT coverage
Model number	03-1251-DC-F	03-1251-DC-S
Light output (in 60 cm distance)	1,900 LUX	8,250 LUX
Coverage (in 60 cm distance)	750 x 520 mm	390 x 370 mm
Flash rate	30 - 99,999.9 flashes per minute	
Flash duration	2 µs to 1% of the flash period capped at 100 µs	
Size & weight	146 x 106 x 296 mm / 2.1 kg	
Triggering	Pulse (TTL), open collector or contact closure	



Flood

Spot

LED BEACON

Detect paper formation problems anywhere in the papermill

A versatile inspection strobe light ideal for evaluating dozens of functions in the paper manufacturing process to ensure quality of the end product. Efficient, clear evaluation of all high-speed operations of the paper machine at any distance required.

Model number	03-1254-DC-S-IP
Battery run time	up to 1.5 hour (w/5Ah battery)
Light output & coverage	
in 1.0 meter distance	400 mm Ø / 683 lumen - 4,030 lux
in 2.0 meters distance	800 mm Ø / 683 lumen
in 4.6 meters distance	1500 mm Ø / 683 lumen
Flash rate	30 - 99,999.9 flashes per minute
Flash duration	2 µs to 0.5% of the flash period capped at 100 µs
Size & Weight	184 x 119 x 304 mm / 1.8 kg (w/5Ah battery)
Triggering	Video, pulse (TTL), open collector or contact closure



HANDHELD

WHITE STROBOSCOPIC INSPECTION LIGHTS

LOL5

Rugged, lightweight and easy to use

This powerful light supplies bright, sharp, even illumination. The LOL-5's rugged design holds up in all types of operations.

Model number	03-1262-DC
Light output (in 30 cm distance)	645 lux
Coverage (in 30 cm distance)	400 x 300 mm
Flash rate	30 - 6,000 flashes per minute
Flash duration	20 μ s
Size & Weight	135 x 140 x 268 mm / 1.45 kg
Triggering	Pulse source, contact closure or open collector



MITI-LITE

Spot checking and pinpointing defects over a wide area

The Miti-Lite illuminates the largest area of any portable Xenon strobe. So inspecting for surface quality, formation activity, and coating defects, or pinpointing defect origins can be done anywhere on the line.

Model number	03-1118-VC
Light output (in 1000 mm distance)	900 lux
Coverage (in 760 mm distance)	760 x 760 mm
Flash rate	30 - 18,000 flashes per minute
Flash duration	20 μ s
Size & Weight	168 x 162 x 333 mm / 2.3 kg
Triggering	Video 1Vpp unterminated, pulse source or contact closure



HEADQUARTER AND FACTORY

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LEDUV

STROBOSCOPIC INSPECTION LIGHTS



SUPERIOR LIGHT OUTPUT FOR UV SECURITY INSPECTION

Insufficiently protected documents can be easily copied or forged. UV visible inks are used in text and image elements as an effective measure to maintain security. With the help of UV inspection strobe lights, the quality of the security elements can be checked during printing process.

By using LED diodes instead of UV filters that cover the lenses of Xenon-based strobes, Unilux eliminates the filter penalty. The penalty was the result of using the filter to remove various visible wavelengths of light, thereby reducing the strobe light's output. Without the need for a filter, UV diodes can emit full lighting power, thereby making them 10 times brighter than comparable Xenon lights with filters. And, because LED strobe lights eliminate the hot spots found in Xenon lights, inspectors get a much more uniform view across the web.

KEY FEATURES

- Available in handheld and fixed mount versions
- Adjustable flash rate from 30 to 99,999.9 flashes per minute
- Separate flash rate & flash duration adjustments
- 10 times brighter output than Xenon UV's
- Even illumination from 280 up to 2300 mm
- Wavelength 365nm



SECURITY PRINTING & COATING APPLICATIONS

Financial

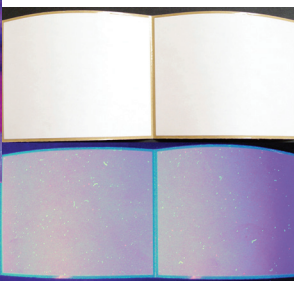
Tax documents
Financial documents
Checks
Bank notes
Serial numbers
Currency
Credit card foils

Government

Ballots
Identification cards
Passports
Government bonds
Postage stamps
Lottery tickets
Prescription pads

Product

Anti-tampering devices
Product authentication
Date & lot validation
Anti-counterfeiting
Promotions
Coatings
Polyester films



LED1UV

Light, bright, robust & easy to use

A powerful and highly portable inspection light for the inspection of UV-visible inks and coatings. It is small enough to fit in your pocket, but its light output is strong enough for you to see the smallest details.



Model number	03-1250
Power requirements	4W (9VDC @ .44A max)
Battery run time	up to 4 hours
Light output	150 $\mu\text{W}/\text{cm}^2$ (at 300mm distance)
Coverage	280mm \varnothing (at 300mm distance)
Flash rates	300 - 50000 flashes per minute
Flash duration	10 μs to 1% of the flash period capped at 100 μs
Size	147 x 89 x 25 mm
Weight	0.30 kg

LED9 UVX

Bright, flexible and cost-efficient

Compact, lightweight design makes it ideal for inspecting narrow webs to ensure quality of elements printed with UV-visible inks. By spreading the usable illumination more evenly, UVX strobes provide a truer representation of print or coating quality by eliminating hot spots. Quickly catch defects and correct them at the source before they ruin a run. Available as hand-held or for fixed mount.



	Handheld	Fixed mount
Model number	03-1268-DC-UVX	03-1268-UVX
Power requirements	18V 2Ah	15W (15VDC @ 1A)
Battery run time (2Ah)	up to 6 hours	--
Size	132 x 107 x 234 mm	126 x 102 x 64 mm
Weight	1.10 kg	0.52 kg
Light output	1830 $\mu\text{W}/\text{cm}^2$ (at 300mm distance) 680 $\mu\text{W}/\text{cm}^2$ (at 600mm distance) 1960 $\mu\text{W}/\text{cm}^2$ (peak radiance)	
Coverage	300 x 350mm (at 300mm distance) 400 x 425mm (at 600mm distance)	
External trigger source	0 - 833 Hz	
- Pulse (TTL) & open collector	3.5V-40V @ 10mA 500ns min pulse width	
- Contact closure	15V and ground supplied 500ns min pulse width	
Flash rates	30 - 50000 flashes per minute	
- Internal trigger mode	30 - 50000 flashes per minute	
- External trigger mode & encoder mode	0 - 50000 flashes per minute	
Flash duration	2 μs to 1% of the flash period capped at 100 μs	
Humidity	0-95% noncondensing	
Operating Temperature	0 - 50°C	



LED12 UVX

Crystal Clear Inspection for Security Printing and Packaging

Our most light-intensive UV handheld stroboscope for the inspection of security printing, coatings, sealers, and incandescent inks. It combines the operational and environmental benefits of LEDs with the power of Xenon-based strobes.

Model number	03-1269-DC-UVX
Power requirements	18V 2-5Ah
Battery run time (2Ah)	up to 3 hours
Size	203 x 119 x 287 mm (with 2Ah battery) 203 x 119 x 304 mm (with 5Ah battery)
Weight	1.7 kg (with 2Ah battery) 1.9 kg (with 5Ah battery)
Light output	7100 $\mu\text{W}/\text{cm}^2$ (at 300mm distance) 2800 $\mu\text{W}/\text{cm}^2$ (at 600mm distance) 9900 $\mu\text{W}/\text{cm}^2$ (peak radiance)
Coverage area	400 x 300 mm (at 300mm distance) 530 x 380 mm (at 600mm distance)
External trigger source	0-1666.65 Hz
- Pulse (TTL)	4.5V - 40V @ 10mA 500ns min pulse width
- Open collector	4.5V - 40V @ 10mA 500ns min pulse width
- Contact closure	15V and Ground Supplied 500ns min pulse width
Flash rates	
- Internal trigger mode	30 - 99999.9 flashes per minute
- External trigger mode	0 - 99999.9 flashes per minute
Flash duration	2 μs to 1% of the flash period capped at 100 μs
Operating temperature	0 - 40°C
Humidity	0 - 95% noncondensing



LED250 UV (concentrated)

Superior light output for inspection of UV-visible inks and coatings

Achieve crisp detail in narrow, medium and wide-web inspection of security printing and coatings. Detect the smallest of defects in security applications to ensure quality on every UV product you deliver.

Model number	03-1244-250
Power requirements	65W (100V @ .85A)
Light output	8130 $\mu\text{W}/\text{cm}^2$ (at 300mm distance) 9650 $\mu\text{W}/\text{cm}^2$ (peak radiance)
Coverage	500 x 400mm (at 300mm distance)
Size	285 x 99x 155mm
Weight	2.47 kg
External trigger source	0 - 1666.65 Hz
- Pulse (TTL) & open collector	4.5V - 40V @ 10mA 500ns min pulse width
- Contact closure	15V and ground supplied 500ns min pulse width
Flash rates	
- Internal trigger mode	30 - 99999 flashes
- External trigger & encoder mode	0 - 99999 flashes
Flash duration	2 μs to 1% of the flash period capped at 100 μs
Operating temperature	0 - 40°C
Humidity	0 - 95% noncondensing



LED500 UVX, LED1000 UVX & LED1500 UVX

Superior light output for full width inspection of UV-visible inks and coatings

Achieve crisp detail in medium and wide-web inspection of security printing and coatings. Detect the smallest of defects in security applications to ensure quality on every UV product you deliver.

Model number	03-1270-500	03-1270-1000	03-1270-1500
Power requirements	135W (100V @ 1.5A)	270W (100V @ 3.0A)	405W (100V @ 4.5A)
Light output in 300mm distance Peak radiance	5950 $\mu\text{W}/\text{cm}^2$ 7660 $\mu\text{W}/\text{cm}^2$	5950 $\mu\text{W}/\text{cm}^2$ 7660 $\mu\text{W}/\text{cm}^2$	5950 $\mu\text{W}/\text{cm}^2$ 7660 $\mu\text{W}/\text{cm}^2$
Coverage in 300mm distance	800 x 600mm	1300 x 600mm	1800 x 600mm
Size	513 x 114 x 155 mm	970 x 114 x 155 mm	1428 x 114 x 155 mm
Weight	4.22 kg	7.64 kg	11.02 kg
External trigger source	0-1666.65 Hz		
- Pulse (TTL) & open collector	4.5V - 40V @ 10mA 500ns min pulse width		
- Contact closure	15V and ground supplied 500ns min pulse width		
Flash rates	30 - 99999 flashes per minute		
- Internal trigger mode	0 - 99999 flashes per minute		
- External trigger & encoder mode			
Flash duration	2 μs to 1% of the flash period capped at 100 μs		
Operating temperature	0 - 40°C		
Humidity	0 - 95% noncondensing		



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UNIPRINT

SUPERB IMAGE QUALITY,
RICH FEATURES
AND RELIABILITY

 **UNILUX**[®]
The Power To See



UniPRINT



SUPERB IMAGE QUALITY, RICH FEATURES AND RELIABILITY









UniPRINT vision systems set new quality standards in web inspection with user-friendly, intuitive operation.

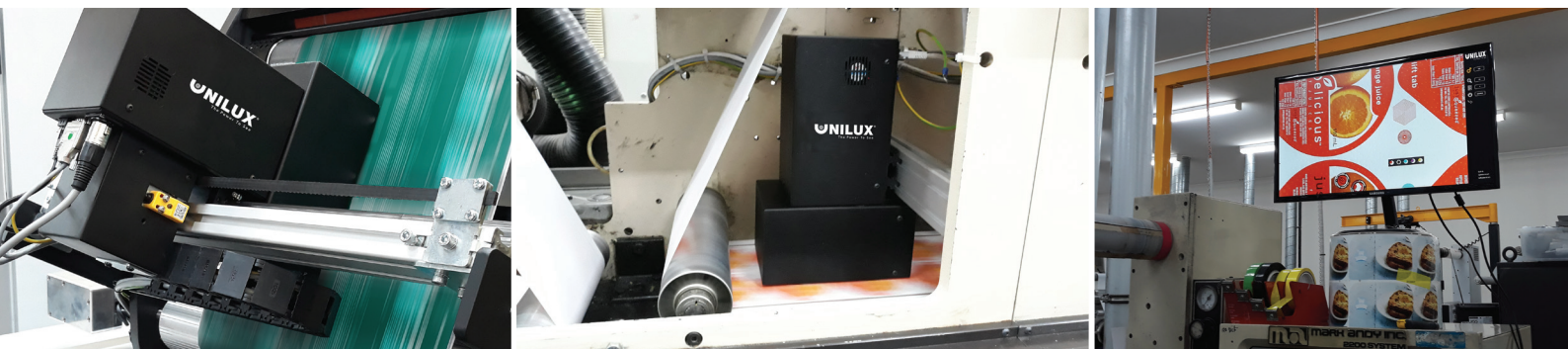
Our range of web inspection systems provide printers with best-in-class quality and value for money.

Offering a crystal-clear image, touch-screen operation, and robust industrial build quality, exceeds the specifications of other web monitoring systems in its price range.



Depending on your inspection needs, you can choose the standard software package or upgrade to advanced inspection features with Pro version.

UniPRINT - web inspection without compromise.

-  **High-Definition Digital Imaging** with world class Sony imaging sensors
-  **Progressive Scan Camera**
-  **Powerful 18X Optical Zoom**
-  **Large 130 x 100 mm viewing area** as standard
-  **Touch Screen Operation**
-  **Inspect Standard or UV-Visible Inks** and coatings
-  **Precision achromatic close-up lens**
-  **Variable speed traverse** (up to 300 mm/sec)



Choose from one of the three high-definition camera formats.
Consider your machine size and the available space and whether you need a motorized traverse or the lower cost manual traverse option.

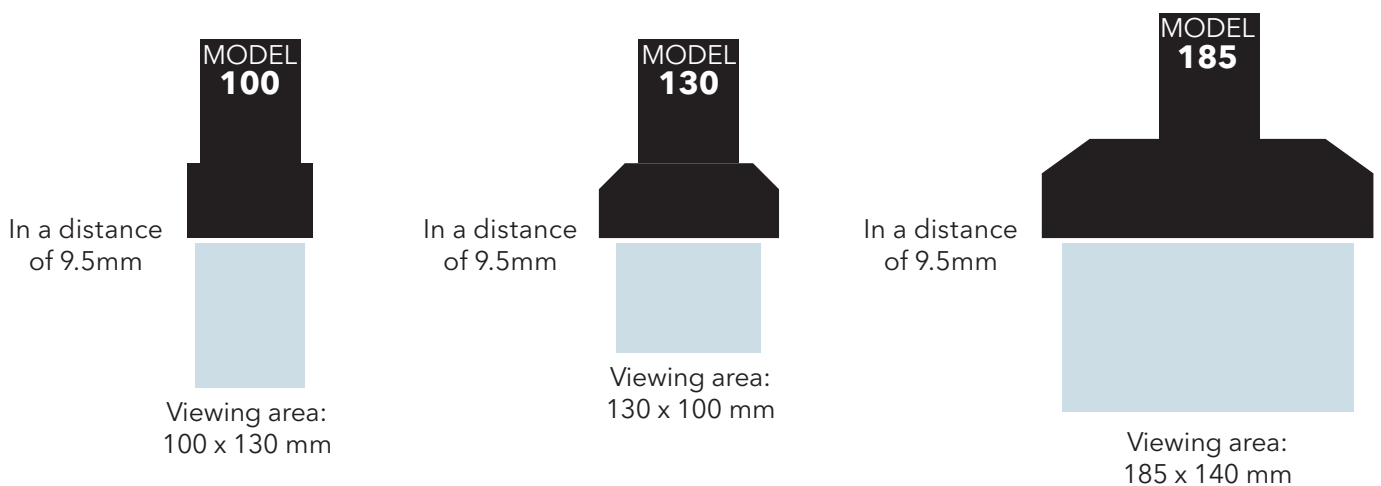
HARDWARE MODELS	APPLICATIONS
<p>MODEL 100</p> 	<p>The model 100 is the ideal system for narrow web machines.</p> <p>With its specially designed light chamber and fixed 90 degree camera rotation the model 100 achieves a very large 100 x 130 mm field of view in a compact size.</p>
<p>MODEL 130</p> 	<p>The model 130 is an excellent entry level wide web product surpassing the specifications of many other system in its price range.</p> <p>With 130 mm x 100mm field of view, 18x optical zoom and dual strobes, model 130 images are crystal clear providing exceptional value for money.</p>
<p>MODEL 185</p> 	<p>The model 185 is the ideal choice for high quality wide web inspection.</p> <p>It provides the user with an extended 185 x140 mm field of view illuminated by Quad xenon strobes.</p> <p>When combined with an optional touch screen and advanced Print Vision software, the model 185 will satisfy the most demanding inspection needs.</p>

POWER	w/Manual traverse: 24V, 1.7A 40W with 110-220VAC adapter w/Motorized traverse: 24V, 5A 120W with 110-220VAC adapter		
SPEED	Web speed up to 450 m/min		
RESOLUTION	High resolution camera for excellent color reproduction		
DISPLAY	Monitor with Keypad or Touchscreen Monitor. HDMI output monitor with a resolution of 1920 x1080. Combine multiple screens with HDMI splitter.		
TRAVERSE	Manual or Motorized available. Rotary encoders available for servo presses, with the ability to add an eye mark sensor for reset purposes.		
MODEL	100	130	185
DIMENSIONS in mm W x L x H	120 x 301 x 228 (manual) 120 x 301 x 262 (motorized)	150 x 300 x 274 (manual) 150 x 302 x 308 (motorized)	232 x 403 x 351 (motorized)

	BASE	STANDARD	PRO
Keypad with standard monitor	X	-	-
Touch screen monitor	-	X	X
Split screen	X	X	X
Automatic constant scan*	X	X	X
Label checking*	X	X	X
Register mark memory*	X	X	X
Horizontal automatic constant scan - speed based*	-	X	X
Vertical automatic constant scan*	X	X	X
Electronic web edge*	X	X	X
Scan positions*	-	X (9)	X (18)
One touch positioning*	-	X	X
Image centering*	-	X	X
Multiview*	-	X	X
Image to disc	-	X	X
Webmap*	-	-	X
Jobs database*	-	-	X

*Requires motorized traverse system

FIELD OF VIEW OPTIONS





ONE TOUCH POSITIONING

Unique One Touch Positioning Control allows rapid camera navigation to any part of the web.

MULTIPLE DYNAMIC SCAN MODES

Horizontal or vertical scanning, continuous mode or with pauses at each scan location. Dynamic Scan controls allow complete adjustment of camera speed, step size and dwell time at each scan position. All settings can be changed while the camera is scanning. This ensures that all of the web is scanned optimally.

SCAN POSITION GALLERY - VISUAL POINTS OF INTEREST

For particular points of interest on the print repeat, the Scan Position Gallery easily stores the position and zoom setting complete with an image of the web position. Simply touching a Scan Position thumbnail causes the camera to move rapidly to that web position and magnification.

AUTO SCAN POSITION PLAYBACK

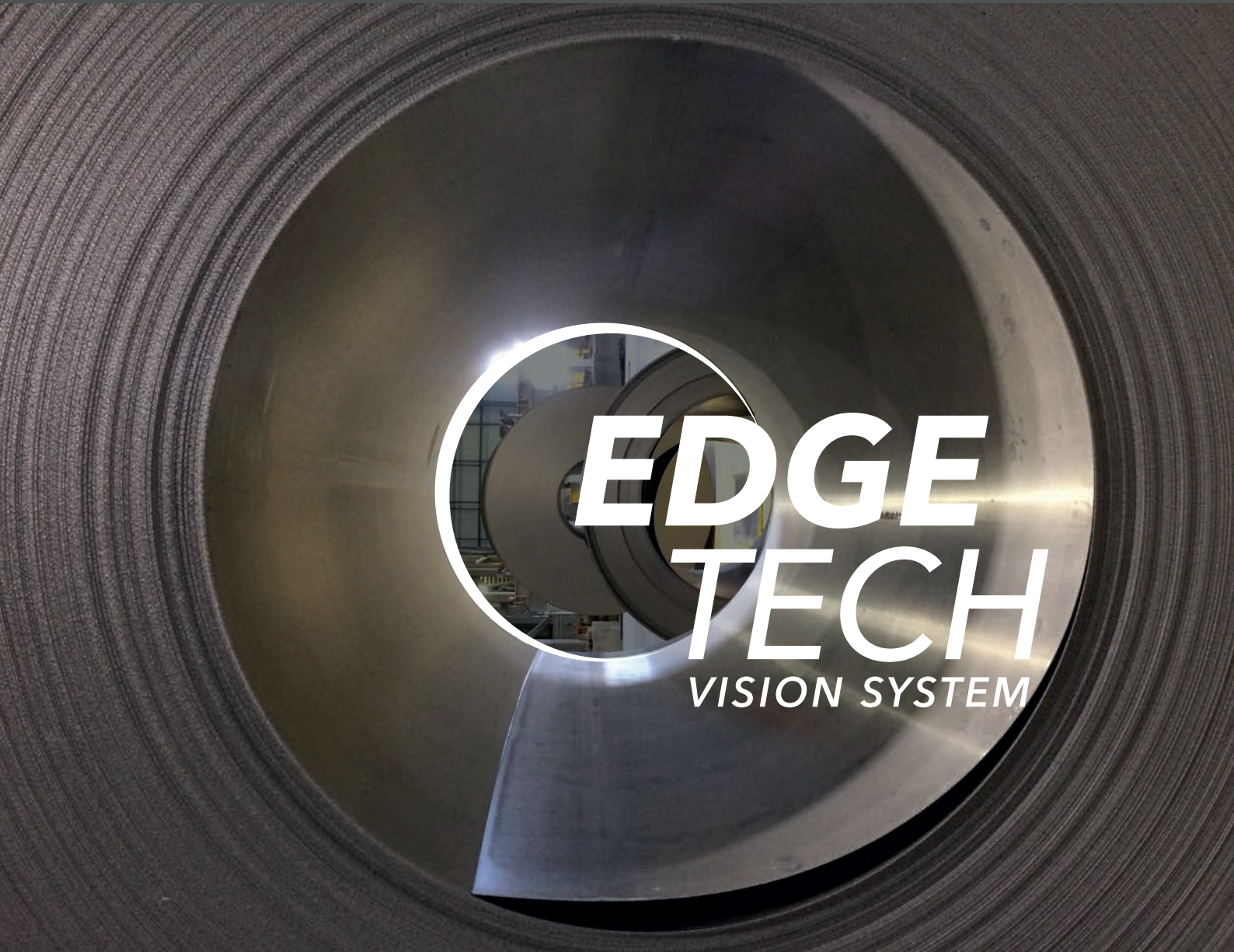
Any or all of the stored scan positions can be selected for inclusion in a playback sequence. Simply pressing program playback sets the camera into an automated positioning mode where it will rapidly move to each of the programmed positions and zoom magnifications. This is an extremely useful feature when inspection of multiple critical print features is required.

MULTIVIEW

The Multiview feature creates an innovative image buffer allowing the operator to not only see the current camera image, but also to see a series of images that were recorded over the previous captures. When used in conjunction with one of the automatic scanning programs this feature allows the operator to view the print quality of a very large area of the web at once.

RAPID POSITIONING

The webmap feature makes a full scan of the entire print repeat at the touch of a button and creates a composite image of the whole web. Once the webmap has been created simply touching any point on the webmap causes the camera to move rapidly to that exact position.



**EDGE
TECH**
VISION SYSTEM

FLAWLESS TRIM COIL AFTER COIL

INSPECTION TECHNOLOGY FOR TODAY (AND TOMORROW).

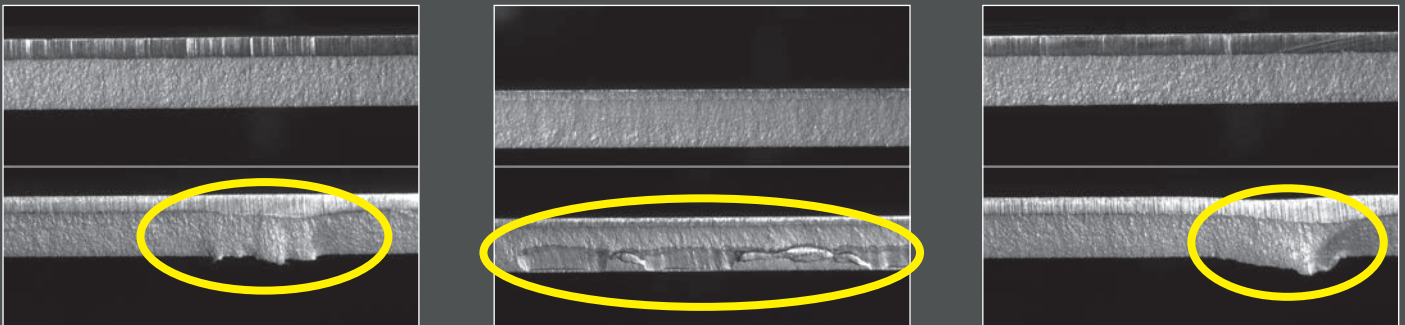
Retrofit existing lines with Edge Tech today and start gathering intelligence to increase efficiency and yield. Machine learning features provide faster response to defects identified as critical for your operation, which will help you to keep up with the production needs of tomorrow. Invest today with the benefit of knowing you can upgrade as new features are released.



REAL-TIME INSPECTION OF TRIM EDGE QUALITY

Bad edges on metal strips result in downgrading, scrapping, or re-trimming. Worst case, the bad edge will also damage your working rolls in further processing lines. The Edge Tech Vision System allows detailed inspection of the trimmed edge on both sides of the strip immediately after trimming. Strip edge quality, knife wear, problems in knife settings and knife cracks can be seen, corrected, and then checked in real time to ensure that the problems have been eliminated.

Aided by the use of powerful high-speed lights, high-resolution cameras capture and display a short segment of the trimmed edge. Edge Tech provides the operator with a large magnification and a simultaneous split screen display of both edges.



Metal mills are all familiar with the common practice of metal trimming. Naturally, the quality of the edge trim, along with the position and wear of the knives is something the operator cannot check at the line without risks. With the danger of visually inspecting a running metal line at a close proximity there is no way to check the quality of the trim. That means defects will go unnoticed until it is too late. Not knowing the edge cut quality or cut depth ratio to break is a huge limitation in this process.

MORE OPTIONS. MORE INSIGHT. LESS SCRAP.....LEARN MORE >

STILL INSPECTING METAL LIKE YOUR GRANDFATHER?

For the first time, operators can monitor edge quality before the coil is finished, from the safety of the pulpit. Operator safety is improved by limiting interaction with trim knives to only when necessary. Monitor and inspect the trim edge in high definition - already during the production process.

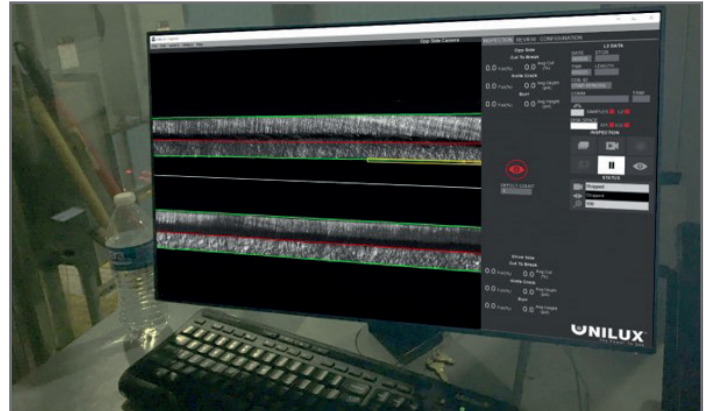
Edge Tech lets the operator know what is happening with every coil in real time.

Old (grandfather's) way



Old way of inspecting edge trim quality after the coil is completed

New (efficient) way

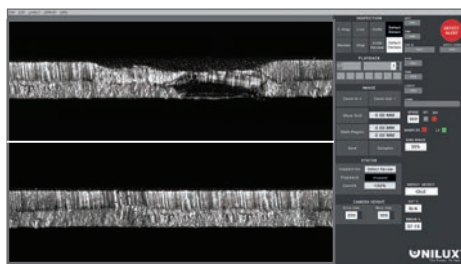


New way of inspecting edge trim quality as trimming occurs so problems can be addressed immediately

Mills and coil processors can add a measurable benefit that comes from the productivity operators have gained by immediately knowing the edges' quality without having to wait for the coil to finish and have someone go down to the line and inspect a coil manually. It allows them to schedule jobs more efficiently, and that allows mills and coil processors to schedule their deliveries with more certainty - without delays from rework or rescheduling additional coil processing.



A knife crack



How it appears on Edge Tech



As seen on a processed coil

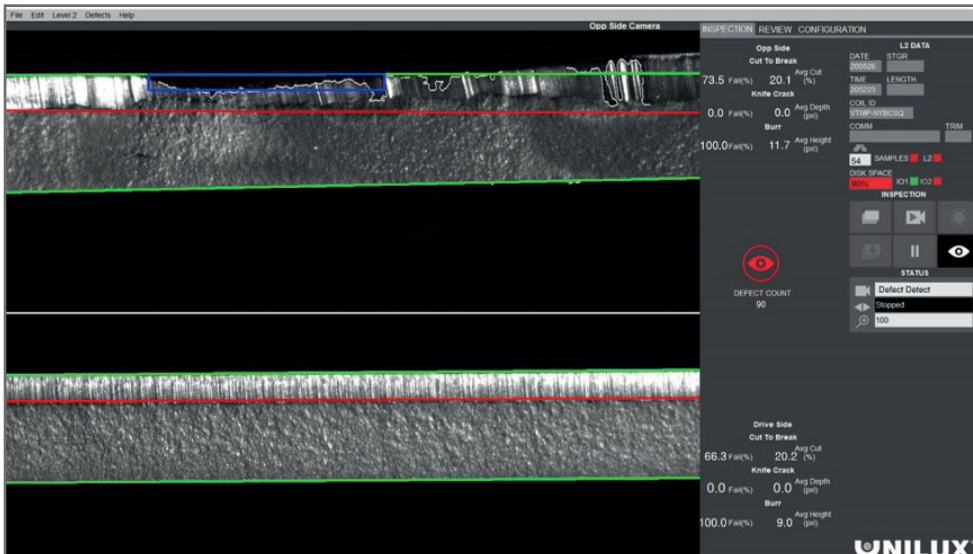
In brief summary this means:

- Quality** Maintain a perfectly trimmed edge for the entire coil
- Safety** Reduce operator interaction with the line
- Profitability** React to potential knife issues before they get too far



THE EDGE TECH APPLICATION SOFTWARE

The Windows 10 based application software guides you intuitive through all necessary activities and shows you real time information. Detected defects are indicated on the screen and additional a light or sound signal may be connected.



Based on a level 2 integration important material data like

- COIL ID
- GRADE
- CUSTOMER
- WIDTH
- THICKNESS, ETC.

may be transferred to the application software, indicated on the screen and stored with the images.

The software allows you to magnify areas of interest and to measure the real size of the object observed on the screen. Preselected image sequences may be stored, as well as individual images at any time.

FEATURES



100% INSPECTION

For line speeds up to 300m/min, the system can inspect each section of the trimmed or untrimmed edge. This enables you not only to detect knife related defects, but also to find edge cracks and other defects from former coil handling or processing stages.

AUTO DEFECT DETECT ALERT

Over 20 million images have been gathered of the life of Edge Tech. This image library has been analyzed to identify the telltale signs of a bad edge just as it is beginning. Now a learning system, Edge Tech can identify bad edges in real time, so adjustments can be made to correct the issue, such as changing knives or correcting critical settings, before they become quality issues.

FULL KNIFE CAPTURE

Edge Tech can document a full revolution of trim blades at any time. Operators can be proactive and recognize the repetitive nature of a knife crack as it is just beginning. They can use this information to schedule maintenance when it is most convenient.

CUT TO BREAK RATIO

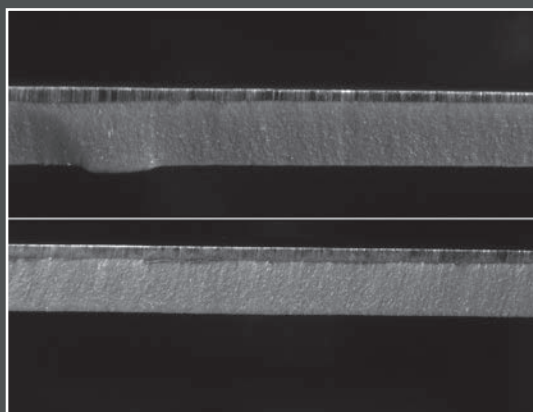
Maintain the ideal mechanical settings for the perfect edge by the number - not just a visual estimation or guess. Alerts are defined based upon the specific needs of the material. These values can be documented and referenced for variables like metallurgic properties and upstream processing. Operators are notified when actual results are out of range.

FIND AND CORRECT TRIM ISSUES THAT YOU DIDN'T EVEN KNOW YOU HAD

For the first time you can monitor trim edge quality and see knife wear in real time. Make necessary adjustments long before the coil is complete, from the safety of the pulpit. The system identifies and marks defects before you have to downgrade the coil. Corrections can be made based on actual wear and inspection results to eliminate the retrim and the cost of rejected or downgraded coils. EdgeTech captures and magnifies edge quality to show critical settings like lap and gap and symptoms of knife wear like burrs and sawtooth, far from the hazards of the line.

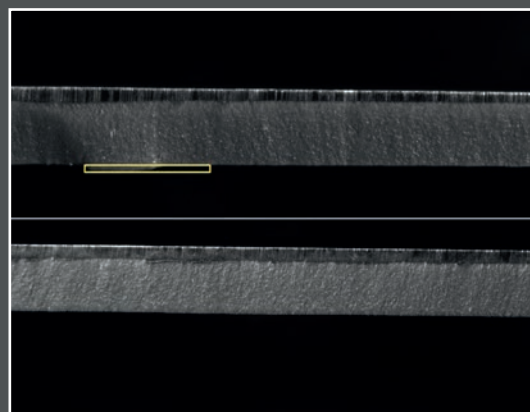
SOME SAMPLES OF DEFECTS DETECTED WITH EDGE TECH

Monitor the viewing of the edge cut highly magnified at live speed with the capability to make real-time adjustments from the pulpit. With high resolution image capture, defects show up clearly, making it easier to produce quality materials. The following images are samples for defects that the Edge Tech Vision System can visualize and detect. Defects will be highlighted and recorded as requested by the operator.

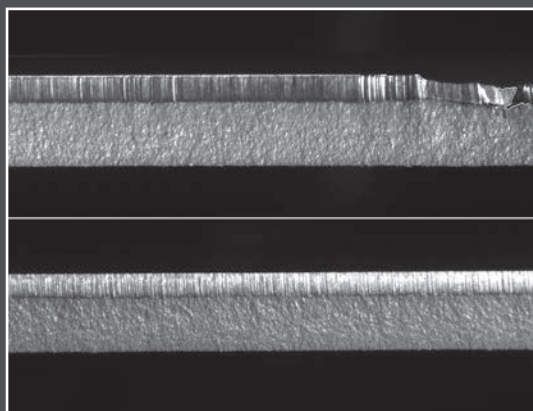


As it appears on the screen

Burr

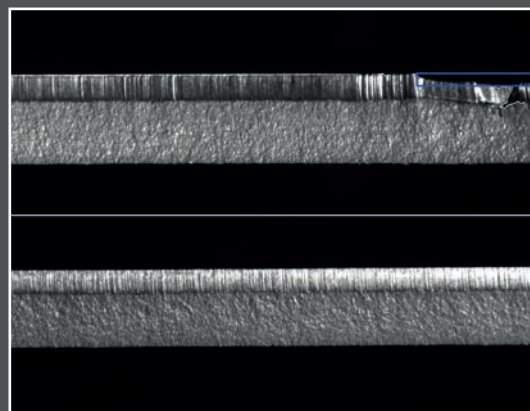


Detected and indicated by Edge Tech



As it appears on the screen

Knife crack



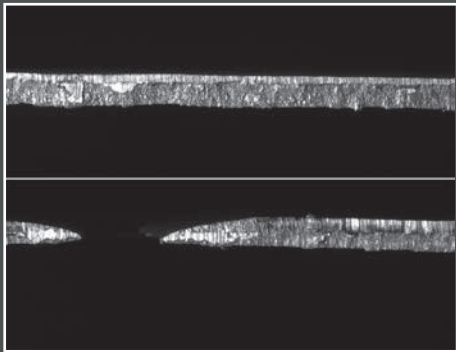
Detected and indicated by Edge Tech

MORE SAMPLES

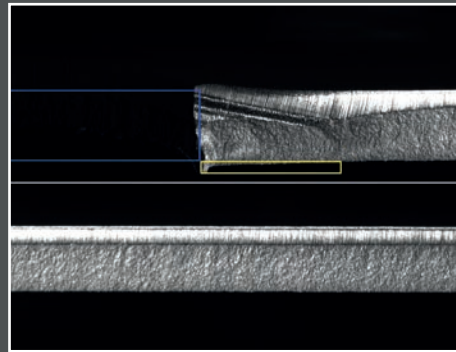
Samples of defects and how they are presented with and without defect detection:



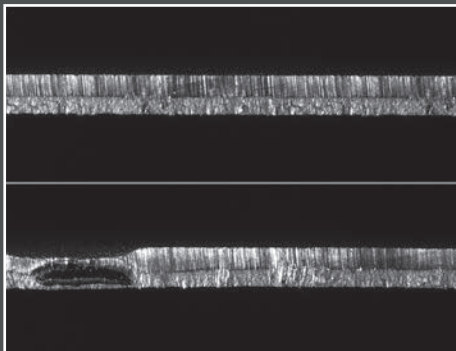
Edge crack



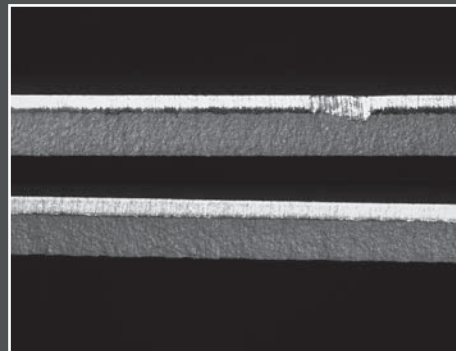
Edge crack



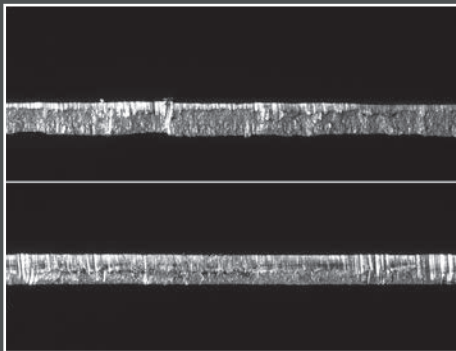
Knife crack



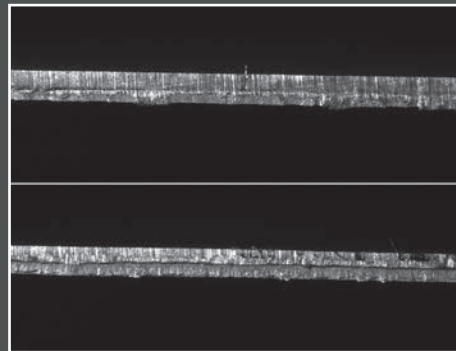
Knife crack



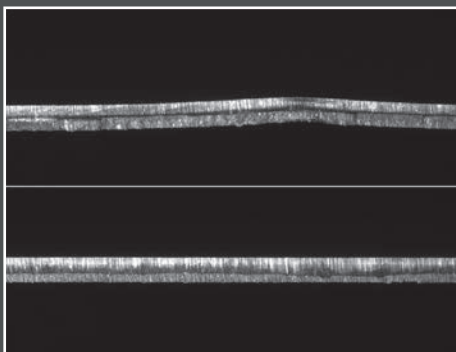
Groove burr



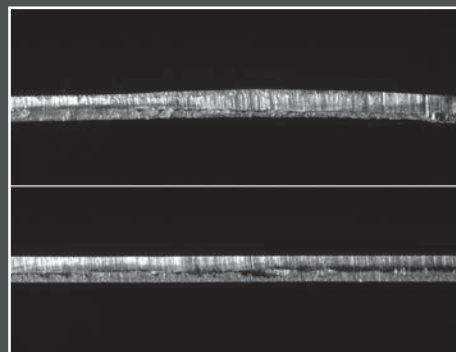
Angel hair



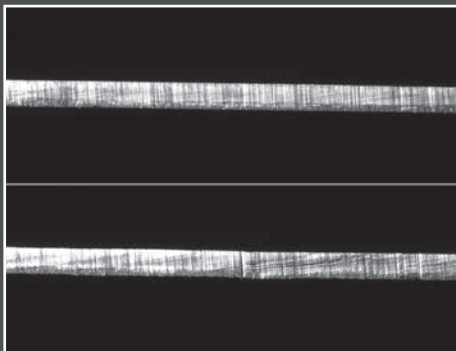
Dent burr



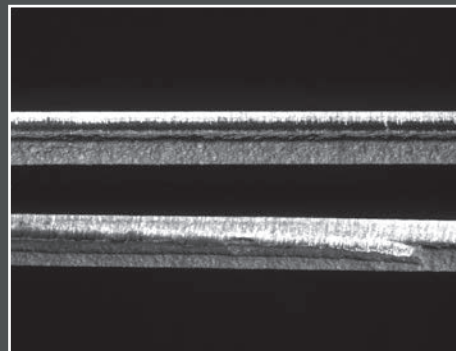
Uneven knife



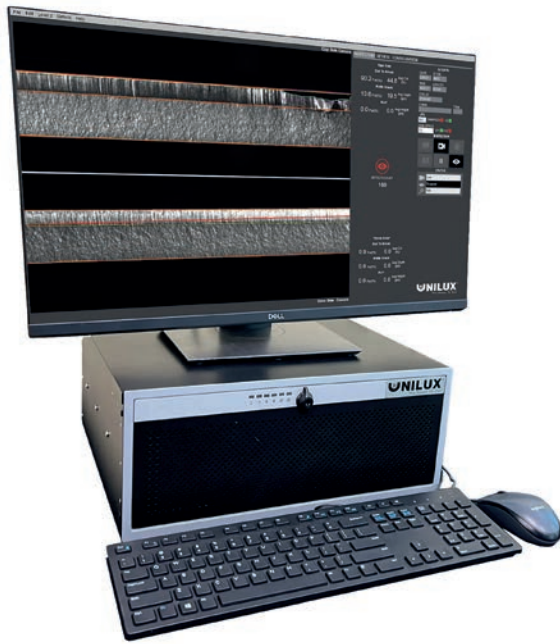
Scratches from knife



Burr thorn



THE EDGE TECH SYSTEM



COMPUTER & CAMERA HARDWARE SPECIFICATIONS

- Multi-core CPU (Intel® Xenon, 16-Core™ @ 2.1Ghz), 16 GB RAM
- Microsoft Windows 10 LTSC
- 512 GB System SATA Hard Drive or SSD (System)
- 14 TB Data SATA Hard Drive (Storage)
- Nvidia G-force PCI Express Video Card
- Two (2) 1.4 Mega Pixel CCD Camera B/W capturing up to 150 FPS
- LED stroboscopic light engine
- High Resolution capture - 1296 x 500 image shown on monitor per camera
- Monitor resolution 2560 x 1440, 25" 16:9 (with Edge Tech window resolution 1920 x 1080)

IMAGE SEQUENCE PLAYBACK & LEVEL 2 INTERFACE

- Selectable frame rates: 1 fps, 2 fps, 5 fps, 10 fps and 15 fps.
- Stop, Pause, Play, Back one frame, Forward one frame, Back to first frame, Forward to last Frame, Play-loop (available for Image Buffer review, Full Knife Circumference defects review, and 100% Inspection defects review).
- Data display of line speed, time, date, coil ID, coil grade, coil length, edge trim quantity and notes on-screen when integrated to mill's Level 2.

DATA STORAGE

- Base system is equipped with 14TB of storage (for approximately 10 million edge image samples)

DEFECT CLASSIFICATION

Via Full Knife Circumference sequencing or 100% Inspection up to 300 m/min, on strip thicknesses from 0.5 to 6 mm

- Knife cracks
- Knife chips
- Burrs
- Cut to break ratio

HARDWARE CONFIGURATION OPTIONS



Camera box on carrier plate:



The camera box is mounted on a height-adjustable cradle to achieve an optimum edge level, and protected by a metal shield against mechanical damage from stringers.

CAMERAS ONLY:

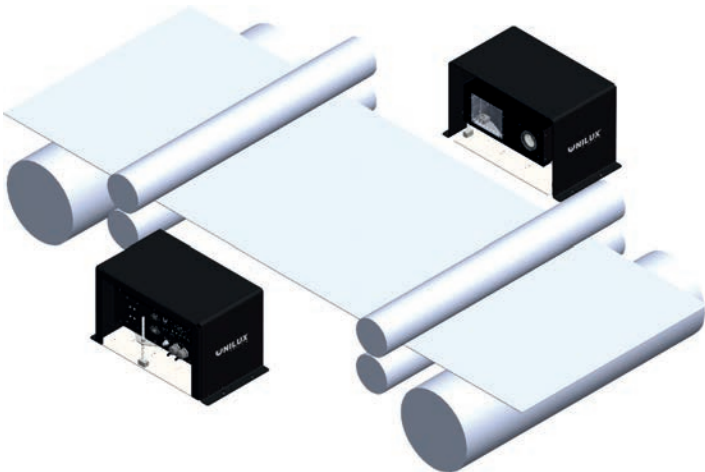
- (2) Cameras & Light Housing

CAMERAS & EDGE TRACKERS:

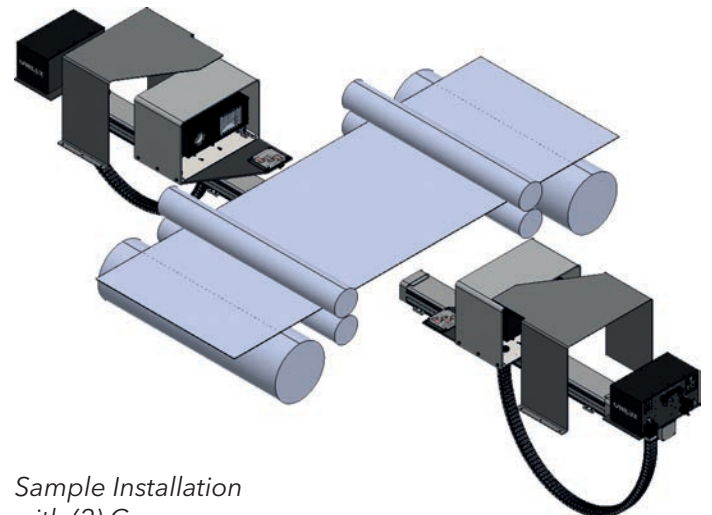
- (2) Cameras & Light Housing
- (2) Edge Trackers (edge positioning controls)

Tracker cables are available in two configurable options:

Rear Carrier Loop & Under Carrier Loop



Sample Installation with (2) Cameras Only and No Trackers



Sample Installation with (2) Cameras and (2) Edge Trackers (edge positioning controls) (Shown with the Under Carrier Loop)

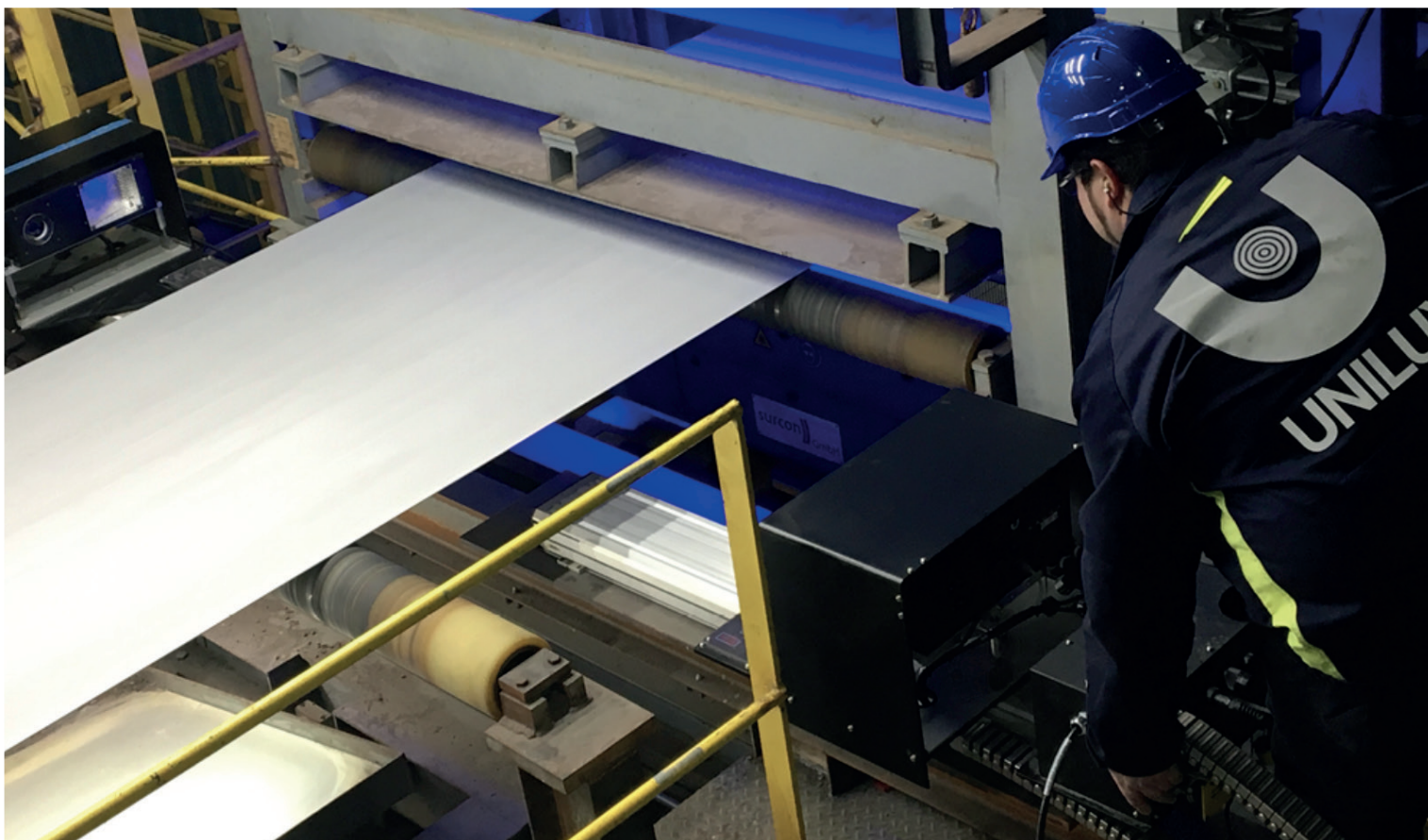
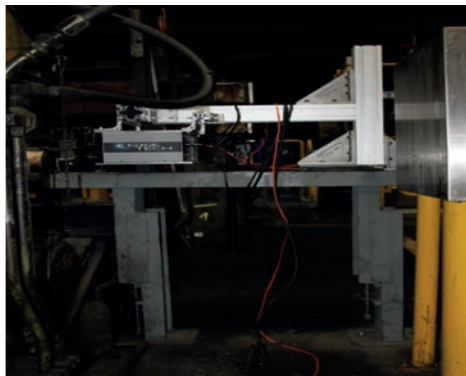
OPTIONAL EQUIPMENT

The Edge Tracker Camera Positioner

The Edge Tracker can be installed near the knives (ideal) or anywhere on the line, keeping a fixed distance from the metal edge allows automatic positioning without operator interference. The Edge Tracker supports varying material widths and automatically positions itself in accordance to the strip using sensors.

FLEXIBLE INSTALLATION

Edge Tech mounting can be adapted to your local needs. The camera housing can either be fixed on the knife holders when applicable or mounted to our Edge Trackers to maintain the necessary distance to the strip edges. Following are several samples of successful installations:





We have the know-how and expertise to support your planning and installation.
If you have questions, just let us know and we support you - also on site.



SEE A DEMO ON YOUR LINE.....CONTACT US ►

FULL-TIME SUPPORT FROM INSPECTION EXPERTS



Unilux systems are built upon decades of experience in the world's harshest manufacturing environments. Our teams and experts have tested, abused, and broken every product in actual operation and in testing. As a result, Unilux inspection systems are proven to improve efficiency while performing consistently, day after profitable day. Unilux has the team dedicated to keeping you up and running. So, we will be there to minimize the impact of any unscheduled downtime. Not a lot of companies can say that with confidence. We have the history to prove it.

“We no longer have to wait for three coils to be processed prior to confirming trimming quality, which can possible become scrap.

- Larry Malone, PLTCM Process Manager - Big River Steel.



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