

Laser Excellence



PackLine Laser Systems for Packaging Industry

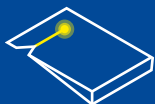


microlasertech.com

Laser Excellence since 2000

Based near Munich, MLT Micro Laser Technology develops high-performance laser systems for industrial applications worldwide. With installations across Europe, the Americas and Asia, MLT is an established partner for precision laser material processing. Many of our systems have been operating reliably in industrial production for more than two decades.

Industries



Packaging

MAP, Easy Opening & flexible packaging



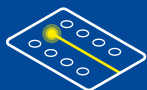
Tobacco

Tipping paper & cigarette perforation



Currency & Identity

Microstructures, perforation & security features



Pharma & Medical

Cleanroom quality & precision processing



Adhesive Tapes

Perforation & complex contour cutting



Abrasives

Wear-free cutting & precise contours



Acoustics

Micro-perforation for sound absorption



Automotive

Technical films & functional components



Special Solutions

Custom solutions for special requirements

Our Worldwide Representatives



Applications



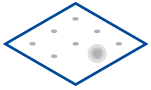
Cutting

Precise contour cutting for flexible packaging materials.



Scoring

Controlled weakening for easy opening and defined tear lines.



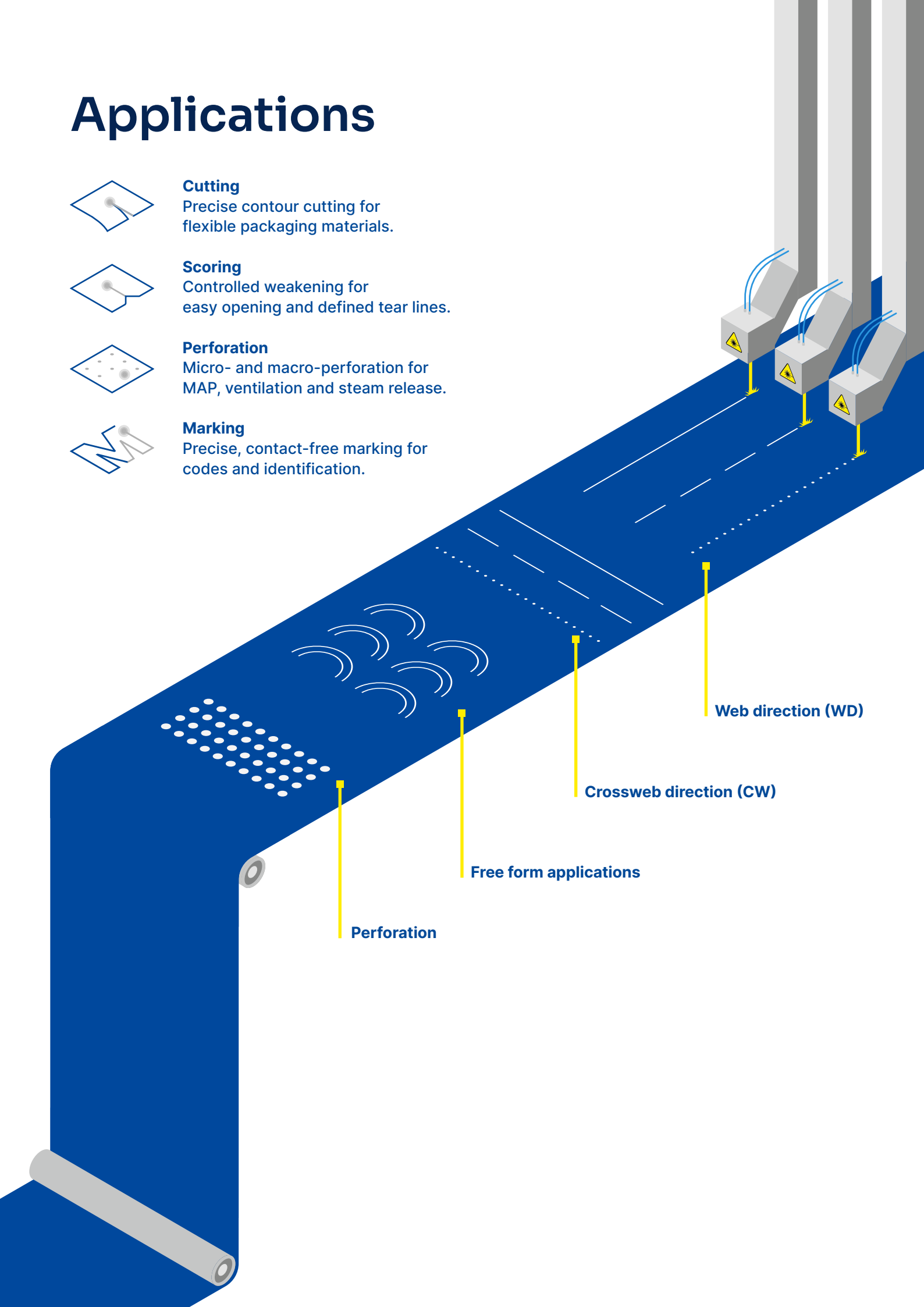
Perforation

Micro- and macro-perforation for MAP, ventilation and steam release.



Marking

Precise, contact-free marking for codes and identification.



Application Examples

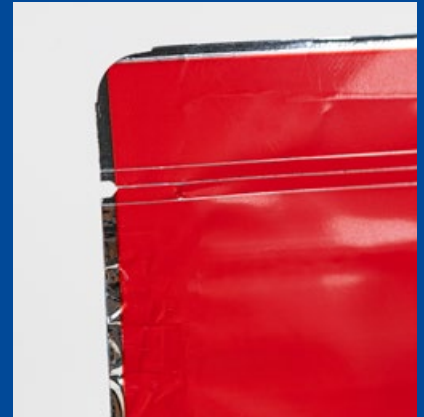
Advanced laser technology for the packaging industry, optimized for conventional and sustainable packaging materials.



Web direction (WD) scoring



Crossweb direction (CW)



Web direction (WD)



Free form scoring



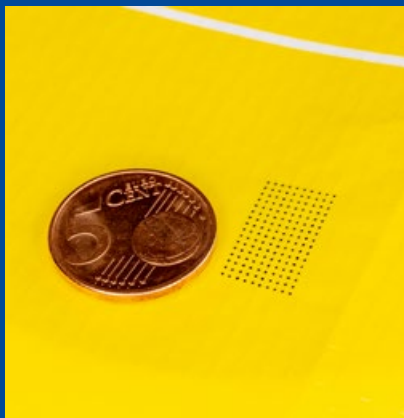
Free form scoring



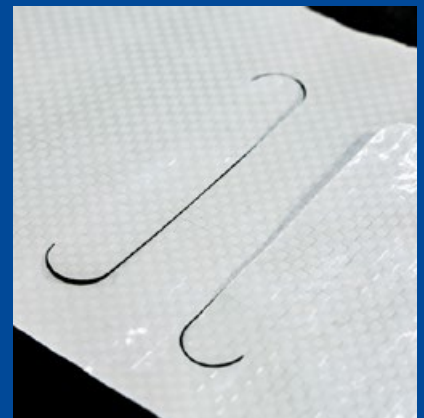
Micro perforation - MAP



Web direction (WD) scoring



Micro perf – steam release



Cutting

PackLine Products

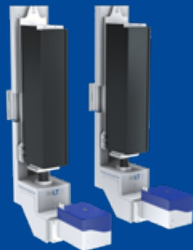
PackLine EasyScore WD®



PackLine EasyPerf®



PackLine EasyFlex®



PackLine Pouch®



PackLine ScorePro WD®



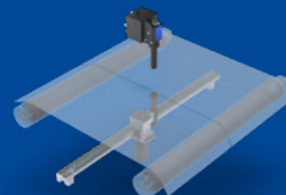
PackLine FlexPro®



PackLine Ultimate®



PackLine PerfCam®



Precision Scoring

PackLine EasyScore WD®

The PackLine EasyScore WD® is a powerful solution for laser scoring in web direction (WD). Designed for easy integration and reliable operation, this modular system delivers high precision and productivity in modern production lines.



Technical Specifications	Processing Directions	Technologies
Laser power 100 W 200 W 250 W 500 W	Web direction (WD) ✓	Cutting ✓
Laser source / beam split 1 laser source → 4 individual laser beam shutters	Crossweb direction (CW) ✗	Scoring ✓
Scoring heads 4 × WD scoring heads	Free form applications ✗	Perforation ✗
Optics Multispot focusing lenses		Marking ✗
Laser class Class 4 (Class 1 on request)		

SYSTEM BENEFITS

Modular Integration

The PackLine EasyScore WD® was designed for self-integration. Its modular design allows straightforward integration into existing production lines. A complete enclosure is optionally available for Laser Class 1 operation.

APPLICATIONS

Suitable for

- ✓ Defined tear lines (easy opening), e.g. for food packaging and pouches
- ✓ Controlled weakening for precise folding lines in packaging materials

Precision Perforation

PackLine EasyPerf®

The PackLine EasyPerf® features MLT's Dynamic Web Compensation (DWC) technology. It optimizes the laser pulse on moving material and ensures consistently round perforations even at high production speeds.



Cutting



Scoring



Perforation

Technical Specifications	Processing Directions	Technologies
Laser power 100 W 200 W 250 W 500 W	Web direction (WD) ✓	Cutting ✓
Laser source / shutters 1 laser source → 4 individual laser beam shutters	Crossweb direction (CW) ✗	Scoring ✓
Processing heads 4 × DWC processing heads	Free form applications ✗	Perforation ✓
Optics Multispot focusing lenses		Marking ✗
Laser class Class 4 (Class 1 on request)		

SYSTEM BENEFITS

Precision at High Speed

Dynamic Web Compensation enhances laser pulses on moving material, ensuring uniform, round perforations and reliable quality even at high production speeds.

APPLICATIONS

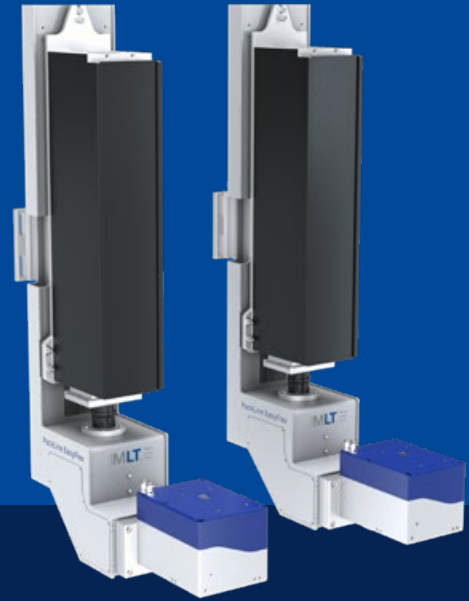
Suitable for

- ✓ Micro-perforation for breathable packaging, e.g. fresh produce
- ✓ Uniform, round perforations at high production speeds
- ✓ Mono films, laminates and recyclable plastics such as PE, PET and PP
- ✓ Integration into packaging and filling processes
- ✓ Ventilated packaging solutions for special applications

Flexible Processing

PackLine EasyFlex®

The PackLine EasyFlex® is a versatile solution for laser scoring in web direction (WD), cross-web direction (CW) and micro-perforation. Equipped with one or two lasers and 2D galvo heads, it enables high-precision processing with maximum flexibility.



Cutting



Scoring



Perforation



Marking

Technical Specifications	Processing Directions	Technologies
Laser power 100 W 200 W 250 W	Web direction (WD) ✓	Cutting ✓
Number of lasers 1-2	Crossweb direction (CW) ✓	Scoring ✓
Processing heads 2D galvo heads	Free form applications ✓	Perforation ✓
Scanner lenses / working area per head 50 mm 200 mm 300 mm		Marking ✓
Laser class Class 4 (Class 1 on request)		

SYSTEM BENEFITS

Flexible Integration

The PackLine EasyFlex® is designed for fast self-integration into existing production lines. The galvo head provides highly flexible beam guidance for variable processing patterns and changing production requirements.

APPLICATIONS

Suitable for

- ✓ Scoring in web and cross-web direction (WD & CW)
- ✓ Micro-perforation for flexible packaging
- ✓ Applications requiring high adaptability and precise processing

Pouch Scoring

PackLine Pouch®

The PackLine Pouch® is a proven laser module developed specifically for integration into pouch-making machines. Two opposing scoring heads process the folded material simultaneously from above and below for precisely aligned scoring on both sides.



Cutting



Scoring

Technical Specifications	Processing Directions	Technologies
Laser power per laser 60 W	Web direction (WD) ✓	Cutting ✓
Number of lasers 2	Crossweb direction (CW) ✗	Scoring ✓
Scoring heads WD scoring heads	Free form applications ✗	Perforation ✗
Web width up to 900 mm		Marking ✗
Scoring system 2 heads in web direction, positioned above and below the film		
Laser class Class 1		

SYSTEM BENEFITS

Synchronized Precision

Designed for pouch-making machines, the PackLine Pouch® integrates efficiently into existing production processes. Processing the folded material with two precisely synchronized laser heads creates matching score lines and consistent opening performance.

APPLICATIONS

Suitable for

- ✓ Scoring of pouches in bag and pouch production
- ✓ Applications requiring maximum registration accuracy and quality
- ✓ Easy opening solutions for flexible packaging
- ✓ Integration into existing or new pouch-making machines

High-Performance Scoring

PackLine ScorePro WD®

The PackLine ScorePro WD® is a fully integrated solution for web-direction laser scoring. Each scoring lane operates with its own laser, providing high precision, control and stable material guidance in continuous production.



Technical Specifications	Processing Directions	Technologies
Laser power per laser 60 W 100 W 200 W 250 W	Web direction (WD) ✓	Cutting ✓
Number of lasers 2-14	Crossweb direction (CW) ✗	Scoring ✓
Scoring heads WD scoring heads	Free form applications ✗	Perforation ✗
Optics Multispot focusing lenses		Marking ✗
Laser class Class 1		

SYSTEM BENEFITS

Flexibility & Scalability

Designed for long-term investment security, the PackLine ScorePro WD® is ready for immediate use while remaining open to future requirements. Its scalable concept allows later upgrades, for example with galvanometer systems.

APPLICATIONS

Suitable for

- ✓ High-precision tear lines (easy opening) in flexible packaging
- ✓ Applications with multiple parallel scoring lanes
- ✓ Production lines with demanding requirements for stability and web guidance

Maximum Flexibility

PackLine FlexPro®

The PackLine FlexPro® is a powerful, fully integrated solution for demanding scoring and micro-perforation applications. Its stable frame and integrated web guidance keep the material precisely positioned throughout the laser process.



Cutting



Scoring



Perforation



Marking

Technical Specifications	Processing Directions	Technologies
Laser power per laser 60 W 100 W 200 W 250 W	Web direction (WD) ✓	Cutting ✓
Number of lasers 2-14	Crossweb direction (CW) ✓	Scoring ✓
Processing heads 2D galvo heads	Free form applications ✓	Perforation ✓
Scanner lenses / working area per head 50 mm 200 mm 300 mm		Marking ✓
Laser class Class 1		

SYSTEM BENEFITS

Integration and Performance

The PackLine FlexPro® integrates seamlessly into production lines and combines precise web handling with exceptional scalability. With up to 14 lasers and flexible galvo processing, it is designed for complex patterns and changing production conditions.

APPLICATIONS

Suitable for

- ✓ Scoring in web and cross-web direction (WD & CW)
- ✓ Micro-perforation (MAP) for flexible packaging
- ✓ Easy opening and functional perforation applications

Maximum Performance

PackLine Ultimate®

The PackLine Ultimate® is the all-in-one solution for scoring and micro-perforation. At the click of a mouse, the system switches between cross-web processing, 8-lane web-direction scoring and micro-perforation – without mechanical changeovers.



Cutting



Scoring



Perforation



Marking

Technical Specifications	Processing Directions	Technologies
Laser power per laser 250 W 450 W	Web direction (WD) ✓	Cutting ✓
Number of lasers 2, switchable between 3D galvo heads and WD scoring heads	Crossweb direction (CW) ✓	Scoring ✓
Processing heads 2 x 3D galvo heads + 8 x WD scoring heads (DWC optional)	Free form applications ✓	Perforation ✓
Scanner working area per head 150–700 mm		Marking ✓
Beam switches 2 integrated		
Laser class Class 1		

SYSTEM BENEFITS

Seamless Switching

Integrated beam switches and 3D galvo technology enable processing modes to be selected within seconds. 8-lane WD scoring and optional Dynamic Web Compensation ensure high process stability at demanding speeds.

APPLICATIONS

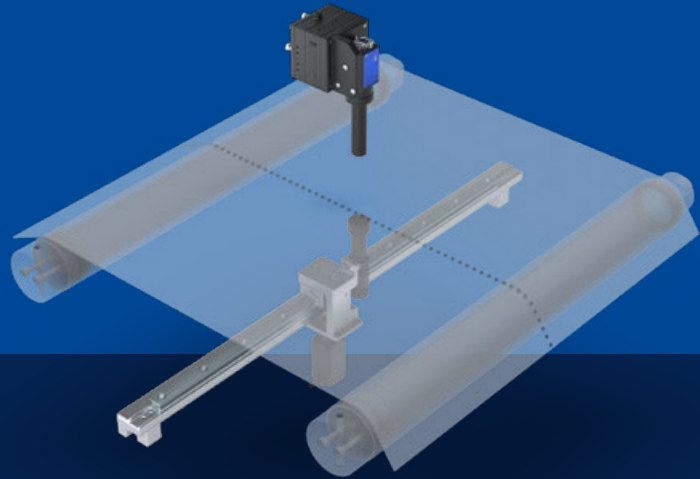
Suitable for

- ✓ WD and CW scoring without mechanical changeovers
- ✓ High-precision micro-perforation
- ✓ Easy opening and functional packaging
- ✓ Production with frequently changing requirements

Quality Control

PackLine PerfCam®

The PackLine PerfCam® is a high-precision real-time monitoring system for laser perforation. It continuously checks perforation quality and hole diameter during production, helping ensure stable processes and complete quality documentation.



Perforation

Technical Specifications	Processing Directions	Technologies
Monitoring High-speed cameras for each perforation head	Web direction (WD) ✓	Cutting ✗
Hole diameter measurement 80–250 µm	Crossweb direction (CW) ✗	Scoring ✗
Production speed Live measurement at speeds of up to several 100 m/min	Free form applications ✗	Perforation ✓
Evaluation Automatic pattern-recognition analysis		Marking ✗
Documentation 100% quality documentation of perforated material		
Error detection Detects incorrect settings such as focus errors		

SYSTEM BENEFITS

Process Reliability

Automatic analysis detects focus errors and inconsistent hole sizes, ensuring process transparency and reliable quality assurance.

APPLICATIONS

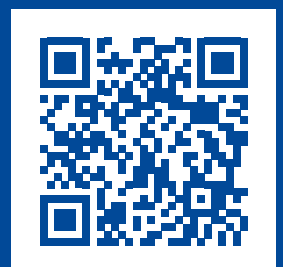
Suitable for

- ✓ Laser perforation quality control
- ✓ Real-time production monitoring
- ✓ Precise hole measurement
- ✓ Perforation data validation
- ✓ High quality requirements



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