// **100 % precision.**
**0 % defect tolerance.**
**SHARK 4000 LEX.**

*Be inspired. Move forward.*

**BST eltromat**
INTERNATIONAL

# // 100 % INSPECTION.
# FOR UNCOMPROMISING DEFECT DETECTION.

**100 % real-time defect detection: This is the strength of the SHARK LEX systems, which have been developed especially for a variety of uses in the narrow web and label printing industries. The SHARK LEX systems are characterised by their simple operation and reliably high productivity.**

**SHARK 4000 LEX** and **SHARK 1000 LEX**, the 100 % print defect detection systems for use on rewinders and narrow-web printing machines, stand out due to the well-engineered technology, extensive range of functions and comprehensive defect management software.
**Your advantage:** Invariably first-class printing results for the maximum satisfaction among your customers.

Choose from **SHARK 1000 LEX** or **SHARK 4000 LEX** system and get the best fitting system for your requirements:
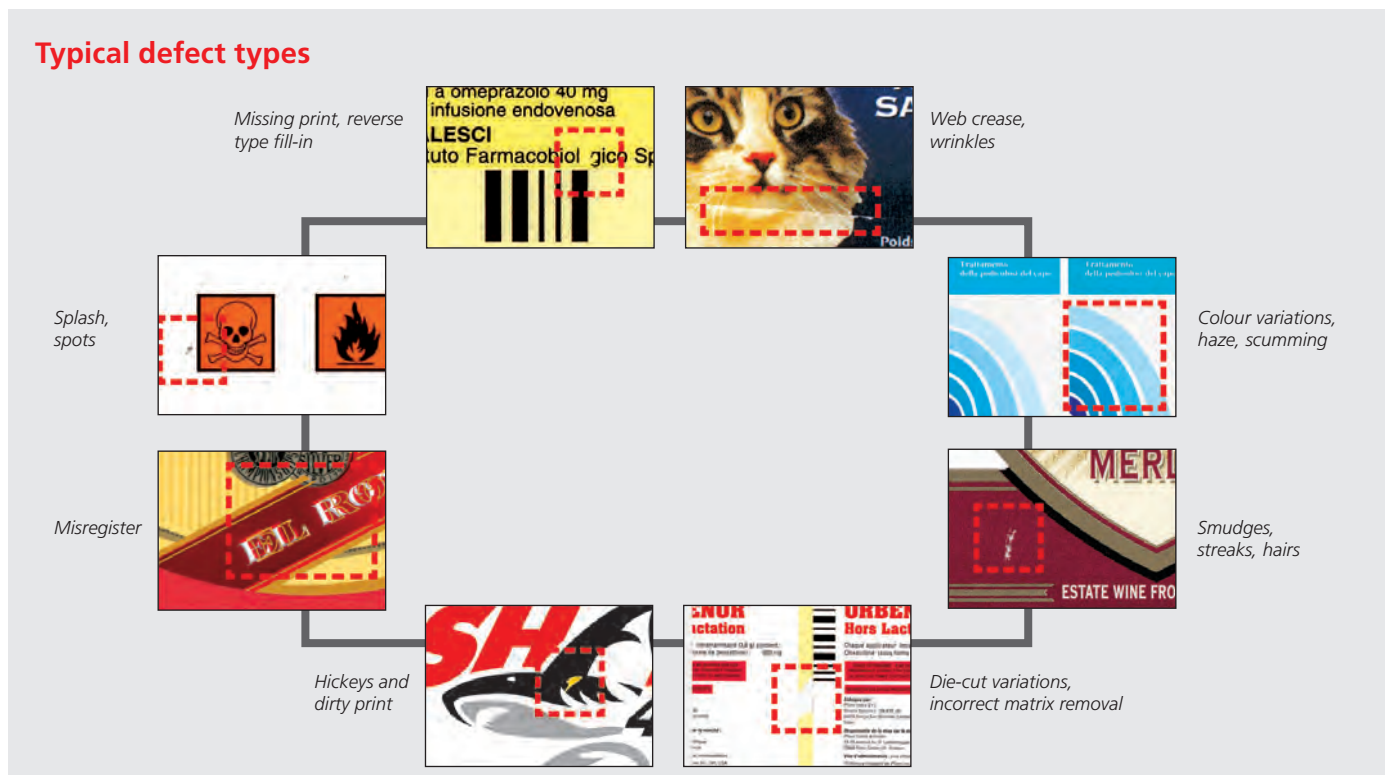
## SHARK LEX at a glance:

### SHARK 4000 LEX
- 100% defect detection for **narrow web printing machines and rewinders**
- **Process monitoring** when using the printing machine
- Web widths **up to 600 mm (23")**
- **4,000 pixel color** or **6,000 pixel grayscale camera**
- Detailed and very exact detection **even of smallest defects**

### SHARK 1000 LEX
- 100% defect detection for **narrow-web printing machines and rewinders**
- Web widths **up to 450 mm (17.7")**
- **2,000 pixel grayscale camera**
- Compact housing
- Suitable for **basic defect detection** requirements

## Typical defect types



Missing print, reverse type fill-in

Web crease, wrinkles

Splash, spots

Colour variations, haze, scumming

Misregister

Smudges, streaks, hairs

Hickeys and dirty print

Die-cut variations, incorrect matrix removal

# // SUPERIOR DESIGN. SIMPLEST USE.

## The BST SHARK LEX systems will impress you because: SHARK LEX is ...

### ... simple!

• The space saving single-monitor solution combines **print monitoring** and **system operation** on one touch screen

• The systems feature **clearly laid-out categorisation of defects** according to established defect types

• **Lane tracking facilitates identification** and reliable removal of defects by lane

• **Live display of the complete repeat** including error and error margin marking and parallel display of the relevant section of the reference image

• **Illustrated list of errors**

• **Simple starting and stopping of the rewinder** via the SHARK LEX user interface – without switching between 100% defect detection system and machine control

### ... flexible!

• Equipment with **color or grayscale camera**

• **Job Memory function** for rapid storage, loading and recall of jobs

• Optional connection to a **workflow system** for direct evaluation of roll protocols

• **Remastering function** to teach recurrent errors as a supplement to the golden master (original and new golden master can be used in further processing)

• **Freely definable control areas** to customise the print inspection for every job

• Suitable for **all types of substrates**, including highly-reflective materials

### ... intelligent!

• **Job Report function** for meaningful documentation, including a defect image for each defect that occurred

• Latest recognised defects can be accessed and graphically displayed using the **Defect History function**

• **Automatic continuous color monitoring** after definition of area

• **Smart Flagging interface** to mark defects according to different sizes or position on the web

• **Pharma Mode** function verifies once exchanged label again

### ... exact!

• **Reliable detection** both of random and repeating defects up to a minimum size of 0.03 mm² (depending on the application)

• **High-performance LED lighting system** for consistent lighting conditions and precise and reliable inspection results

• **Referencing of the golden master** using a PDF file

### ... quick!

• **Defect detection starts from the first running meter**, no minimum machine sspeed necessary

• **Rapid set-up of new jobs** with intelligent menu navigation



Clear SHARK LEX user interface



SHARK LEX repeat and defect overview

# // SHARK LEX AT A GLANCE

## SHARK 4000 LEX / SHARK 1000 LEX – Technical Data

| | Color camera | Grayscale camera | Defect History | Job Memory | Control of rewinder via SHARK system | Remastering | Lanes definition | User management | Job adapted control areas | Label Counter | Roll overview | Job Report | 16:9 widescreen with roll overview / defect list | Back lighting | Connection to workflow system | Referencing using a PDF file | Repeat length monitoring | Touch screen operation | LED lighting | Pharma Mode | Color monitoring | Barcode, Data Matrix Check | Smart Flagging interface | Alarm Set |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SHARK 4000 LEX** | ✔ | ● | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ● | ● | ● | ● | ● | ✔ | ✔ | ✔ | ● | ● | ✔ | ● | |
| **SHARK 1000 LEX** | | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | | ● | | | | | ✔ | ✔ | ✔ | | | ✔ | ● | |

✔ Standard  ● Optional

## Technical Data

| | SHARK 4000 LEX | SHARK 1000 LEX |
|---|---|---|
| **Camera** | Color or grayscale camera | Grayscale camera |
| **Monitor** | Touch screen monitor (for control and monitoring) | Touch screen monitor (for control and monitoring) |
| **Construction** | Control box or mounting plate for panel mounting | Controller |
| **Synchronization** | Rotary encoder | |
| **Max. web width** | up to 600 mm | up to 450 mm |
| **Max. web speed** | up to 360 m/min | up to 300 m/min |
| **Light sources** | Diffuse, direct | |
| **Minimum defect size** | up to 0.03 mm$^2$ | up to 0.18 mm$^2$ |
| **Substrates** | transparent, opaque and reflective materials | |
| **Data exchange** | Ethernet interface (also remote control) / USB interface | |
| **Supply** | 100 V – 240 V, 50/60 Hz, 920 VA | 100 V – 240 V, 50/60 Hz, 420 VA |
| **Ambient temperature** | min. 5 °C, max. 40 °C (Monitor: see separate technical details) | |

**BST eltromat INTERNATIONAL**