

**LASER 2000***The Future of Photonics*

# Line Spect

*Lightlines that meet the highest expectations*



As a result of higher conveyor speeds, higher line scan camera frequencies and the multiplication of steadily smaller pixels, the functions of line scan cameras have become more complex. Hence the demand for high quality light sources have been increased.

The line light Line Spect provides light output up to  $3500 \text{ W/m}^2$  in a narrow light line with high homogeneity. The Line Spect is a convincing alternative to other LEDs and conventional light sources by its innovative and unique concept.

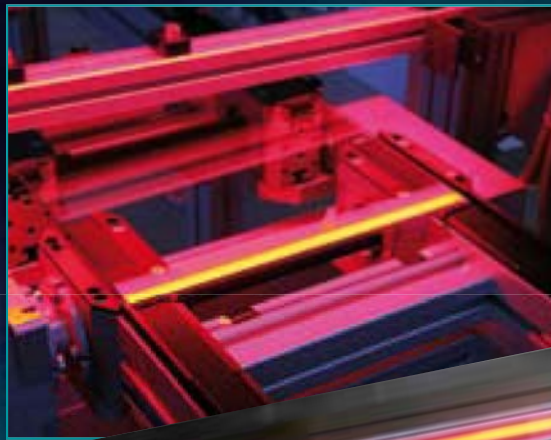
As a result of its inherent modularity, the performance of the Line Spect can be optimised to meet the demands of almost any customer-specific illumination requests.

The wavelength and power output can be chosen and tuned to the requirements of the materials and applications. The line length can be configured to match the required inspection width.

This illumination is suitable in set ups with transmitted and/or reflected light, in dark and bright fields with transparent or light-imperious materials. All of the components are installed in a high quality, rugged and robust casing.

As a result of the most recent advantages in LED-technology, the Line Spect is capable to replace conventional lamp systems with optical line converters in a highly-efficient way and a wide range of benefits.

Thanks to its modularity and high performance, the Line Spect meets even the highest requirements and is easily providing sufficient light to systems and installations that use 100kHz line frequency and high conveyor speeds.



# Line Spect – Lightlines that meet the highest expectations

Modern web inspection systems benefit from the free choice of the line length, the variety of wavelengths, no required maintenance, and a variety of interfaces. Due to its diversity of illumination types the Line Spect is appropriate for all surfaces. Due to its modularity in lengths of up to 3 m, new systems can be set up or existing ones can be upgraded to the most modern standards and optimised for efficiency.

## Active cooling

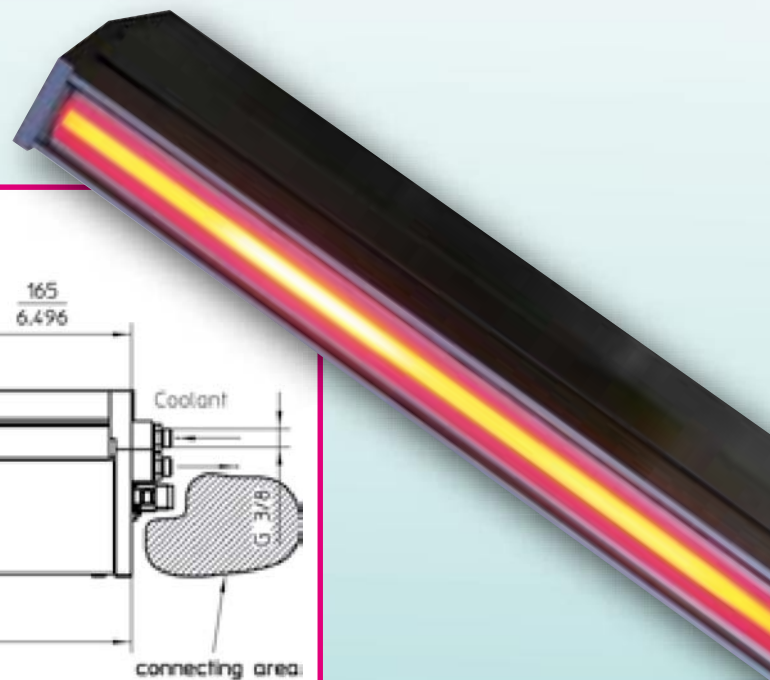
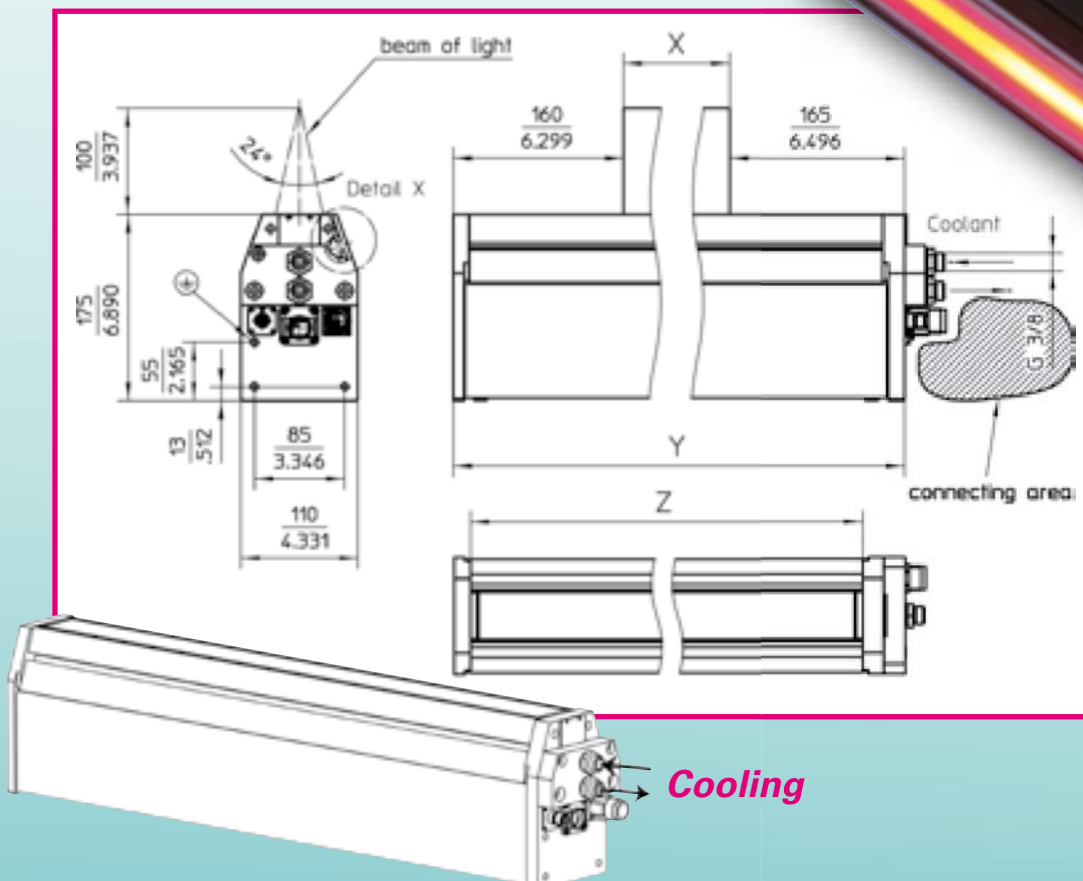
The Line Spect uses a closed-loop-cooling system for further benefits. Liquid cooling ensures full performance, even after “warm-up”. Simple line lights based on air cooling show a reduced efficiency at higher temperatures. The light output of the Line Spect remains at constant high level as a result of the active cooling. Even when used at very high ambient temperatures, the performance and lifetime of the Line Spect series is stable

and reliable. Cooling can be conducted by means of active or passive water-cooling systems. If the facilities have already been designed with water-cooling, the Line Spect can be integrated into it. The industrial type power supply interface makes the electrical integration as easy as possible.

## Control system

The Line Spect can be controlled either via an analogue or digital input (serial or Ethernet). The Line Spect is designed to provide a fast response time to external control input to change for production lots triggered through either interface. The temperature control enables constant monitoring for complete process control. Each single module within a line can be dimmed separately to balance any brightness variations and to enhance the homogeneity throughout the length or compensate for lens errors.

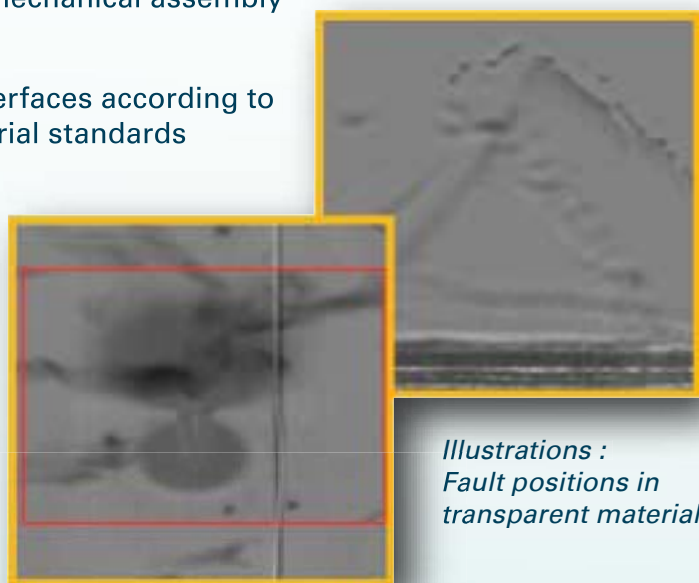
## Exemplary scale drawing (customer-specific lengths)



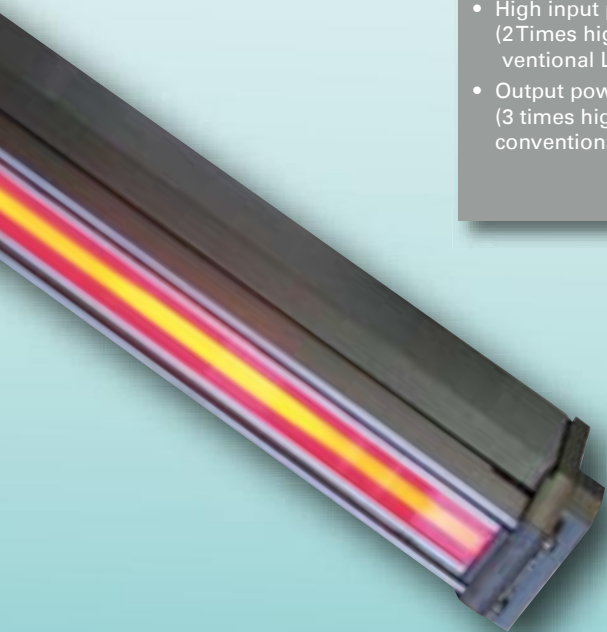
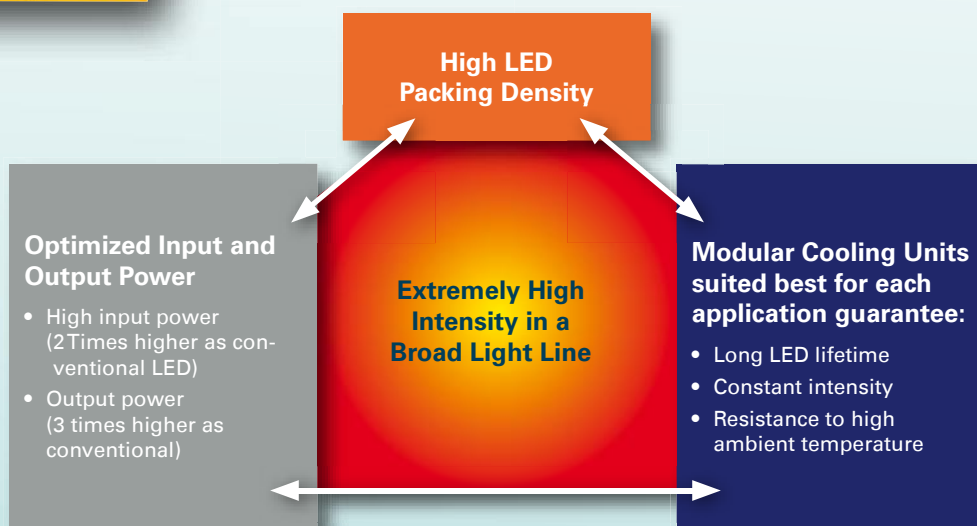
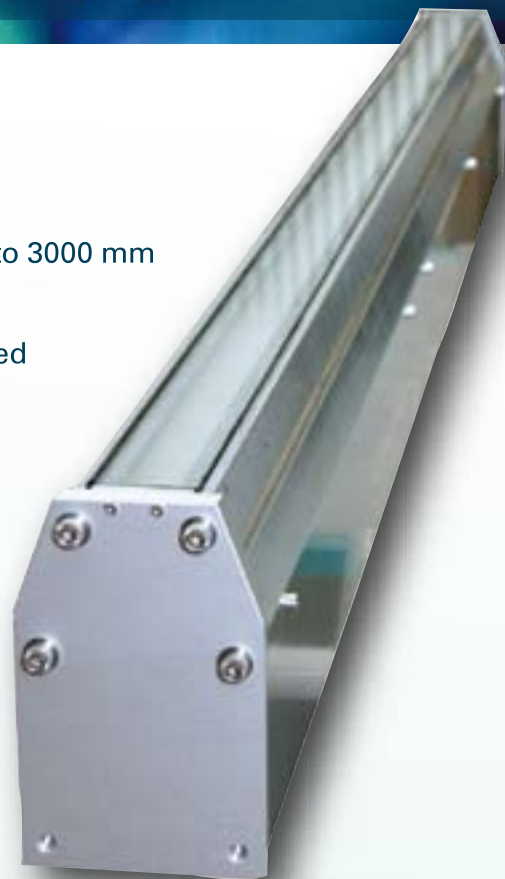


## Product features and benefits

- Wide range of applications : transmitted and reflected light, bright and darkfield mode
- Compact, modular design – available in lengths from 800 mm up to 3000 mm
- Extremely long LED-lifetime > 50.000 h (~ 5 years)
- Several modules of the Line Spect are capable to be daisy-chained together to present a single continuous light source
- Robust, very suitable for rough industrial environment
- Easy mechanical assembly
- P 54
- All interfaces according to industrial standards



*Illustrations :  
Fault positions in  
transparent material*



# Line Spect – Lightlines that meet the highest expectations

## Technical data Line Spect, at the example with a length of 690 mm

<b>Housing size</b>	725 mm x 110 mm x 175 mm * (length x width x height)	
<b>Light window</b>	690 mm *	
<b>Effective length</b>	400-690 mm *	
<b>Light source</b>	Ultra High Intensity LED (36 LED per module of 138 mm length)	
<b>Homogeneity</b>	Approx. 95 % (depending on diffuser)	
<b>Available LED-colours</b>	Wave-length (nm)	Optical Intensity at the beam area (watt/m <sup>2</sup> )
	455 nm - Royal blue	2420
	470 nm - Blue	3570
	505 nm - Cyan	2160
	530 nm - Green	1140
	590 nm - Yellow	580
	617 nm - Red-Orange	1620
	625 nm - Red	1800
	Cold-White	2050
	Neutral-White	2110
	Warm-White	1540
	Further wave-lengths available on request	
<b>Dimmer</b>	20-100 %	
<b>LED-lifetime</b>	> 50.000 hours **	
<b>Operating distance</b>	100-250 mm	
<b>Options diffuser</b>	No diffuser for highly dispersive material Light diffuser for dispersive material Standard diffuser for luminous material Glass diffuser for high ambient temperature	
<b>Protection Class</b>	IP 54	



\* Various allowances and beam lengths are possible: 500-3000 mm in 138 mm steps.

Don't hesitate to get in contact with us!

\*\* Proper cooling and usage provided.

### BENELUX Photonics

Laser 2000 C.V.  
3645 ZJ Vinkeveen  
Tel. +31 297 266 191  
info@laser2000.nl  
www.laser2000.nl

### FRANCE

Laser 2000 SAS  
78860 St-N. I. Bretèche  
Tel. +33 1 30 800-060  
info@laser2000.fr  
www.laser2000.fr

### GER/AT/CH

Laser 2000 GmbH  
82234 Wessling  
Tel. +49 8153 405-0  
info@laser2000.de  
www.laser2000.de

### IBERIA

Laser 2000 SAS  
50002 Zaragoza  
Tel. +34 976 299-150  
info@laser2000.es  
www.laser2000.es

### NORDICS

Laser 2000 AB  
60117 Norrköping  
Tel. +46 11 369-681  
info@laser2000.se  
www.laser2000.se

### UNITED KINGDOM

Laser 2000 Ltd.  
Ringstead, NN14 4DF  
Tel. +44 1933 461-666  
sales@laser2000.co.uk  
www.laser2000.co.uk

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