



SEIDENADER
KÖRBER SOLUTIONS

德国赛登纳德

OUR FOCUS
IS ON YOUR 领先的灯检技术
PRODUCTS.

我们关注你的产品



PRESENTER/演讲者: CHRISTIAN SCHERER/谢勒



Seidenader Business Unit Inspection Machines Sales Director 赛登纳德灯检业务部全球销售总监

- Born 1984 in Germany
1984年出生于德国
- Graduated in 2009 as Dipl.-Ing. (Business and Engineering) from University of Applied Science in Munich.
2009年毕业于慕尼黑应用技术大学，取得工程学硕士学位（商务与工程）
- Pursued advanced studies in Seidenader's subsidiary "SV Research - Harrisburg/USA" and at the University of Plymouth / England.
曾在赛登纳德美国子公司“SV Research - Harrisburg/USA”和英国普利茅斯大学深造

Sep 2009 – May 2015

- Area Sales Manager at Seidenader Maschinenbau GmbH in Markt Schwaben, Business Unit Inspection Machines. Responsible for developed and emerging markets:

2009.9 – 2015.5: 德国赛登纳德灯检业务部区域销售经理，熟悉发达国家及新兴地区市场情况

Since 05. 2015:

- Sales Director responsibility for the sales and marketing department of the Seidenader Business Unit Inspection Machines.

自2015年5月：德国赛登纳德灯检业务部全球市场与销售总监



KÖRBER GROUP.
柯尔柏集团
TECHNOLOGY ACROSS INDUSTRIES.
跨行业技术

- ▶ Sales 销售额 €26亿
- ▶ Employees 员工数 12,700
- ▶ R&D ratio 研发投入比 5.7%



Logistic Systems
物流系统



Körber Digital
柯尔柏数字化



Pharma Systems
医药科技



Tissue
造纸



Tobacco
烟草



Corporate Venture
企业投资





柯尔柏医药科技集团

Production & Packaging Equipment

生产与包装设备

Software

软件

Materials

包材

Consulting

咨询

Life Cycle Services

生命周期服务

BU HOLDING 控股集团



BU MACHINERY 设备



BU SOFTWARE 软件



BU MATERIALS 包材



8

Brands
8大品牌



1,700

QUALIFIED EMPLOYEES
WORLDWIDE
全球1700多名高素质员工



20

PLANTS & HUBS
20余个生产基地及销售服务中心

50

SALES AND SERVICE PARTNERS
WORLDWIDE
全球超50家销售及服务合作伙伴

EUROPE

欧洲

ASIA

亚洲

NORTH AND

SOUTH AMERICA

北美及南美





SEIDENADER INSPECTION SOLUTION

赛登纳德：灯检解决方案

1895

Company founded 公司成立

370

Employees worldwide 员工遍布全球

30

Local agencies worldwide 世界各地代理及销售中心
Headquarters: Markt Schwaben 总部：马克特施瓦本

120





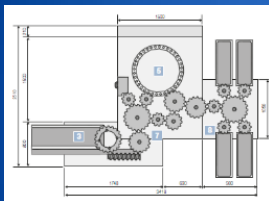
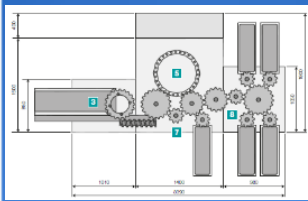
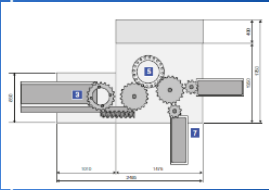
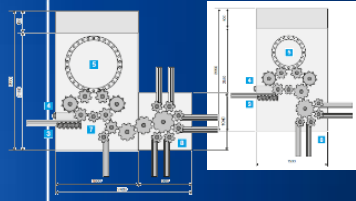
Years of experience in the field inspection solutions
超过120年的灯检解决方案经验

2011

A company of Körber Medipak Systems AG
成为柯尔柏医药科技集团的一员





Series 设备系列	VI	MS	CS	VI-S / MS-S
Containers 可检容器				
Outfeeds 出料通道 HVLD Integration	up to 9 多达9个 HVLD SLIM	up to 9 多达9个 HVLD SLIM	up to 5 多达5个 HVLD SLIM	up to 7 多达7个 HVLD-Station
集成高压检漏模块 Basic Footprint 基本占地尺寸				

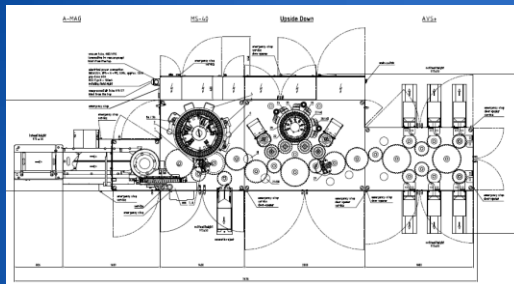
INSPECTION TECHNOLOGIES 灯检技术

1. UpsideDown inspection module 翻转灯检技术
2. Matrix versus line scan camera 矩阵和线性扫描相机技术
3. BUBBLE-X 气泡识别技术
4. De-/Re-Nester DE.SY.RE 脱巢-灯检-装巢一体机

UPSIDE DOWN INSPECTION 翻转灯检技术



1. Possible inspection stations
检验工位的可能性
2. Advantages compared to
conventional inspection station
相比传统检验工位的优势



MATRIX CAMERA VERSUS LINE SCAN CAMERA

矩阵和线性扫描相机技术

1. Inspection with line scan camera

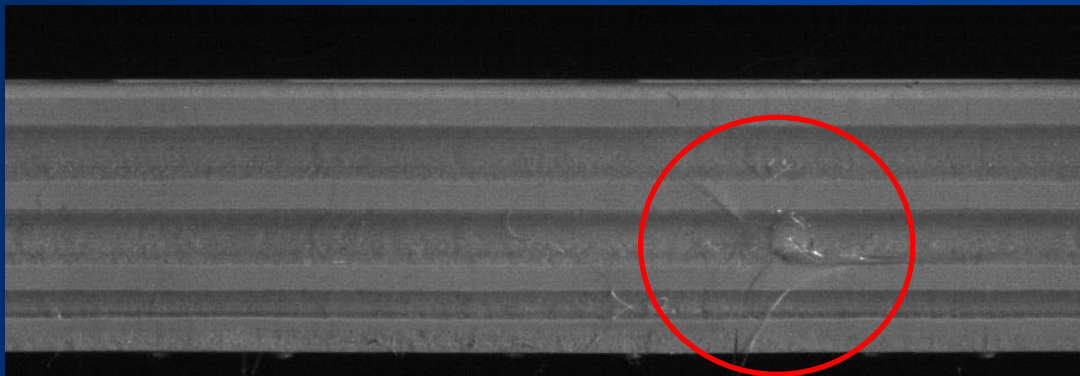
线性扫描相机技术

2. Inspection with matrix camera

矩阵扫描相机技术

LINE SCAN CAMERA

线性扫描相机



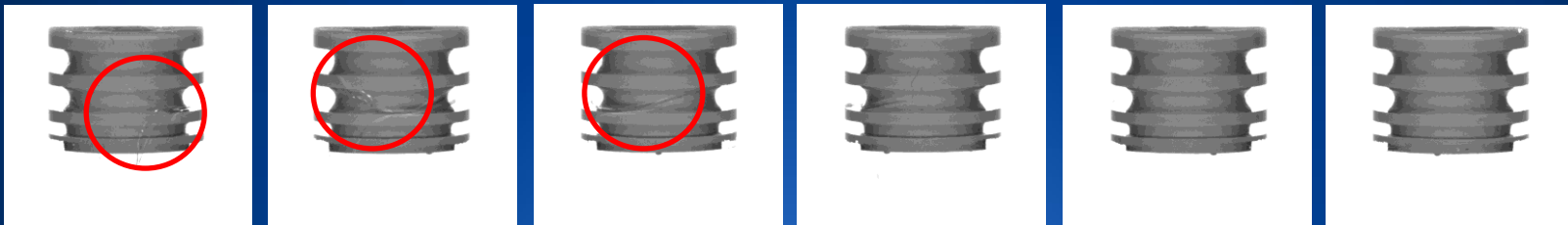
Crack in front of syringe plunger

注射器活塞前端的裂痕

- Due to developed view, whole sidewall can be inspected with one image
因新开发的成像技术，整个侧壁在一张图像上可被全部检查到

- Homogenous illumination, makes inspection easier
照明均一易于检验
- Each defect is visible from the same angle
在同一个角度明察每个缺陷

MATRIX CAMERA (= AREA SCAN CAMERA) 矩阵扫描相机（区域性扫描相机）



Crack in front of syringe plunger

- Multiple images are taken per product
- Plunger is at the side darker than in the center
- Each defect is visible at different angles

注射器活塞前端的裂痕

每个活塞需要采集多个图像
活塞侧面比中间部位略暗
每个缺陷在不同角度都可见

LIGHT REFRACTION AND SPECTRAL CODED ILLUMINATION

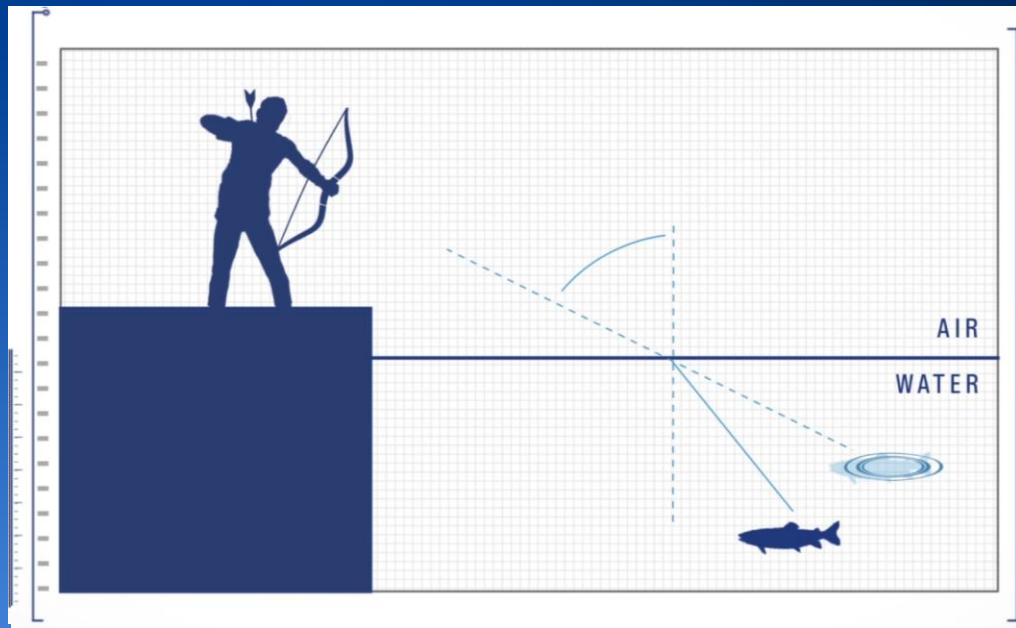
光线折射和光谱编码照明

Everybody knows effect of refraction: 大家都知道折射效应

...try to catch a fish in the water if you are shooting from the outside ... 在岸上射击水中的鱼

Rays of light usually travel in straight lines – until they hit something.

光线通常直线运动-直到受阻某些东西

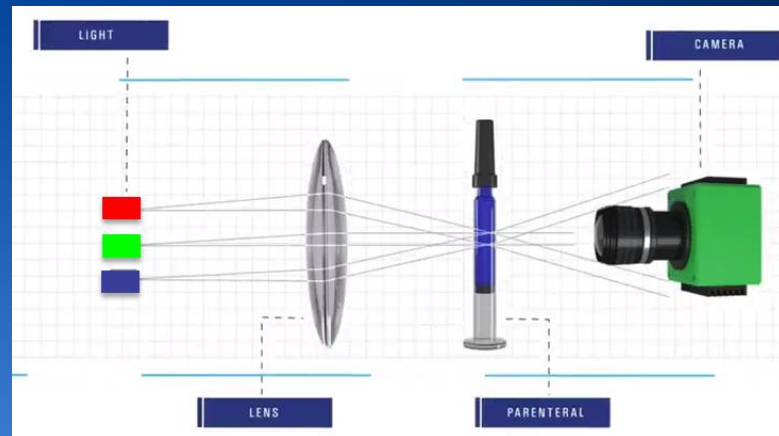


LIGHT REFRACTION AND SPECTRAL CODED ILLUMINATION 光线折射和光谱编码照明

Operating principle 工作原理

The lights are arranged in such a way that 灯光的排列

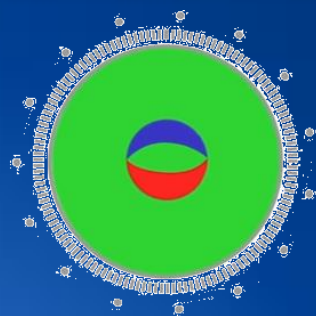
- ▶ the middle beam (green) provides bright field illumination 中间绿光提供亮区照明
- ▶ and the two outer beams (red and blue) provide dark field illumination. 两侧外缘红和蓝光提供暗区照明



LIGHT REFRACTION AND SPECTRAL CODED ILLUMINATION 光线折射和光谱编码照明

The biggest challenge for camera inspection 相机检测的最大挑战

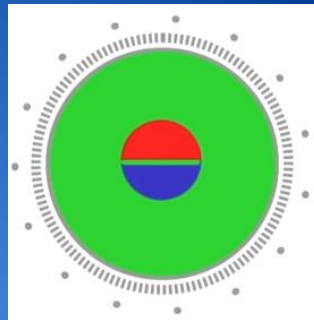
- ▶ is a round, transparent foreign object in the liquid, as this looks very similar to an air bubble. 是在液体中与气泡非常类似的圆形透明的外来异物
- ▶ Using spectrally coded light, the characteristic refractive properties of glass and air result 利用光谱编码技术来比较不同性质的玻璃和空气光线折射结果
- ▶ in the color gradient of air bubbles being opposite to that of glass particles: 两者的成像颜色排列完全相反 = clearly different color patterns are obtained. 得到了明显不同的彩色图像 WHY IS THAT?为什么是这样?



transparent particle in the liquid

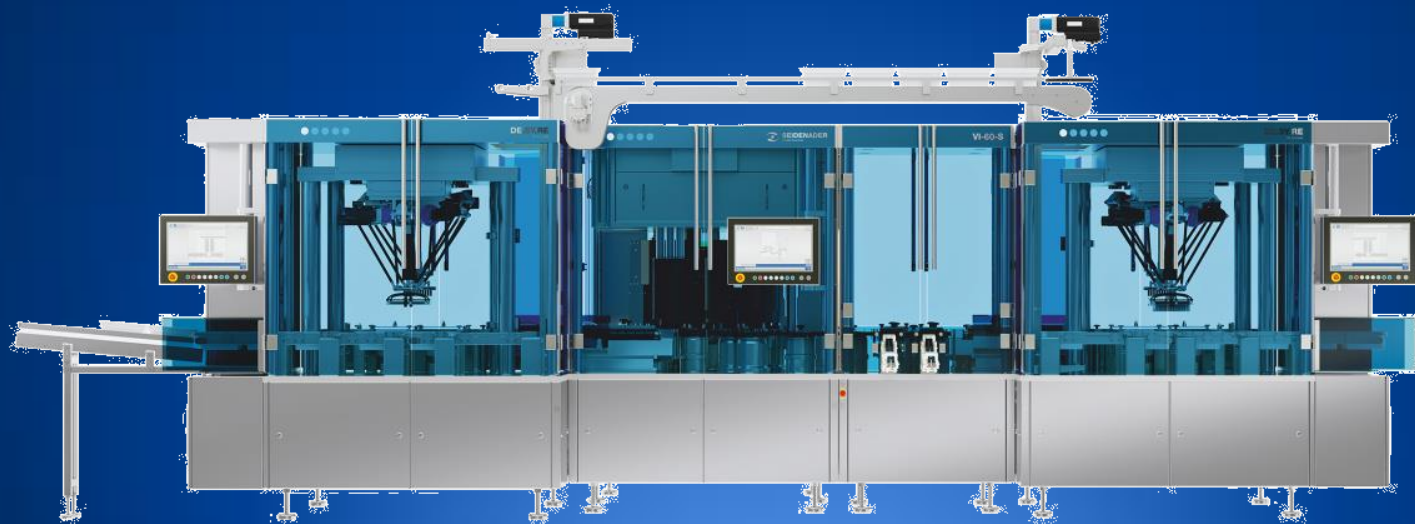


opaque particle in the liquid
- easy to identify -



Air bubble in the liquid

DE.SY.RE 脱巢-灯检-装巢一体机





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Video Interpretation
视频讲解



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Thank you for your attention
感谢您的聆听

Q&A?
如有问题请提问