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Living for Solutions.

SCHLICK 喷胶流水线
SCHLICK Blowline

SCHLICK喷胶流水线—喷胶均匀、效果好、用胶量少
SCHLICK Blowline – less Glue Consumption and maximum Quality



● 投资回报率：
SCHLICK喷胶流水线比同类产品能节约
10%-20%的胶水，几个月节约的费用就能覆
盖投资成本

Return on investment:
*The system pays for itself in just a few
months thanks to its average consumption
of 10-20% less glue*

SCHLICK喷胶流水线

100%德国制造

材质

- 耐酸不锈钢
1.4404 (AISI 316L) / 1.4541 (AISI 321) /
1.4571 (AISI 316Ti)

Materials

- Acid-proof stainless steel
1.4404 (AISI 316L) / 1.4541 (AISI 321) /
1.4571 (AISI 316Ti)

● **SCHLICK**喷胶流水线可轻松集成到
现有木纤维板的生产线中，并可大
幅提高生产率

*The SCHLICK blowline increases
productivity in the production
of wood fibreboard and can be
easily integrated into your existing
production line*

● **SCHLICK**喷胶流水线雾化极其
均匀、一致性好，造就了超乎寻
常的喷胶效果

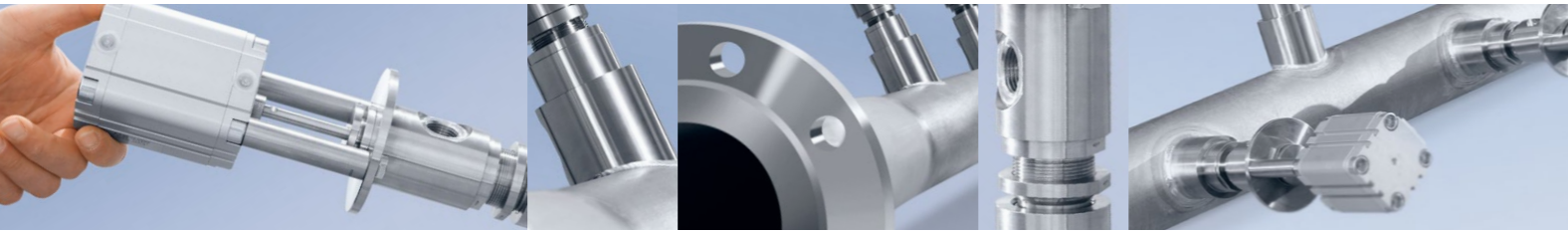
*Top quality is achieved
thanks to the absolutely
homogenous and reproducible
spray results over the entire
spray width*

● **SCHLICK**喷胶流水线契合
了环境友好原则：用胶
少、能耗低

*The environmentally
friendly system
uses less glue and
reduces energy
consumption*

SCHLICK喷胶流水线—一种更高效的喷涂胶工艺

SCHLICK Blowline – a more efficient Gluing Process



SCHLICK – 为雾化解方案而生

面对面服务

SCHLICK on-site service

如有需要, SCHLICK可提供全球现场服务:
安排人员到客户现场, 了解需求, 并根据客户
需求, 提出解决方案、协助客户安装和调试。

If necessary, we will go to your premises to learn about your specific requirements and develop the optimal solution. We offer advice and support for the installation and commissioning of the system. Another service plus is the support our worldwide field service provides.

在木材加工行业, 尤其是中密度纤维板的生产中, 专业喷胶变得越来越重要, 这不仅仅是因为原材料和能源变得越来越贵, 也是因为客户对板材的质量要求越来越高, 这就要求胶水尽可能地均匀喷涂在基材的表面。

Professional spraying in industrial wood machining, especially the production of MDF board, is increasingly gaining in importance. This is not just because of the increasing cost of energy and raw materials; it is also because increasingly high demands for quality encourage the demand for suitable processes and new possibilities, in order to apply liquids as homogeneously as possible onto prepared base materials.

当前, 胶水喷涂工艺包括三个工艺步骤:

1. 胶水混合
2. 干胶
3. 喷胶:

此工艺不需要额外的空间, 能以很低的成本直接集成到现有的管路中, 虽然压力式喷嘴也能避免胶水结斑, 但压力式喷嘴喷胶系统多消耗了胶水。

Currently, three different gluing processes are used:

1. **Glue blending**
2. **Dry gluing**
3. **Blowline gluing:**

This process does not require additional space and can be easily integrated into the existing piping with low initial costs. Although glue flecks are prevented, the pressure nozzle systems do use more glue.

压力式喷嘴仍然是当前板材生产中最主流的选择, 但随着产品质量要求的提升以及生产成本降低, 压力式喷嘴的缺陷慢慢显现了, 需要进行改进和优化。

Blowline gluing using a pressure nozzle system had become the most frequently used process in board production. However, this process must be optimised due to growing demands and costs.

SCHLICK喷胶流水线可大幅提高生产率
SCHLICK喷胶系统树立了木材喷胶流水线的新典范:

- 液滴在整个雾化宽度范围内都呈均匀分布
- 液滴细小、并可通过调节气液比调整液滴大小, 雾化一致性好, 无多余水分
- 雾化范围和雾化形状最优化
- 喷雾机构进尺速度可根据纤维板的速度调整
- 雾化液滴速度快

从雾化速度、液滴分布、体积密度分布、处理量等多个维度考量, SCHLICK喷胶流水线的雾化效果都十分的完美, 同时易于操作且安全性高。

The SCHLICK blowline increases productivity

SCHLICK has exactly defined specifications for the nozzle spray and sets new standards for more efficient blowline gluing:

- **Homogenous drop distribution over the entire width of the spray**
- **Extremely fine, reproducible and adjustable drop sizes without excess moisture**
- **Optimisation of spray zones and spray jet formation**
- **Adaptation of penetration depth into the fibre flow**
- **High drop speed**

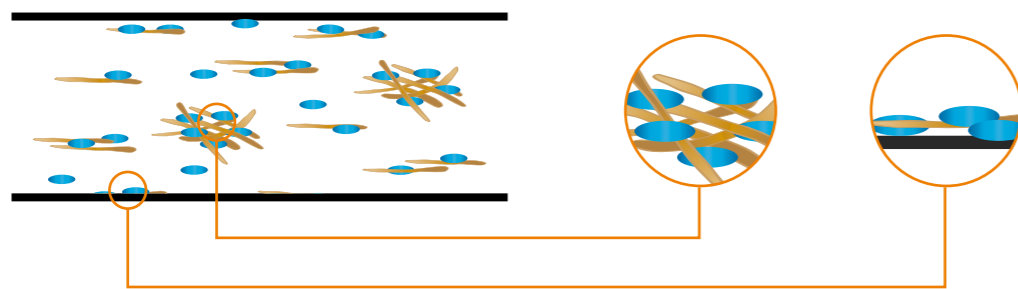
The SCHLICK blowline was specially designed to bring together perfect atomisation quality, drop speed, drop size distribution, volume current density and flow rate, and stands out thanks to its easy handling and optimal operating safety.

SCHLICK喷胶流水线较当前普遍使用的喷胶线有显著改善

雾化极其均匀、液滴小 (10-120um, 比纤维还细小)、胶水用量少、压缩空气消耗量少、无胶水结斑和结块现象。

The SCHLICK blowline perfects previous blowline gluing

An absolutely homogenous spray and optimised, extremely fine drop sizes in the existing blowline systems (10 – 120 µm; finer than the wood fibres to be coated) reduce glue consumption and prevent glue flecks and caking on the blowline system.

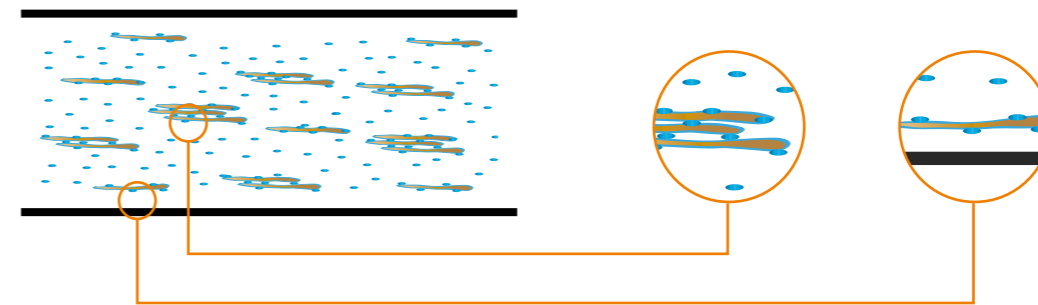


当前喷胶流水线的缺点 (压力喷嘴)

由于雾化不均匀, 液滴较大, 且液滴分布不均、不一致, 常导致木纤维粘接不均匀、另外设备上常有胶水结块。

Disadvantage of previous blowline gluing (pressure nozzles)

More glue is used due to an inhomogenous spray and drops that are too coarse, as well as an ineffective number and positioning of the spray zones. The wood fibre is glued unevenly and caking occurs on the blowline.



SCHLICK喷胶流水线整体构造

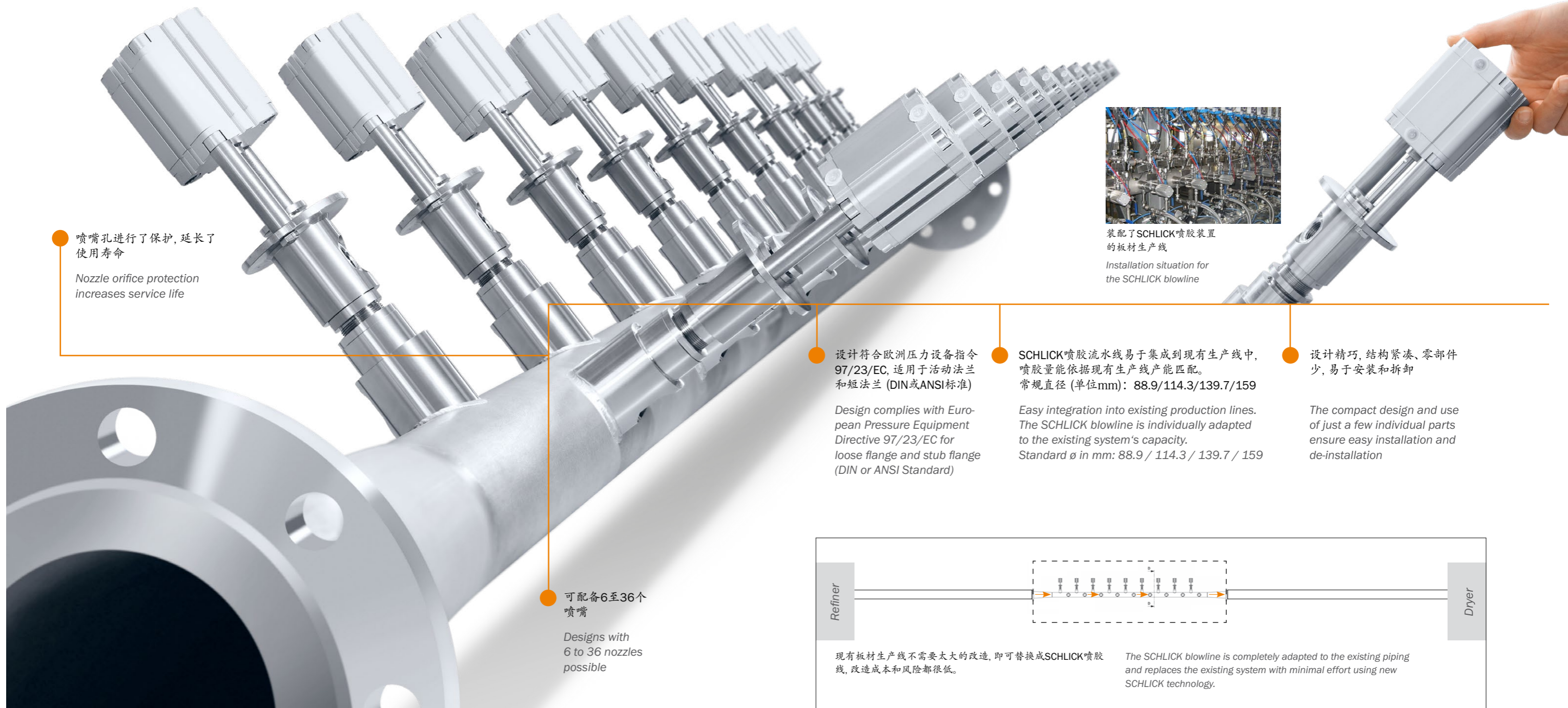
Integration of the SCHLICK Blowline



SCHLICK –
为雾化解方案而生
神奇的SCHLICK雾化技术
Clever SCHLICK technology

SCHLICK know-how – 从设备设计规划到实际批量生产, SCHLICK都乐意提供技术支持。

SCHLICK know-how – from planning to installation. We would be delighted to assist in the optimisation of your technical and operational results.



装配了SCHLICK喷胶装置的
板材生产线
Installation situation for
the SCHLICK blowline

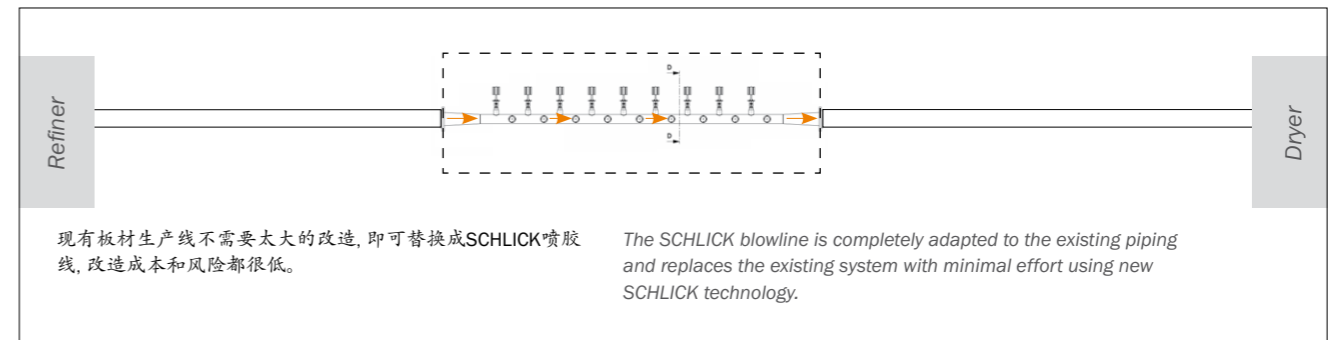
喷嘴孔进行了保护, 延长了
使用寿命
Nozzle orifice protection
increases service life

设计符合欧洲压力设备指令
97/23/EC, 适用于活动法兰
和短法兰 (DIN或ANSI标准)
Design complies with Euro-
pean Pressure Equipment
Directive 97/23/EC for
loose flange and stub flange
(DIN or ANSI Standard)

SCHLICK喷胶流水线易于集成到现有生产线中,
喷胶量能依据现有生产线产能匹配。
常规直径 (单位mm): 88.9/114.3/139.7/159
Easy integration into existing production lines.
The SCHLICK blowline is individually adapted
to the existing system's capacity.
Standard \varnothing in mm: 88.9 / 114.3 / 139.7 / 159

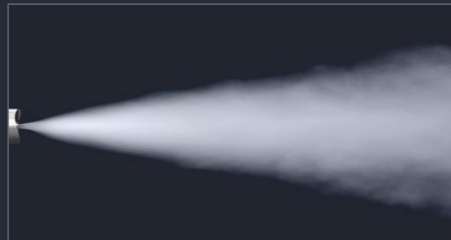
设计精巧, 结构紧凑、零部件
少, 易于安装和拆卸
The compact design and use
of just a few individual parts
ensure easy installation and
de-installation

可配备6至36个
喷嘴
Designs with
6 to 36 nozzles
possible



SCHLICK喷胶流水线和普通喷胶流水线的比较

SCHLICK Blowline for your Product



SCHLICK多流体0/4喷嘴雾化情况

The homogenous spray of a SCHLICK blowline multiple substance nozzle
0/4 S111-1 / D10.1142



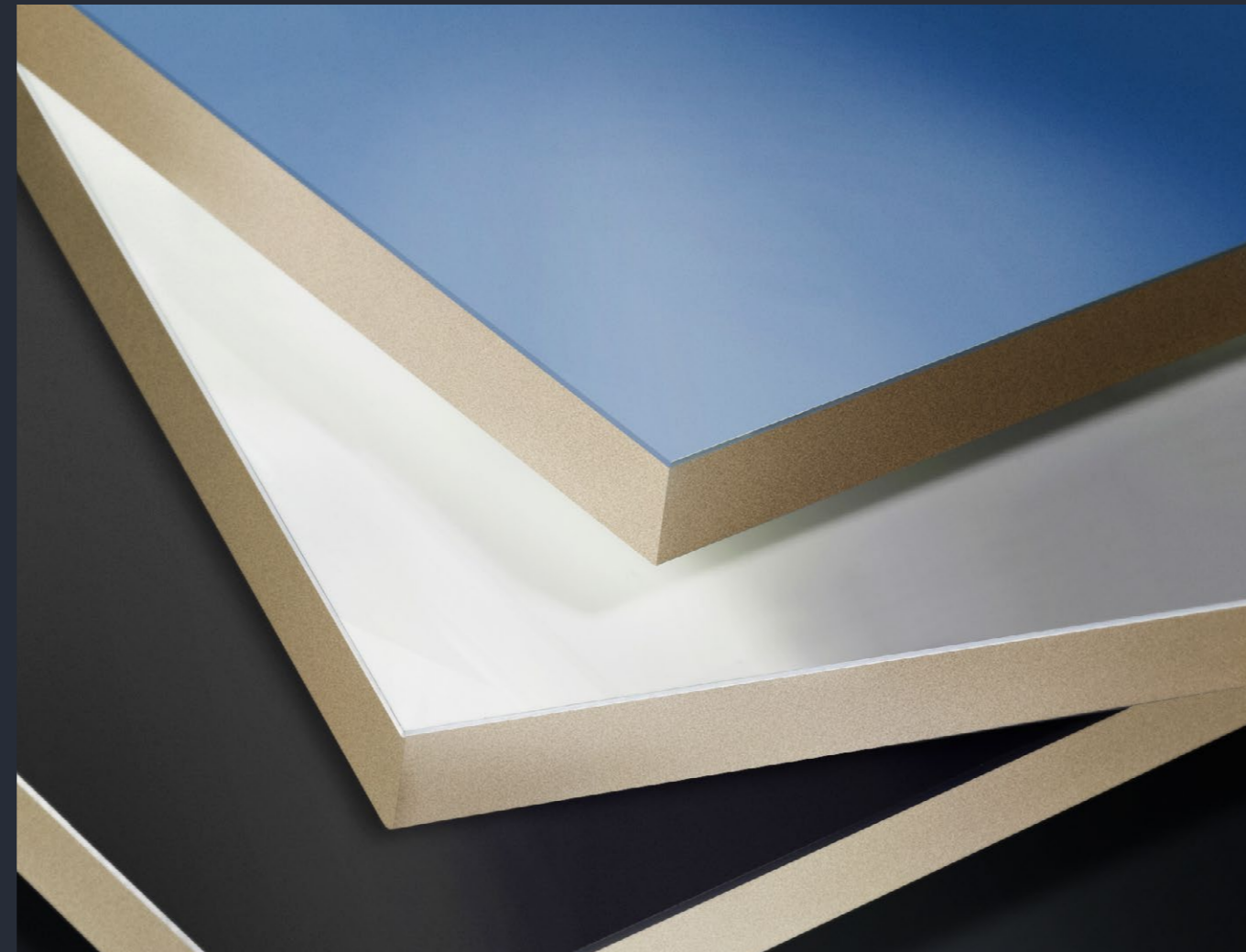
具有平流特性的压力喷嘴的雾化情况

Spray from a pressure nozzle with flat-stream characteristics

以下以高密度板为例
Practical example for an HDF board

	压力喷嘴 Pressure nozzle technology	SCHLICK Blowline
胶水消耗量 Glue consumption	100 %	100 %
板材强度 HDF quality	1.85 N/mm ²	2.36 N/mm ²
板材流转速度 Fibre flow rate	29 t/h	29 t/h
节约的胶量 Glue reduction	没减少 No reduction possible	- 比初始值减少了10% - 10 % from initial value
板材强度 HDF quality	超出范围 Out of Range	2.1 N/mm ²
最终值 End value	29 t/h	29 t/h

减胶后的比较
Example after glue reduction



值得信赖的SCHLICK喷胶流水线
trusts in SCHLICK blowline

SCHLICK 多流体喷胶流水线技术参数

SCHLICK Blowline multiple Substance Nozzle – Technical Features



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 神奇的SCHLICK雾化技术
Clever SCHLICK technology

- 具体技术特征
- 拆装极其简单
 - 适用于高粘度液体
 - 喷嘴配备了清洁通针
 - 喷嘴可加装水冷护套

- Technology in detail**
- Extremely easy installation/de-installation
 - Suitable for highly viscous liquids
 - Integrated cleaning needle
 - Upgrade variants with additional water cooling possible

多年客户实际应用见证了SCHLICK喷胶流水线的卓越。几十年来，SCHLICK一直为木材加工行业的制造商和生产商提供不断优化的喷胶雾化技术。

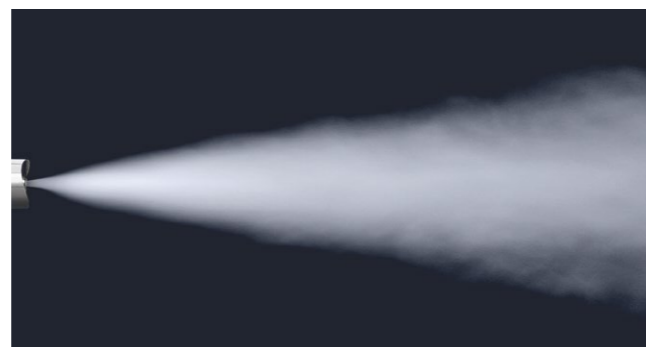
现在，SCHLICK多流体喷胶流水线满足了板材制造商对涂胶的所有期待，能从各个角度为客户节约成本。

创新性产品设计造就了完美的粘合效果：SCHLICK喷胶流水线所使用喷嘴是在SCHLICK专利防结须技术基础上开发的。

Years of experience that pay for themselves
 For decades, Düsen-SCHLICK has been supplying systems manufacturers and producers in the wood machining industry with process-optimised atomisation technology.

Now, the use of the SCHLICK blowline meets all requirements in professional gluing and guarantees cost-effectiveness down to the last detail.

Innovative product design for perfect gluing:
 The SCHLICK blowline nozzle system was developed based on the patented SCHLICK ABC-Technology®.



雾化形状 Atomising design	实心锥 Full-cone
雾化角度 Spray cone	30°
液滴大小 Droplet-size	10 - 120 µm
处理量 Flow rate area	1 - 20 l/min



该系统适用于水、胶水、尿素溶液或硬化

The system is suitable for water, glue, urea solution or hardener

设计精巧，结构紧凑，零部件少，易于安装和拆卸

The compact design and use of just a few individual parts ensure easy installation and de-installation

清洁通针避免了喷嘴堵塞，即使喷嘴头附近的液体粘度很高

The integrated cleaning needle practically eliminates nozzle blockage, even if highly viscous liquids are present near the nozzle orifice

喷嘴可加装水冷护套

Upgrade variants with additional water cooling possible

材质为耐酸不锈钢(1.4404/1.4571)，表面粗糙度Ra<1.6

Acid-proof stainless steel (1.4404 / 1.4571) with a surface quality of Ra < 1.6

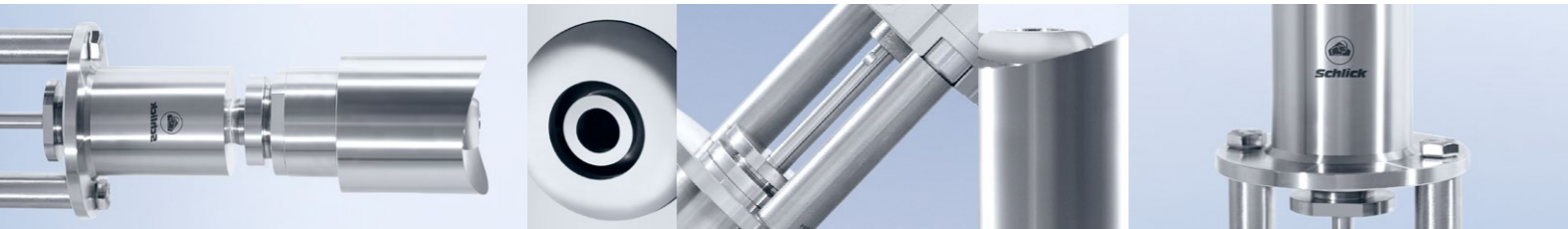
设计符合欧洲压力设备指令97/23/EC

Design complies with European Pressure Equipment Directive 97/23/EC

SCHLICK多流体喷胶流水线喷嘴：
 O/4 S111-1-D10.1142
 SCHLICK blowline multiple substance nozzle,
 model O/4 S111-1 - D10.1142

不同喷嘴喷胶流水线雾化比较

Comparison of SCHLICK Blowline and Blowline Nozzles

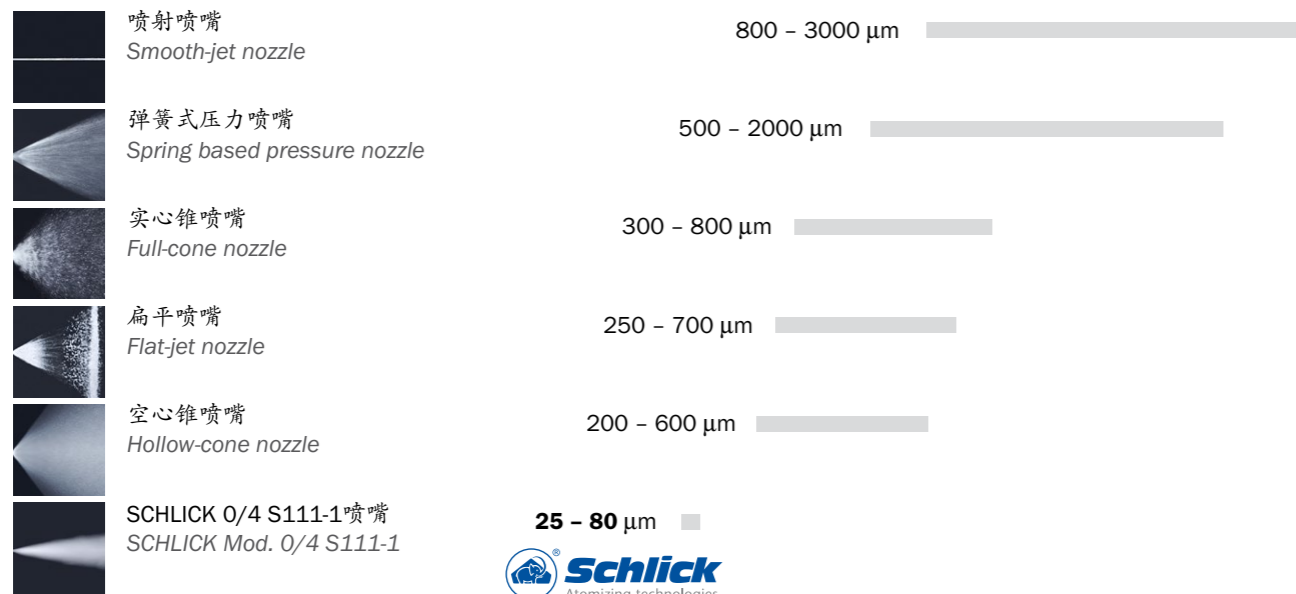


信任和质量是合作成功的基础,这不仅仅指我们的产品,也适用于我们的服务。如有需要,我们可向您提供喷嘴相关文件,如技术手册(包括图纸、流量图、安装和操作说明)、SCHLICK公司的相关证书以及喷嘴的材质说明。

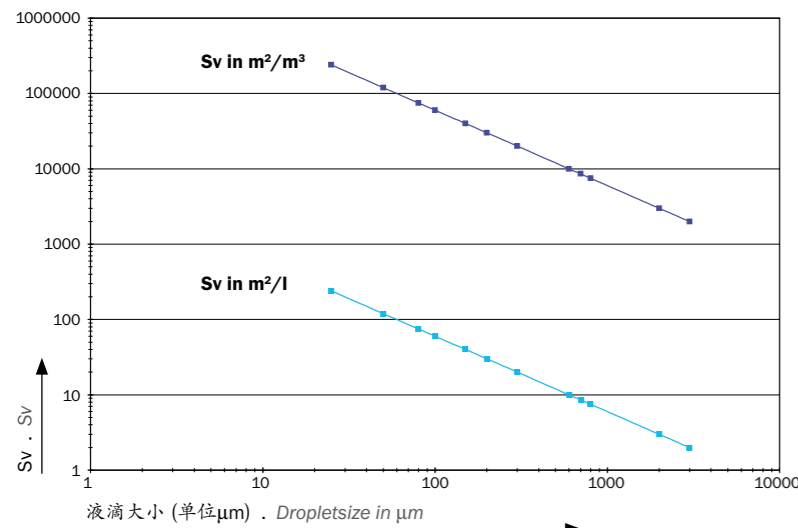
Reliability and quality are the basis for successful cooperation with our international customers. This applies both to our products and to our service. If you wish, we will supply you with all necessary documentation such as technical handbooks for the nozzles (drawings, flow diagrams, installation and operating instructions) together with factory and material specifications.

不同喷嘴雾化情况—液滴大小 (D30)/ 体积平均直径

Working area for nozzle technology – drop size d30 / volumetric average drop diameter



体积和表面积比 (Sv)
Volume-related surface Sv

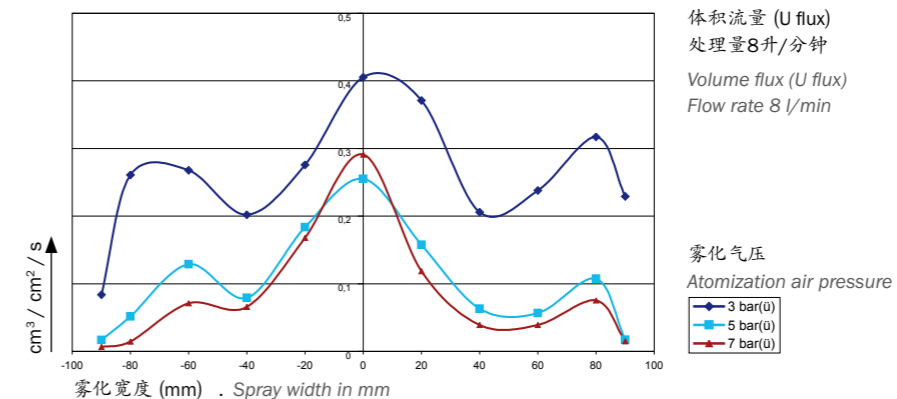
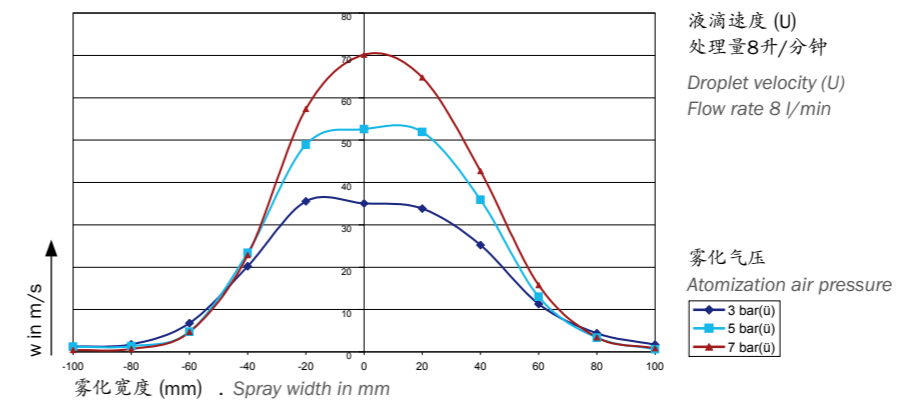
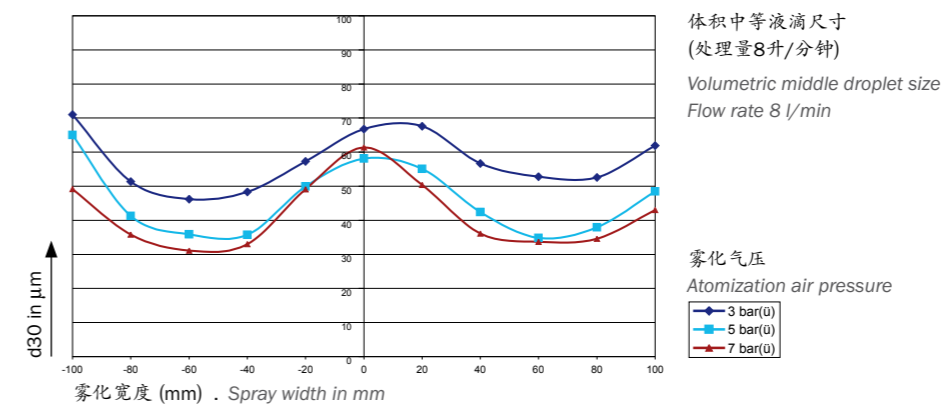


竖轴为体积和表面积比,用符号Sv表示,单位为 m^2/m^3 ,从左图可以看出,液滴越小,比值越大,圆点表示最小表面积(在特定的体积下)

The volume-related specific surface indicates which surface has a cubic metre of a substance. Formula symbol is Sv, unit is m^2/m^3 . The balls indicate the smallest specific surface (at specified volumes).

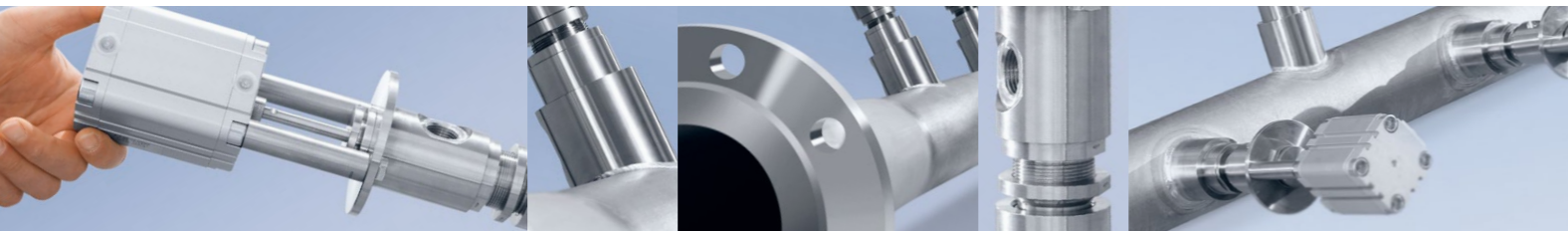
SCHLICK 多流体喷嘴0/4 S111-1 D10.1142的测试数据

Measurements in the examples for SCHLICK multiple substance nozzle 0/4 S111-1 D10.1142



SCHLICK 测试技术中心—测量专家

SCHLICK Test & Research Centre – Measuring Expertise

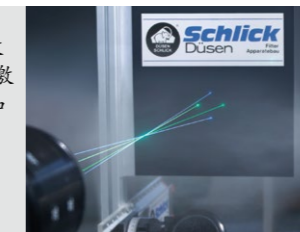


相位多普勒测量技术

PDA measurement technology

雾化效果可测量
Measurable success

SCHLICK测量系统采用双相位激光多普勒测试原理(5瓦氩离子激光器), 精准测量雾化液滴颗粒及其流动特性。



The SCHLICK measurement system, a drop measurement device designed according to the dual PDA principle (PDA = Phase-Doppler Anemometry), uses a 5-watt (argon-ionic) continuous wave laser.

测量和测试确保了喷嘴的高质量

100多年来, SCHLICK一直致力于给客户理想的定制化雾化方案, 同时, 通过全面质量管理体系, 不断提升产品质量, SCHLICK测试技术中心(STRC)也是这个质量管理体系的重要组成部分。

工程师和技术人员使用STRC对新开发的喷嘴进行强度和耐久性等等测试, 并在整个开发过程中, 对产品进行检测和管控。

由于对定制测量、测试和优化解决方案的需求大幅增加, 作为SCHLICK公司提供的产品和服务组成部分, SCHLICK STRC也可给客户测量、测试服务。

Measuring and testing guarantees the highest quality

For more than 100 years, SCHLICK has stood for quality and customised solutions, and has guaranteed this high quality through its comprehensive quality management system. The SCHLICK Test & Research Centre (STRC) forms a fundamental part of this system.

Engineers and technicians use the STRC to carry out stress and endurance tests on newly developed nozzles and also for quality testing on the whole range.

Due to the increased demand for customised measuring, testing and optimisation solutions, these measuring and testing services have become an official part of the range of services offered by SCHLICK.

SCHLICK测试技术中心占地500多平方, 汇集了全球最新的测量和测试设备, 可对单流体喷嘴、两流体喷嘴、多流体喷嘴等进行测试、评估, 以及对物料等进行分析, 现有以下几大设备:

- 动态跌落测量系统 (双PDA系统)
- 基于跌落系统的萃取系统
- 雾化分布测量设备
- 高压力泵
- 粘度测试设备
- 声级仪
- 可加热压力罐

SCHLICK测试技术中心可接触到雾化教学和研究领域的相关网络, 这意味着, 除了进行产品本身的因果关系研究和风险评估外, STRC还可以协助开发定制化解决方案—从设想到样品制作以及产品试运行。

At its over 500 m² premises, the STRC brings together the very latest measuring and testing equipment. The following facilities are available for the evaluation of sprays from one-, two- and multiple-substance nozzles and for the evaluation of customers' materials:

- Dynamic drop measurement system (DUAL-PDA)
- Extraction to the drop measurement system for the measurement of customer's materials
- Spray distribution testing equipment
- High-pressure pumps
- Viscosity testing equipment
- Sound level meter
- Heatable pressure tank

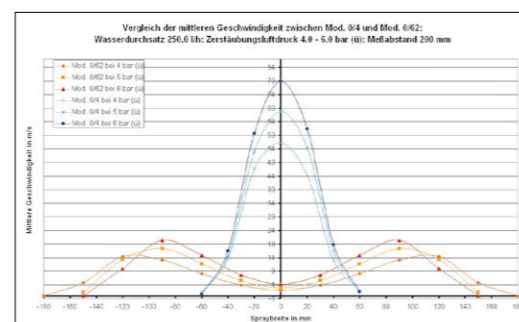
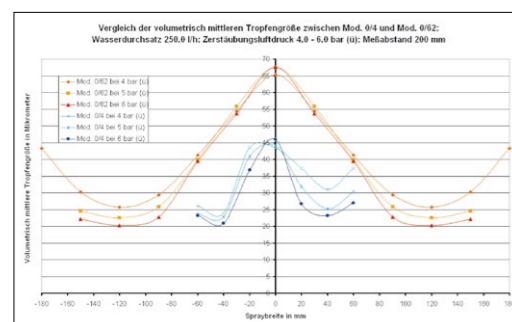
The STRC has access to a network of impartial advisors from the field of teaching and research, meaning that, in addition to conducting causal research and damage analyses, it can help develop customised solutions – right from the conception of a new idea through to the production of a prototype and the necessary test runs.

SCHLICK 测试服务包

SCHLICK提供的服务范围: 从简单的单项测试和测试数据记录, 到详细的多项目测试和详细报告, 包括了对结果的记录、分析、评估、以及改进建议, 这将对改进样品提供帮助。SCHLICK测试技术中心的数据库, 已拥有超过40,000多个经过测试的解决方案数据。

The SCHLICK service package

The services offered by SCHLICK range from simple measurements with the appropriate records to detailed testing reports with discussion of the results and suggestions for improvements to processes. The results obtained can be immediately put to use in the development of prototype solutions. SCHLICK has a database of over 40,000 tested solutions to help it in this task.



SCHLICK测试技术中心能针对以下项目进行测量、分析和编制报告:

- 液滴大小
- 雾化速度
- 雾化密度
- 雾化分布
- 液体的流变性
- 声级
- 清洗测试
- 液滴对比
- 性能对比
- 流量测定

The STRC carries out measurements, conducts analyses and produces documentation for the following areas:

- Drop size
- Drop speed
- Flow rate density
- Spray distribution
- Rheological behaviour of liquids
- Sound level
- Cleaning trials
- Comparative drop measurement
- Comparative performance measurement
- Throughput measurement



Certified by



DIN EN ISO 9001:2000

Zertifikat: 01 100 041248

to DIN EN ISO
9001: 2000

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