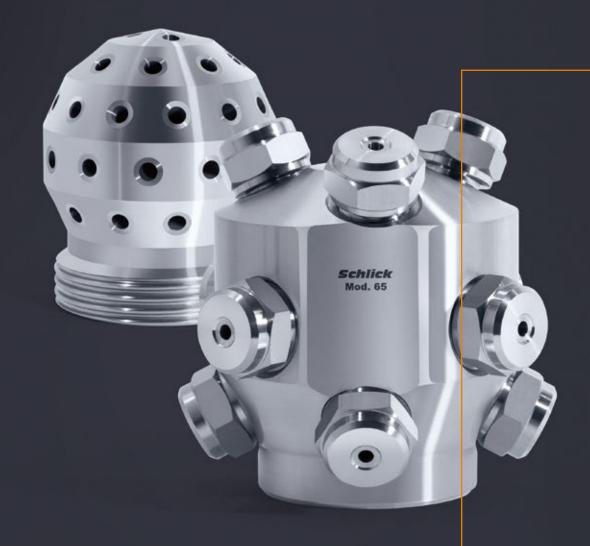
SCHLICK 清洗喷嘴 SCHLICK Cleaning Nozzles





创新性喷嘴设计造就了完美的清洁效果

Innovative SCHLICK designs ensure perfect cleaning results

多种多样的清洗喷嘴为所有可能的应用 场合提供了完美的解决方案

Very diverse models suit almost every task – further developments guaranteed



SCHLICK 雾化技术

100%德国制造



材质

- 耐酸不锈钢
- 耐高温不锈钢
- 黄铜
- 钽合金
- 钛合金
- 哈氏合金
- 铬镍合金
- 聚四氟乙烯
- 聚丙烯
- 聚氯乙烯
- 聚偏氟乙烯
- 超高分子量聚乙烯
- 其他客户指定材料

Materials

- Acid resistant stainless steel
- Heat resistant stainless steel
- Brass
- Tantalum
- Titanium
- Hastelloy
- Inconel
- PTFE
- PP
- PVC
- PVDF
- RCH 1000
- Custom materials available on request

Product Deerheet

Product Deerheet

Product State Barke

Product State B

ine tane substane

Motte Heads

Fulcon. Moth

Cathide Nottles

Fist 3

Mine Hottles

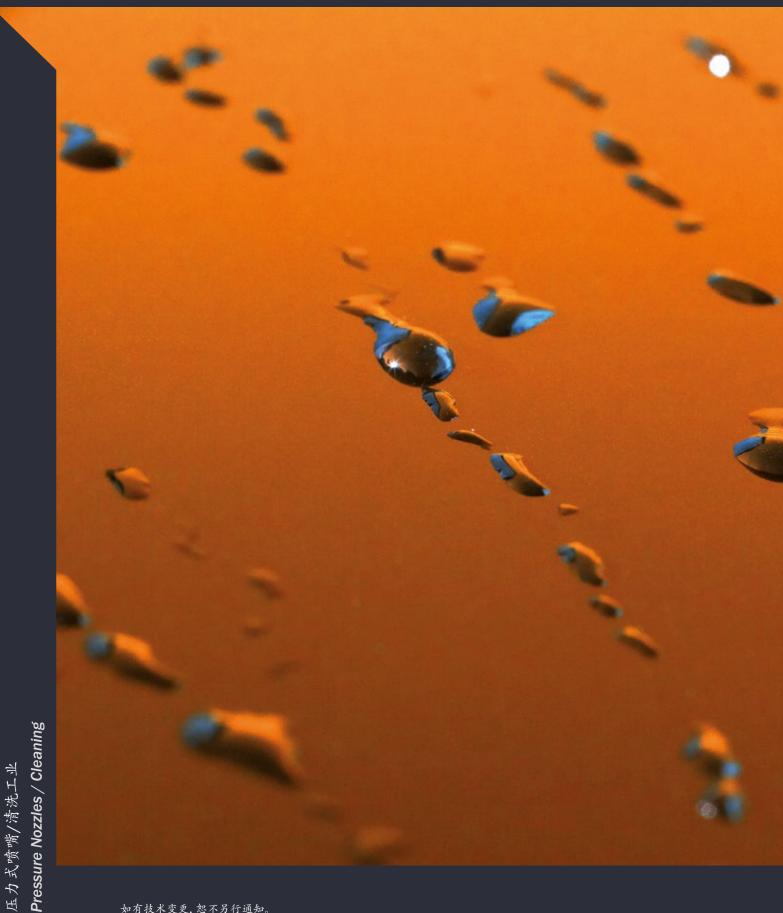
Laval Northes

Cleaning Hoth

Accessories

Military Center

SCHLICK 清洗喷嘴 SCHLICK Cleaning Nozzles



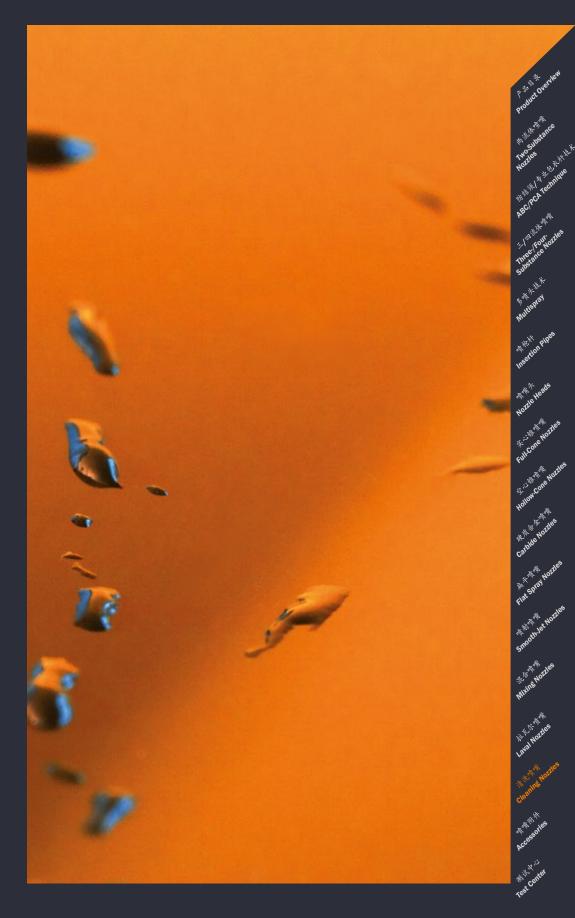


应用

- 空气调节
- 冷凝
- 直接润滑
- 管路清洁
- 消防
- 气体冷却
- 加湿
- 混合
- 管道清洁
- 工艺工程
- 过热蒸汽冷却
- 油罐清洗
- 洗涤

Applications

- Air conditioning
- Condesation
- Direct lubrication
- Ducting cleaning
- Fire protection
- Gas cooling
- Humidifying
- Mixing
- Pipe cleaning
- Process engineering
- Superheated steam cooling
- Tank cleaning
- Washing



弹簧式压力喷嘴 Spring Based SCHLICK Pressure Nozzles



神奇的SCHLICK清洁雾化技术— 为生产保驾护航

弹簧式压力清洁喷嘴, 适用于大液滴、 大流量的清洁场合。

为达到很大的流量, 喷嘴进行了特殊设计, 雾化形状类似空心锥, 但因为液滴比较粗大, 分布不是十分均匀。

流量大小取决于液体的压力, 锥形毂片打开的 幅度也影响流量的大小,锥形毂片打开压力值可调整。

Clever technology – additional production safety

SCHLICK spring-based pressure nozzles are ideal for coarse dosage tasks, cleaning and the air flow of gas or steam.

The nozzles have been especially developed to achieve a broad expansion of the liquid stream. The spray image resembles that of a hollow cone, however with relatively coarse droplets and an uneven liquid distribution.

The air flow is dependent on the differential pressure of the liquid. The air flow can be limited through a defined cone hub and the opening pressure can be varied.





创新性产品设计:

- 安装极其简单方便
- 显著减少维修时间
- 应用范围非常广泛
- 终身售后服务保障
- 免费产品设计和技术支持

Innovative product design:

- Extremely easy installation for maximum flexibility
- Significant reduction in servicing downtimes as blockages are impossible
- Very wide range of applications
- Long-term after-sales warranty
- Engineering free of charge







SCHLICK Mod. 631 K





SCHLICK Mod. 641

SCHLICK Mod. 641 K

喷嘴本体内部有一个锥形柱塞, 利用弹力封堵喷嘴出 口, 当喷嘴中液体压力增大时, 弹簧被压缩, 锥形柱塞 开始远离喷嘴出口,形成环形间隙,液体从环形间隙 中喷出。

Within the body of the nozzle there is a cone-shaped plunger, which seals the nozzle exit using elastic energy. With a pressure load (e.g. through the existing liquid pressure) the spring is pressed together and the cone is moved forward from the nozzle exit. The liquid escapes through the annular gap that arises.



雾化形状: 空心锥



631喷嘴雾化角度: 45°, 60°, 90°, 120°, 140° 641喷嘴雾化角度: 40°, 60°, 90°, 120°, 140°

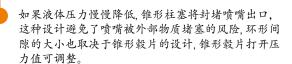


631喷嘴处理量: 4.5 - 20升/分钟(3 bar时) **641**喷嘴处理量: 50升/分钟(3 bar时)



常规孔径:

可调环形间隙出液口



With a reducing pressure load the annular gap is completely closed, which eliminates the risk of the nozzle being blocked from external material. The annular gap can optionally be limited through a defined cone hub and the opening pressure can be varied.



Spray pattern:

circular hollow-cone



Spray angle 631: 45°, 60°, 90°, 120°, 140° **Spray angle 641:** 40°, 60°, 90°, 120°, 140°



Capacity 631: 4.5 - 20 I/min at 3 bar Capacity 641: 501/min at 3 bar



Standard-Bohrungen:

liquid outlet through adjustable annular gap

具体技术参数

Technical Details Spring Based SCHLICK Pressure Nozzles



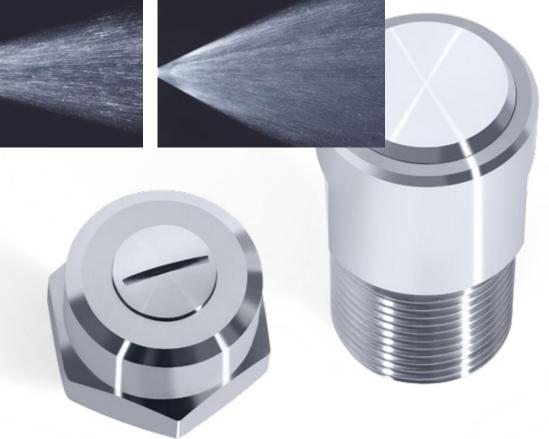
尺寸 **Dimensions**

型号 Model	631 Größe 1 631 size 1	631 Größe 2 631 size 2	631 Größe 3 631 size 3	631 K Größe 1 631 K size 1	631 K Größe 2 631 K size 2	631 K Größe 3 631 K size 3	641	641 K
螺纹规格 (英制) Connector G ISO 228	1/4	3/8	1/2	1/4	³ / ₈	1/2	3/4	3/4
前端螺纹 (英制) Front end thread K ISO 228	-	-	-	³ / ₈	3/8	1/2	-	3/4
总长H (mm) Total height H in mm	29	40	47,5	29	40	47,5 - 50	61	61
扳手开口尺寸 (mm) Spanner width SW in mm	20	22	27	20	22	27	27	27

631系列喷嘴雾化图 Spray model 631



641系列喷嘴雾化图 Spray model 641





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.



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自旋式清洗喷嘴 Automatic Rotating SCHLICK Cleaning Nozzles



清洁专家-彻底清洁的理想选择

精准清洁,操作极为安全,即使在需防爆环境下的清洁 (ATEX)

设备使用后的清洁工作也是一项艰巨的任务, 尤其涉及到各种各样尺寸的容器, 仅仅有好的设计还不够。

这也是我们对300/0和300/1系列喷嘴进行改进的原因,必须确保喷嘴旋转过程产生的摩擦,不会导致爆炸危险 (要能通过ATEX认证),喷嘴旋转滑套是由导电材料制成,这样可以防止静电积聚,此外,自旋式喷嘴也符合FDA标准。

最新型号自旋式喷嘴是Pirouette系列喷嘴, 此系列喷嘴外径 只有10mm, 尤其适合小容器的清洁。

The specialists – ideal for thorough cleaning

Precise and safe cleaning, even in potentially explosive atmospheres (ATEX)

Cleaning systems and apparatus after daily industrial operation is a demanding task. Good design alone is not enough when it comes to cleaning a wide range of containers.

That's why our models 300/0 and 300/1 have been enhanced to ensure that any friction generated when the nozzles rotate does not pose a hazard in potentially explosive atmospheres (ATEX certified). This is achieved by fitting nozzles with sliding bushings made from a conductive material, which prevents electrostatic charge from building up through friction. Moreover, the nozzles are FDA compliant.

The latest addition to our range of automatic rotating nozzle heads is the Pirouette model, which has an outer diameter of just 10 mm, offering an ideal solution for cleaning the very smallest containers.





旋转清洗喷嘴在线工作流程:

- 冷水粗洗
- 热水和清洗剂清洗
- 软化水冲洗
- 压缩空气吹 (转速无明显变化)

With the rotating SCHLICK nozzle heads complete CIP cleaning cycles can be carried out:

- Pre-cleaning with cold water
- Cleaning with hot water and cleaning agents
- Rinsing with demineralised water
- Blowing with compressed air (no significant change in the rotational speed)



雾化形状: 多个喷射水柱



雾化角度:

300 Size 0和Size 1: 大致300°



处理量:

300 Size 00喷嘴: 1.10升/分钟 (1bar时)

1.85升/分钟(3bar时)

300 Size 0和Size 1喷嘴: 14-50升/分钟(3bar时)



常规孔径:

300 Size 0和Size 1喷嘴: 19个孔



Spray pattern: several smooth-jets



Spray angle:

Size 0 and 1: approx. 300°



Capacity:

Size 00: 1.10 l/min at 1 bar

1.85 I/min at 3 bar

Size 0 and 1: 14 – 50 l/min at 3 bar



Standard orifices:

Size 0 and 1: 19 orifices



在喷嘴工作压力和工作温度范围内,300系列喷嘴基本 能以一个恒定的速度旋转,这确保了喷嘴在各种清洗应 用场合下的清洗效果。

With an almost constant rotational speed over the entire working pressure and temperature range the automatic rotating SCHLICK nozzle heads offer perfect conditions for very varied areas of application.

如工作环境压力为1-6 bar, 工作温度为15-80°, 300 系列清洗喷嘴能满足绝大数清洗场合。

At a working pressure of 1–6 bar (g) and a working temperature of 15–80°, the nozzles fulfil the majority of application requirements.

Product one ment

RECPCATECTOR

RECPCATECTOR

RECFERENCE

ROLL

RECFERENCE

RE

Insertion Pin

Wordle Head

Hollow Cone F

Fiat Spread Hord

Shoc Short

Laval Notate

Cleaning L

Test Center

自旋式清洗喷嘴 Automatic Rotating SCHLICK Cleaning Nozzles



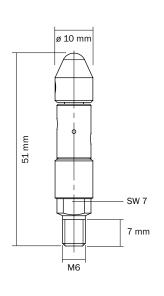
具体技术参数 Technical details

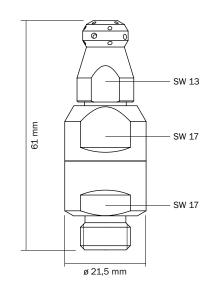
型号 Model	300/00	300/0	300/1	250
适用最大储罐直径 (米) Max. diameter of tank (approx. in m)	0.1	1	3	6
最小清洗直径 Minimum clearance diameter	DN 10	DN 25	DN 40	DN 150
螺纹规格 Connecting thread	M6	G ¹ / ₄	G ³ / ₄	G ³ / ₄

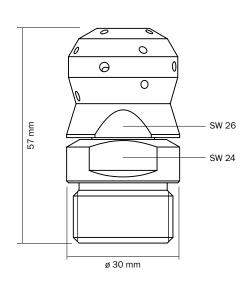
左表所列的是最常见的4款自旋式清洗喷嘴,适用于清洗直径约为0.1-6 米的罐体。

The automatic rotating systems are available factory-installed in four different basic models and serve for cleaning tanks of approx 0.1–6 m diameter.

外形尺寸 Dimensions







SCHLICK Pirouette Mod.300/00

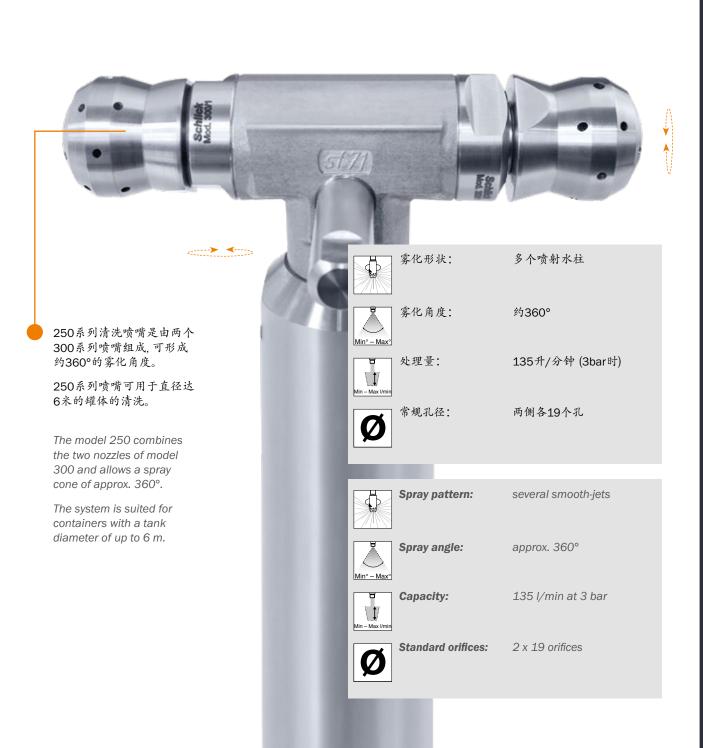
SCHLICK Mod. 300/0

SCHLICK Modell 300 /1



作为全球技术领先的喷嘴制造商, 我们不仅能提供标准的高质量解决方案, 也能根据客户的要求进行定制, 即使项目时间短、需求量少。

As one of the leading spray nozzle manufacturers in Europe, we can offer both high quality standard solutions and are in the position of developing customised products for individual tasks as fast as possible, even for small production runs.



多喷头清洗喷嘴 Multi-Part SCHLICK Nozzle Heads



多变性— 可用于各种应用

65系列喷嘴也是用于容器清洁, 此型号喷嘴可与各种喷嘴 (全锥形喷嘴、空心锥形喷嘴) 组合起来

通过各种不同的组合,能用于各种不同流量要求的场合。

得益于安装和改造非常简单, S65喷嘴使用起来柔性很好, 多种尺寸和型号可供选择, 使得S65系列喷嘴应用更为广 泛。

Various applications – easily interchangeable

SCHLICK model 65 is equally used for cleaning containers. The model range can be combined with various nozzle types (full-cone nozzles, hollow-cone nozzles).

Through the diverse mounting options very different sprays can be achieved with variable liquid flow rates.

The simple installation and modification makes this nozzle head extremely flexible in use. Different sizes and models expand the possible options.



65系列喷嘴有多种型号可供选择,配合合适的实心锥或者空心锥喷嘴,可以实现多种多样的雾化,如各种流量和各种雾化角度(30-120°)。

SCHLICK nozzle heads model 65 are available in several models. Combined with the relevant full-cone or hollow-cone nozzle it is possible to achieve very diverse spray characteristics. The liquid flow and spray angle (30–120°) are therefore completely adjustable.

) 根据实际需要, S65系列喷嘴可装配实 心锥或空心锥喷嘴,如需要更换,无需特 殊工具,手工更换即可。

Depending on the spray result desired the nozzle heads are fitted with SCHLICK full-cone or hollow-cone nozzles. If required these can be easily replaced by hand.





创新性产品设计:

- 多变组合, 使得应用更为广泛、灵活 显著减少维修时间
- 多种安装方式可选 终身售后服务保障
- 免费产品设计和技术支持

Innovative product design:

- Extremely easy to adjust for maximum flexibilitySignificant reduction in maintenance downtimes thanks to easy access to all components
- Wide range of installation options thanks to modular construction
- Long-term after-sales warranty
- Engineering free of charge



Subject to technical alterations.

一体式喷嘴 Single-Part SCHLICK Nozzle Heads



一体式**一** 喷嘴一次加工成形

一体式喷嘴是由一块材料加工而成, 只有一个部件, 特别紧凑、牢固, 可用于多种清洁场合 (包括罐体)

喷嘴的部件少意味着喷嘴体积小, 喷嘴重量也轻, 一体式也不存在拆装错误, 其实这种一体式喷嘴技术含量高, 另外所有功能整合在一个部件上, 对加工制造精度要求也极高。

Uni-Bodys – Nozzle heads from one mould

SCHLICK nozzle heads consist of one piece of solid material and are especially compact and robust. They can be used in many types of cleaning (incl. containers).

Few components mean less space is needed, they are lighter and there are fewer things that can go wrong. Production of such a single-part nozzle head carries its very own challenges. If a single part is responsible for many functions then there must be absolute precision in manufacture.





创新性产品设计:

- 一体式设计, 极为牢固
- 显著减少维修时间
- 定制设计, 适用范围广
- 终身售后服务保障
- 免费产品设计和技术支持

Innovative product design:

- Single-part completely robust design
- Significant reduction in servicing downtimes through easy installation/de-installation and quick cleaning
- Individual design for a very wide range of applications
- Long-term after-sales warranty
- Engineering free of charge

固体材质加工而来的一体式喷嘴极为坚固, 没有其他组件, 意味着生产准备时间短, 喷嘴本身清洁也极为简单。

With construction out of solid material the single-part SCHLICK nozzle heads are almost indestructible. The absence of other components means it can be ready for use in a very short space of time and cleaning is simple. 根据客户要求定制的喷嘴, 尺寸极为精准, 包括螺纹等, 安装也非常简单, 尺寸大小等可按客户要求定制, 至此扩大了喷嘴的应用范围。

Through counter-threads made to customer specifications the nozzle heads are absolutely precise and very simple to fit. Individual sizes and varieties expand the possibilities for numerous applications.



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管道清洗喷嘴 SCHLICK Pipe-Cleaning Nozzles



Schlick增强版喷嘴: 多种超级硬喷嘴可供选择

618、619和619K系列喷嘴是专门为管道清洁开发的, 能用于高达300bar的压力管路清洁, 喷嘴为带内螺纹的一体式喷嘴.安装方便且安全。

根据不同型号,有些喷嘴是从前向后喷,也有从后向前喷的喷嘴,喷孔的直径和数量,视客户具体应用确定,由于反冲作用力,喷嘴会部分地被拉出管道。

凭借上述这些突出的优点, SCHLICK管道清洗喷嘴的应用范围极为广泛。

SCHLICK Plus: also available as hardened variants

SCHLICK models 618, 619 and 619 K were especially developed for pipe cleaning and are suited for pressures of up to 300 bar. They consist of a single-part body with a standardised internal screw thread attachment for easy and secure installation.

The water jet leaves through the bore holes in the body towards the front or towards the rear depending on the model. The bore hole diameter and quantity of the bore holes are individually adapted to suit individual requirements. The nozzles are partly pulled through the pipe automatically as a result of the recoil that occurs.

With these ground-breaking characteristics SCHLICK pipe-cleaning nozzles cover an extremely wide range of applications.



SCHLICK Mod. 618

618系列喷嘴的喷孔朝前方,适用于完全堵塞的管道清洗,喷嘴安装在金属杆或者金属管上,视清洗水的压力情况,清洗前,可能需要做些辅助工作。

SCHLICK model 618 with a bore hole towards the front is suited to cleaning fully blocked pipes and is inserted with a steel lance or steel pipe. Depending on water pressure some preliminary assistance may be required.

喷孔的孔径和数量,以及雾化角度等,视具体应用确定。

The quantity and size of the bore holes, as well as the jet angle, are adjusted according to individual requirements. 这几款喷嘴也可增加螺 纹,以便安装刷子或者小 钩子,用于清洁辅助。

The nozzles are also available with a screw thread to the rear in order to enable a brush or a draw hook to be attached.

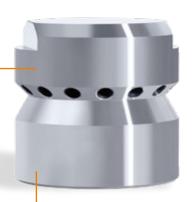


SCHLICK - 为雾化解决方案而生

神奇的SCHLICK雾化技术 Clever SCHLICK technology 从设备设计规划到实际批量生产, Schlick都能提供完美解决方案。

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





619系列喷嘴的喷孔朝后方,尤其适用于管道和小水道的清洁,由于反冲作用力,喷嘴会部分地被拉出管道,视清洗水的压力情况,清洗前,可能需要做些辅助工作。

The SCHLICK pipe cleaning nozzle model 619 with the bore hole to the rear is especially suited to cleaning pipes or sewer pipes. The nozzle is pulled through the pipe by the recoil that occurs. Depending on water pressure some preliminary assistance may be required.

喷孔的孔径和数量, 视具体应用确定, 喷射角度为垂直或者30°-90°之间。

The quantity and size of the bore holes is adapted to suit individual requirements. The jet angle is vertical or tangential between 30° and 90°.



尖头设计的619 K系列喷嘴, 参数同619系列喷嘴

TModel 619 K (pointed design) Technical data as per model 619



雾化形状:

四周分布的朝前或朝后的喷射水柱



处理量:

0.7-18升/分钟 (3bar时,每个孔)



常规孔径:

可选: 0.8-4.0 mm



Spray pattern:

Capacity:

several back-spraying and forwards-spraying closed jets distributed around the periphery



0.7 – 18 l/min at 3 bar

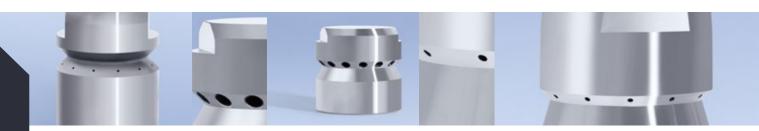
(per orifice)



Standard orifices:

Available bore size: 0.8 - 4.0 mm

具体技术参数 Technical Details



618/619型的性能数据以16°C的水测得的 Performance data of model 618/619, water flow rate at 16 °C

孔径 mm	测试压 Δp 30		测试压 Δp 50		测试压 ∆80 b	. •	测试压 Δp 100		测试压 Δp 120		测试压 Δp 150	. •	测试压 Δp 200		测试压 Δp 300	. •	测试压 Δp 400	
Orifice in mm	Test pro		Test pr Δp 50		Test pr Δp 80		Test pro Δp 100		Test pr Δp 120		Test pr Δp 150		Test pro Δp 200		Test pro Δp 300		Test pr Δp 400	
	l/min	m³/h	l/min	m³/h	l/min	m³/h	l/min	m³/h	l/min	m³/h	l/min	m³/h	l/min	m³/h	l/min	m³/h	l/min	m³/h
1.0	2.36	0.14	3.06	0.18	3.88	0.23	4.33	0.26	4.75	0.29	5.30	0.32	6.12	0.37	7.50	0.45	8.60	0.52
1.1	2.88	0.17	3.72	0.22	4.70	0.28	5.25	0.32	5.75	0.34	6.40	0.38	7.40	0.44	9.10	0.55	11.70	0.70
1.2	3.44	0.21	4.45	0.27	5.65	0.34	6.30	0.38	6.90	0.41	7.70	0.46	8.90	0.53	10.90	0.65	14.00	0.84
1.3	4.02	0.24	5.20	0.31	6.60	0.40	7.35	0.44	8.05	0.48	9.00	0.54	10.30	0.62	12.70	0.76	16.40	0.98
1.4	4.68	0.28	6.05	0.36	7.65	0.46	8.55	0.51	9.30	0.56	10.50	0.63	12.10	0.73	14.80	0.89	19.00	1.14
1.5	5.39	0.32	6.95	0.42	8.70	0.52	9.80	0.59	10.70	0.64	12.00	0.72	13.90	0.83	17.00	1.02	22.00	1.32
1.6	6.12	0.37	7.90	0.47	10.00	0.60	11.20	0.67	12.20	0.73	13.70	0.82	15.80	0.95	19.30	1.16	25.00	1.50
1.7	6.90	0.41	8.90	0.53	11.20	0.67	12.60	0.76	13.80	0.82	15.40	0.92	17.80	1.07	21.80	1.31	28.20	1.69
1.8	7.75	0.47	10.00	0.60	12.70	0.76	14.20	0.85	15.50	0.93	17.30	1.04	20.00	1.20	24.50	1.47	32.00	1.92
1.9	8.90	0.53	11.50	0.69	14.50	0.87	16.30	0.98	17.80	1.07	19.90	1.19	23.00	1.38	28.50	1.71	36.80	2.21
2.0	9.45	0.57	12.20	0.73	15.40	0.92	17.20	1.03	18.90	1.13	21.10	1.27	24.40	1.46	29.80	1.79	38.00	2.31
2.2	11.50	0.69	14.90	0.89	18.80	1.13	21.00	1.26	23.00	1.38	25.60	1.54	29.80	1.79	36.50	2.19	47.00	2.82
2.5	14.90	0.89	19.20	1.15	24.30	1.46	27.20	1.63	29.80	1.79	33.20	1.99	38.30	2.30	47.00	2.82	60.50	3.63
2.8	18.60	1.12	24.00	1.44	30.40	1.82	34.00	2.04	37.20	2.23	41.50	2.49	48.00	2.88	58.50	3.51	76.00	4.56
3.0	21.40	1.28	27.70	1.66	35.00	2.10	39.20	2.35	43.00	2.58	48.00	2.88	55.40	3.32	67.80	4.07	87.50	5.25

以上數据为单个孔的流量,如需更小流量的喷嘴,请参考资料"SCHLICK喷射喷嘴".

Flow rates for one bore hole. For smaller flow rates see "SCHLICK smooth-jet nozzles".



SCHLICK Mod. 618



SCHLICK Mod. 619



SCHLICK Mod. 619 K



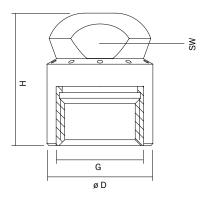
给客户提供喷嘴和雾化解决方案的同时, 我们还确保为客户 提供良好的售后服务, 喷嘴维修和更新服务, 所有喷嘴和备 件设计图纸都会长期保存, 紧急情况下, 能快速为客户提供可 靠的配件。

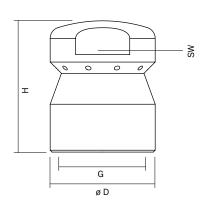
As well as competent advice and its inception, you can profit from an efficient after-sales service that guarantees long-term supply of all products. We carry out both repair and conversion of SCHLICK Spray Nozzles, and in emergency, we can supply spare parts quickly and reliably.

618/619系列喷嘴尺寸

Dimensions of model 618/619

Größe	螺纹规格 (英制) Connector G ISO 228	总长H (mm)	扳手开口尺寸 (mm)	直径D (mm)		
Size	00111100001 0 100 220	Total height H in mm	Spanner size SW in mm	Diameter D in mm		
0000	1/8	25	9	12		
000	1/4	30	14	16		
00	3/8	33	17	24		
0	1/2	35	24	28		
1	3/4	40	32	39		

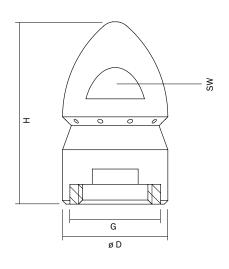




619 K型的尺寸

Dimensions of model 619 K

Größe	螺纹规格 (英制)	总长H (mm)	扳手开口尺寸 (mm)	直径D (mm)
Size	Connector G ISO 228	Total height H in mm	Spanner size SW in mm	Diameter D in mm
0000	1/8	35	9	12
000	1/4	41	14	16
00	3/8	50	19	24
0	1/2	52	27	29,5
1	3/4	65	32	40
2	1	75	36	44
3	1 1/4	95	41	54
4	1 1/2	108	50	59



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