

Living for Solutions:
The new EVO model in the SCHLICK ABC range



New ABC nozzle unit with hygienic design

ABC-Technology® for pharmaceuticals and food

Anti-Bearding Technology is synonymous with the name SCHLICK. With the development of the Anti-Bearding Cap (ABC), the atomisation specialists got to grips with the vexed issue of 'bearding' early on. The resulting ABC nozzle has become indispensable for many applications in the pharmaceutical and food industries – particularly for coating tablets.



EVO – Evolution made by SCHLICK

‘Simplify and optimise’ is SCHLICK’s motto when developing its solutions. For the S35 range with ABC-Technology®, the abbreviation EVO represents a powerful idea: the integrated connector. SCHLICK has fully integrated the hose connectors into the spray unit. It’s an idea that pays off for tablet coating in particular.

The optimised shape of the new 930 S35 EVO now requires even fewer individual parts, which further simplifies handling in many ABC application fields.

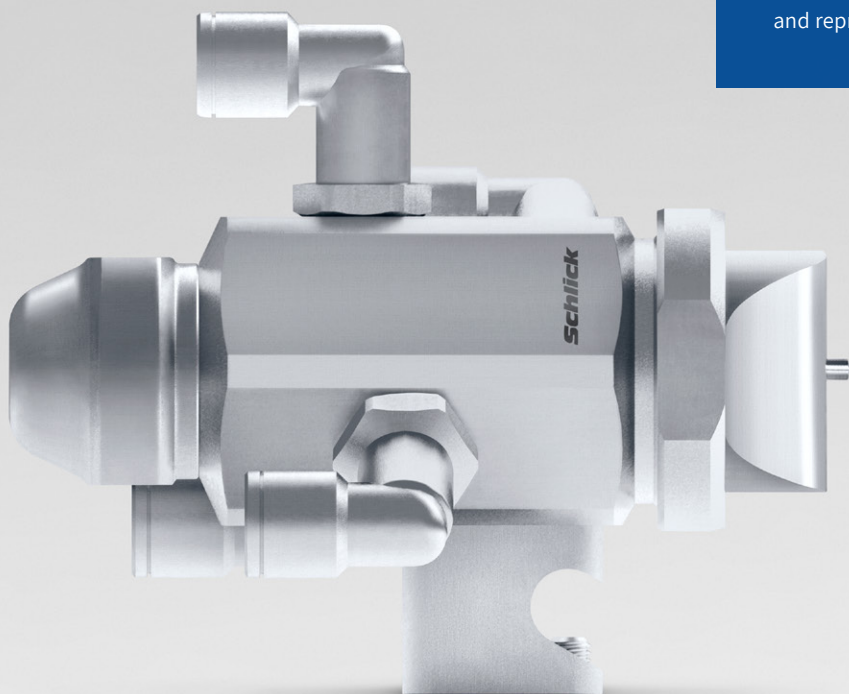




The 930 S35 ABC EVO. An optimised design for improved process safety with the same spray quality.

The new design has done more than just simplify handling and eliminate the additional costs of fittings: it has also significantly reduced the nozzle's weight and the space it requires. At the same time, SCHLICK's ABC air cap and spray quality remain completely unaltered. This has been investigated and confirmed using laser optics at the SCHLICK Test & Research Centre. There is also a White Paper guaranteeing identical results for the S35 range.

The tried-and-trusted 930 S35 ABC delivers perfectly homogeneous and reproducible spray results.



Smaller structure means lower weight

The nozzle unit with its built-in connectors is fabricated from a solid block of stainless steel. This has brought its weight and size down by 30%. The practical benefits of this are reduced turbulence, lower heating times and minimised condensation when used for coating applications. Meanwhile, the product is now easier to clean and maintain as there are no parts to remove.



The massive 30% weight reduction could make the difference between being able to cover the entire tablet bed using spray technology and needing a separate nozzle to deal with the support rod.



Benefits of the EVO model at a glance

Identical results

A white paper guarantees identical results from both S35 ranges.

Optimised processes

Processing risks due to the use of incompatible adaptors are eliminated.

Easier to clean

Cleaning is easier as no fittings need to be removed.

Less turbulence

Turbulence in the coater is further reduced – and the thermodynamics of the process improved.

No additional certification

Additional certification of materials and fitting seals is no longer required.

Easier handling

No additional tools are required for assembly/dismantling.

Improved flow profile

Optimised flow profile with gentle transitions and no edges.

Less condensation

The risk of condensation forming is reduced to a minimum, especially with forced air circulation.

Shorter downtimes

The spray unit heating time is reduced.

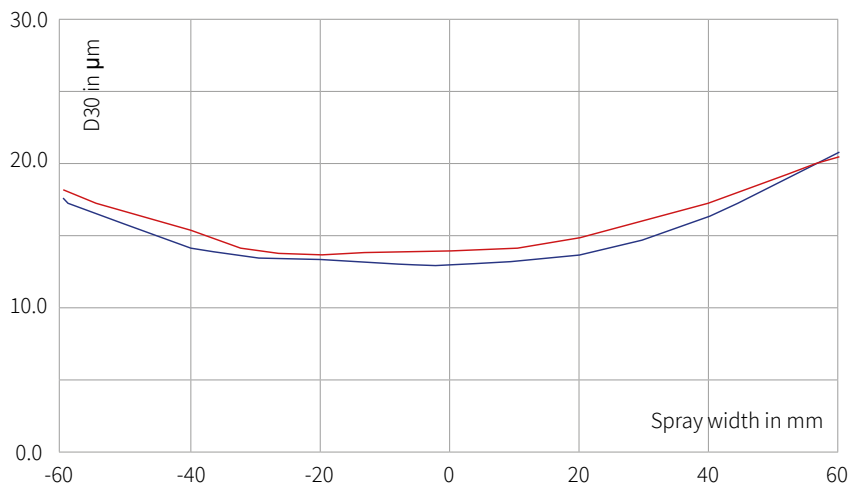
Guaranteed identical spray quality

The spray quality is identical to that delivered by our tried-and-trusted 930 S35 model. This has been investigated and confirmed using laser optics at the SCHLICK Test & Research Centre. There is also a White Paper guaranteeing identical results for the S35 range.

The two models are within tolerances of $\pm 2\%$ in terms of:

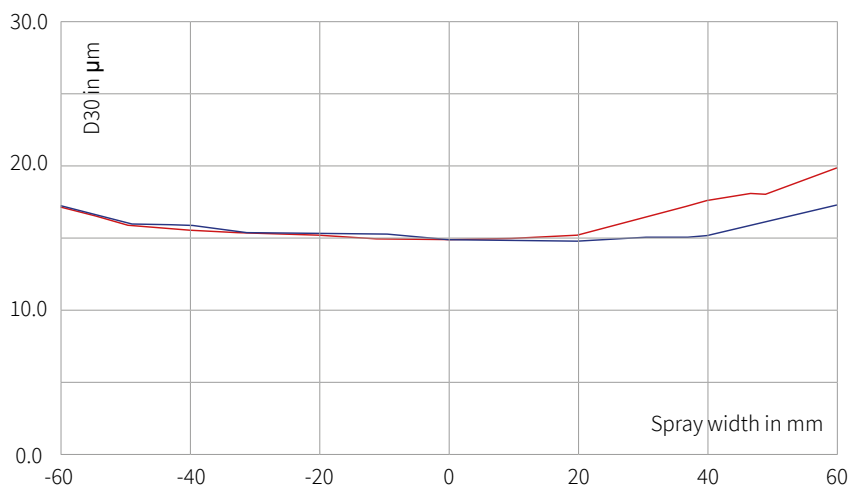
liquid flow, flow of the atomisation medium, spray angle, droplet size, droplet speed and droplet size distribution.

Droplet size distribution



Operating conditions, (water, reference liquid):

Liquid insert: 1.2 mm
Water 100 g/min
Atomising air: 1.5 bar (g)
Pattern air: 1.5 bar (g)
Test distance: 200 mm
Increment: 10 mm



Operating conditions (standard tablet lacquer):

Liquid insert: 1.2 mm
standard tablet lacquer 20% (wtw)
(~150 mPas) : 100 g/min
Atomising air: 1.5 bar (g)
Pattern air: 1.5 bar (g)
Test distance: 200 mm
Increment: 10 mm

— D30, 930 S35
— D30, 930 S35 EVO



Familiar and reliable ABC-Technology®

The SCHLICK Anti-Bearding Technology provides outstanding operational reliability in your coating plant. The Anti-Bearding Cap (ABC) significantly reduces turbulence around the air cap, thereby preventing a build-up of product at the nozzle exit. Deposits, caking, beard formation and blockages of the nozzle orifice are almost entirely eliminated.



Perfect anti-bearding for pharmaceuticals and food

The SCHLICK ABC spray achieves an exceptionally homogeneous distribution of liquid with an equally very fine, even and reproducible droplet size distribution. In continuous use, the ABC product range yields a throughput of 1–180 g/min (coating) and produces reproducible results for drum sizes of between 8.5” and 24”.



Perfect design
The SCHLICK ABC Technology® guarantees a constant spray behavior.

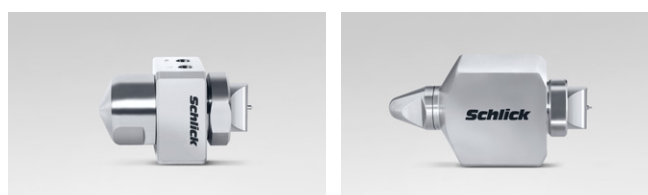
No Bearding
No product build-up or bearding thanks to the SCHLICK Anti-Bearding Cap.

Perfect upscaling
Completely homogeneous and reproducible spray results from the ABC product range.

Clever SCHLICK technology
SCHLICK stands for innovative product design – 100% made in Germany. And this for 120 years.

Perfect upscaling, from laboratory ...

To enable up- and downscaling across the entire manufacturing process the SCHLICK ABC range was developed for various flow rates. ABC-Technology® is thus able to cover drum sizes of between 8.5" and 24" or more.



Type	Nano-size	Lab-size
Model	951 S24 NANO ABC	970 S75 ABC
Drum size	8,5" / 10,5" / 12"	12" / 15" / 19"
Spray pattern	Oval flat spray	
Spray angle	approx. 60°	
Capacity	1 – 10 g/min	5 – 60 g/min
Standard orifices	0.5 mm	0.5 – 1.2 mm
Control	Separate attachments for pattern air (PA) and atomising air (AA)	
GMP-compliant design	9 individual pieces + SCHLICK Precision-O-sealing-rings (EPDM-FDA)	8 individual pieces + SCHLICK Precision-O-sealing-rings (EPDM-FDA)
Setting	SCHLICK Anti-Bearding Cap, cleaning needle, liquid return system (locked as standard)	SCHLICK Anti-Bearding Cap, cleaning needle, liquid return system available
Features	Atomising smallest quantities, air cap attached with special stop position. ATEX version also available.	Conversion kit for the coating of sugar solutions obtainable separately. ATEX version also available.
Mounting	Atomising air connection can also be used as a retaining tube (M5), Min ID = 2.0 mm	Factory fitted mounting block allows various options for installation
Applications	Coating, (tablet) coating	
Material	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8	

... to production

The spray produces a consistent and homogeneous distribution of liquid with a very fine, even and reproducible droplet size distribution, and is notable for its uniform ellipse.



Type	Production-size	Production-size	Production-size
Model	930 S35 ABC	930 S35 ABC EVO	930 S45 ABC
Drum size	19" / 24" and larger		
Spray pattern	Oval flat spray		
Spray angle	approx. 60°		
Capacity	30 – 180 g/min		
Standard orifices	0.5 – 2.2 mm		
Control	Separate attachments for pattern air (PA) and atomising air (AA)		Single attachment for PA and AA
GMP-compliant design	7 individual pieces + SCHLICK Precision-O-sealing-rings (EPDM-FDA)		
Setting	SCHLICK Anti-Bearding Cap (ABC), cleaning needle, liquid return system available		
Features	Conversion kit for the coating of sugar solutions obtainable separately. ATEX version also available.	Spray units with integral hose connectors, manufactured from a solid stainless steel block, 30% weight reduction. ATEX version also available.	Adjusting the spray angle using various slats in the body of the nozzle. ATEX version also available.
Mounting	Fixing unit for attachment to a rod ($\varnothing = 10$ mm) that is obtainable separately; other diameters available on request	Fixing unit for attachment to a rod ($\varnothing = 10$ mm) that is inclusive; other diameters available on request	Fixing unit for attachment to a rod ($\varnothing = 10$ mm) that is obtainable separately; other diameters available on request
Applications	Coating, (tablet) coating		
Material	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8		

Your application. Our nozzle.
Our promise: Living for solutions.

Consultation, engineering, production and testing.

At SCHLICK, you get everything from one source.

The ideal solution for your application.

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Subject to technical alterations . 09.2022



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