myschlick.com

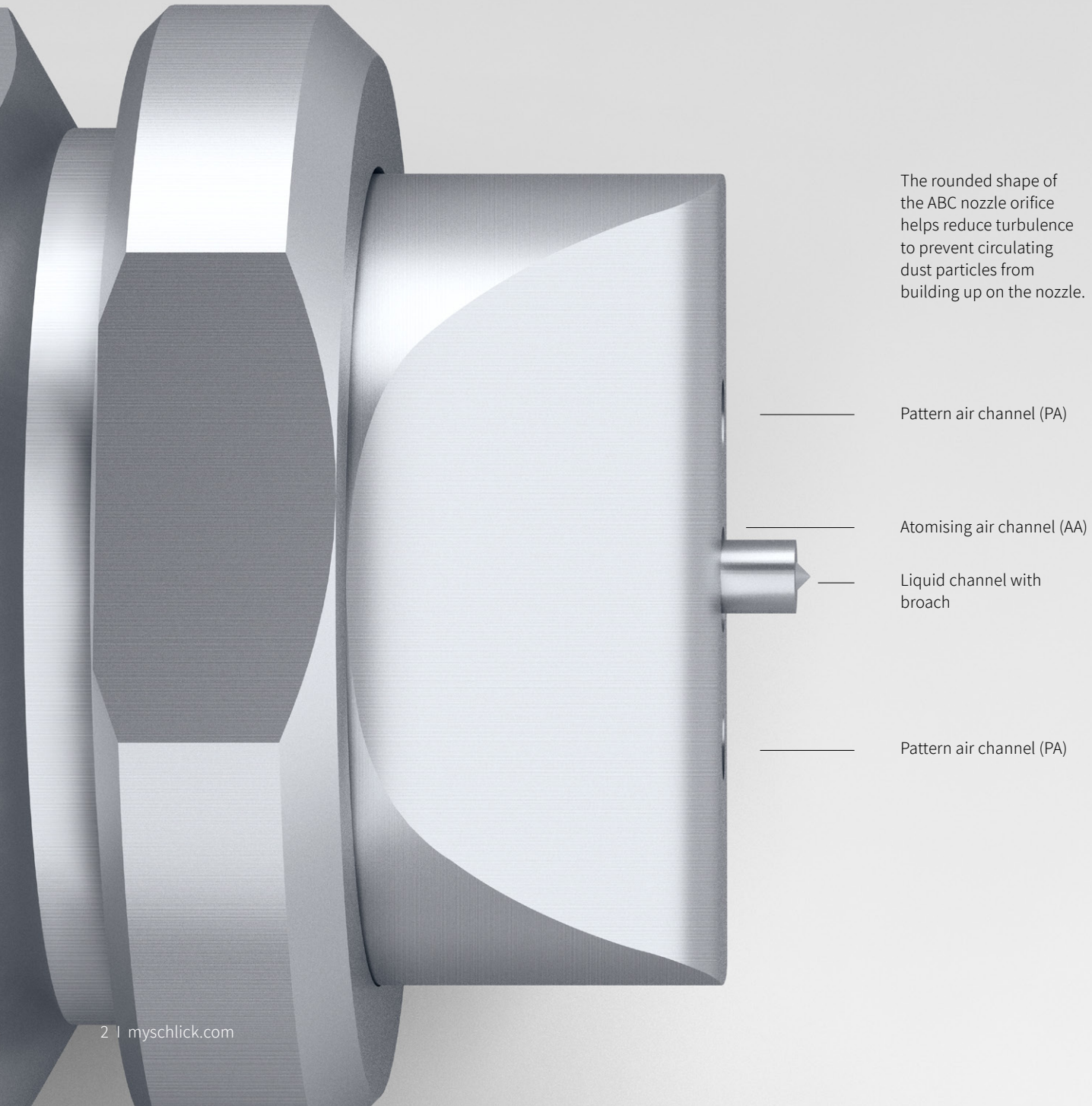
Schlick
Atomizing technologies

Living for Solutions:
The SCHLICK ABC product range for pharmaceuticals & food

Solutions for all flow rate ranges from 1–180 g/min

Anti-Bearding for pharmaceuticals and food

During coating, conventional flat-spray caps gradually accumulate more and more product particles due to the quantity of dust that is circulating. This impairs the spray behaviour, and causes the nozzle to become clogged. This phenomenon is also referred to as ‘beard formation’, or bearding. The SCHLICK Anti-Bearding Cap (ABC) has been specially developed to counteract this. SCHLICK has replaced the geometry of conventional flat jet nozzles with a clever new design.



Distinctive.

Spray pattern:
oval flat spray

Spray angle:
approx. 60°

Capacity:
1 – 180 g/min (coating)

The SCHLICK Anti-Bearding Cap keeps circulating dust particles at bay. Bearding is prevented and the nozzle orifice no longer closes over. The air ducts remain free and produce a uniform spraying pattern. Corrective actions while the spraying process is ongoing are minimised.

951 S24 NANO ABC

970 S75 ABC

Start ABC 930

Constant.

ABC-nozzles are for all performance ranges from 1 – 180 g/min (coating) available; for nano-size, lab-size and production-size. The ABC spray shows in all throughput capacities constant and homogeneous liquid distribution as well as a very fine consistent and reproducible droplet size distribution. Models with separate connections for pattern air (PA) and atomizing air (AA) allow extremely convenient adjustment options for droplet size and spray angle via air pressure.

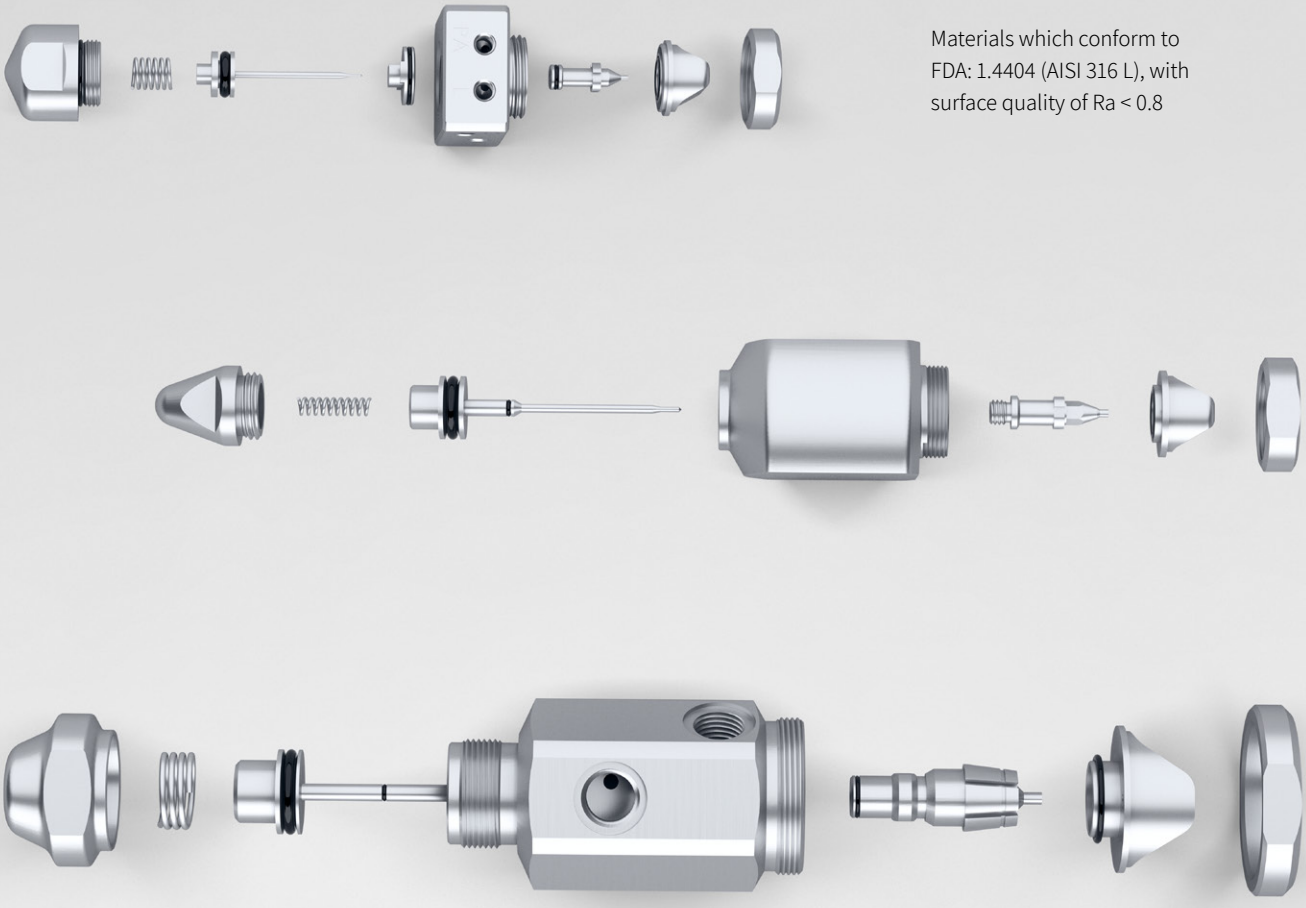
930 S35 ABC

930 S35 ABC EVO

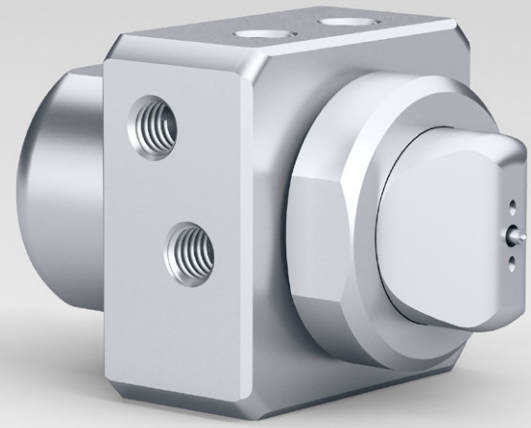
930 S45 ABC

Sophisticated.

Among other things, the sophisticated GMP design facilitates very quick assembly/disassembly for cleaning or servicing by hand. The resulting increased service life means considerable savings can be achieved. In addition, the product design cuts air consumption by around 20%. All this not only means that operating costs are reduced, but also that lower spraying speeds and a more gentle spray are achieved.



Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8

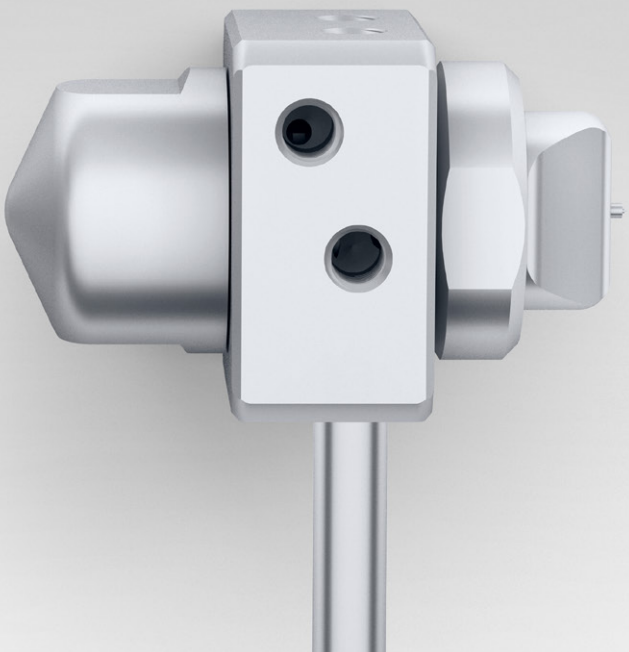


The Nano ABC nozzle 951 S24 ABC is the perfect entry point for seamless tablet coating upscaling – from initial testing with a tabletop device via laboratory systems through to production processes.

1 – 10 g/min

The nano size facilitates perfect ABC Technology® from even the smallest batch size. The Nano ABC nozzle was specially developed for small drums (8.5”, 10.5” and 12”) and is used for flow rate ranges of 1–10 g/min (coating). This means it is most suited to initial testing with a desktop device or use in very small systems. It is optionally available with a liquid return system. There is also an ATEX version for use in potentially explosive atmospheres.

Separate regulation of pattern air (PA) and atomising air (AA) allows for very precise calibration. The atomising air connection can also be used as a retaining tube (M5).

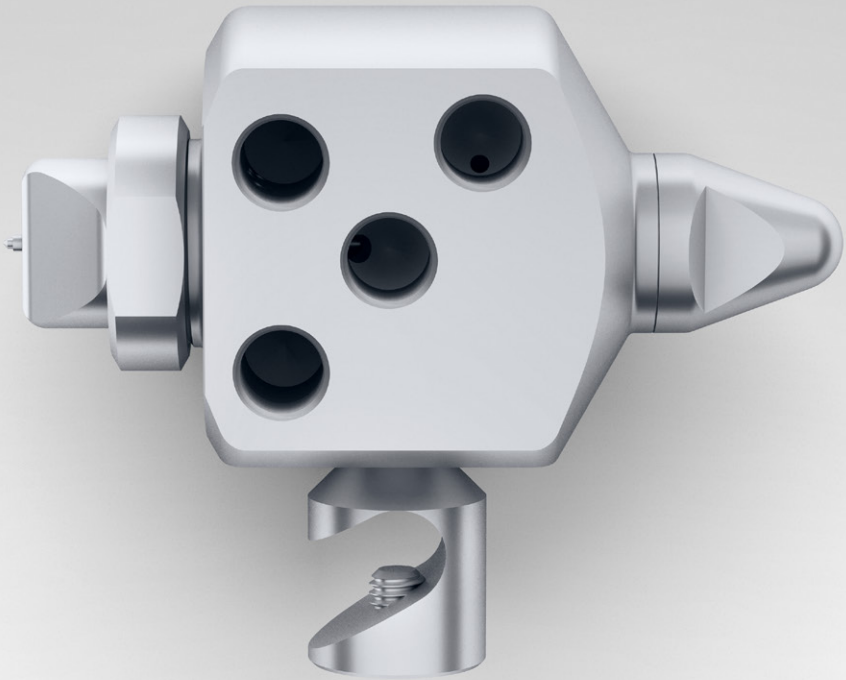


Conversion kit for sugar solution coatings available separately.

5 – 60 g/min

The 970 S75 laboratory nozzle covers drum sizes from 12–19” and was designed for flow rates of 5–60 g/min (coating). The lab size model has separate connections for pattern air (PA) and atomising air (AA). The droplet size and spray angle are simply set using the air pressure. The ABC laboratory nozzle is also available with an optional return system connection or without needle control. The factory-fitted mounting block allows various options for nozzle installation. An ATEX version is available.

All connections are on one side for an improved overview. This also further reduces operating errors.



30 – 110 g/min

The Start ABC 930 from SCHLICK is the perfect entry-level production nozzle model; it has a performance spectrum of flow rates of between 30–110 g/min (coating) and drum sizes of 19” and above. For this nozzle, the PA and AA connections are combined, as with the 930 model, design 7-1 S45, but without the replaceable slats. This means that this nozzle is also suitable for retrofitting older coater models.

Conversion kit for sugar solution coatings available separately.

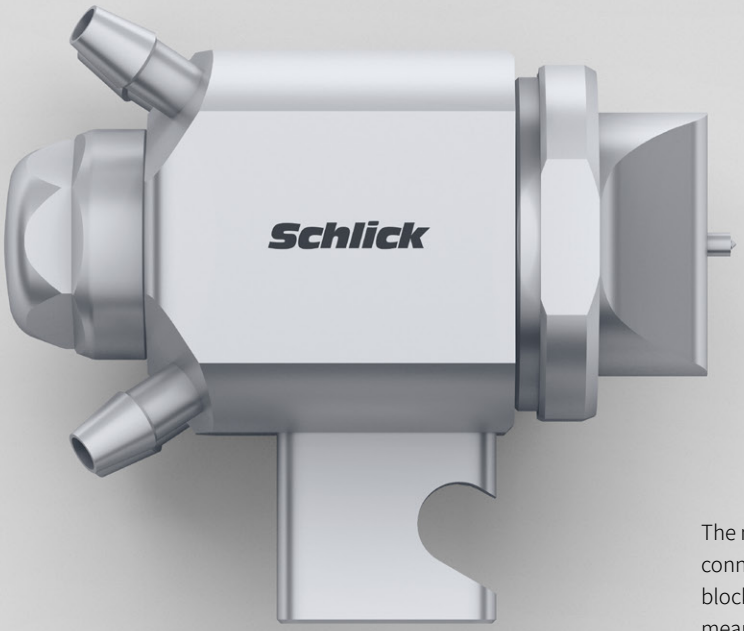
30 – 180 g/min

SCHLICK has developed the production nozzle 930, design 7-1 S35, for demanding production applications. This model has a broad performance spectrum of flow rates of between 30–180 g/min (coating) and drum sizes of 19”, 24” and above. The production size model can be easily adjusted via the separate connections for pattern air (PA) and atomising air (AA). Droplet size and spray angle can be adjusted via the air pressure. The ABC production nozzle is available with or without a liquid return system. It also comes as an ATEX version.

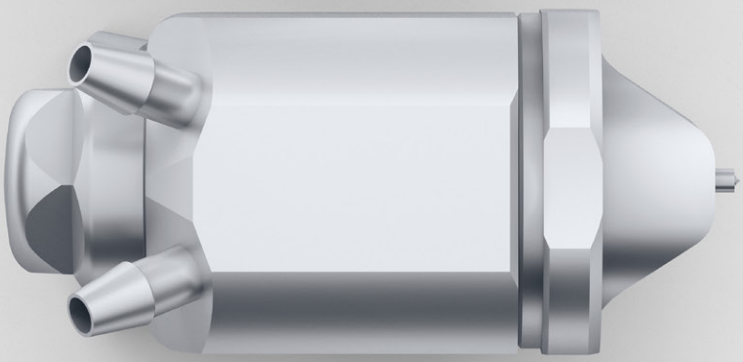
The sophisticated and GMP-compliant design minimises downtimes and maximises production efficiency.

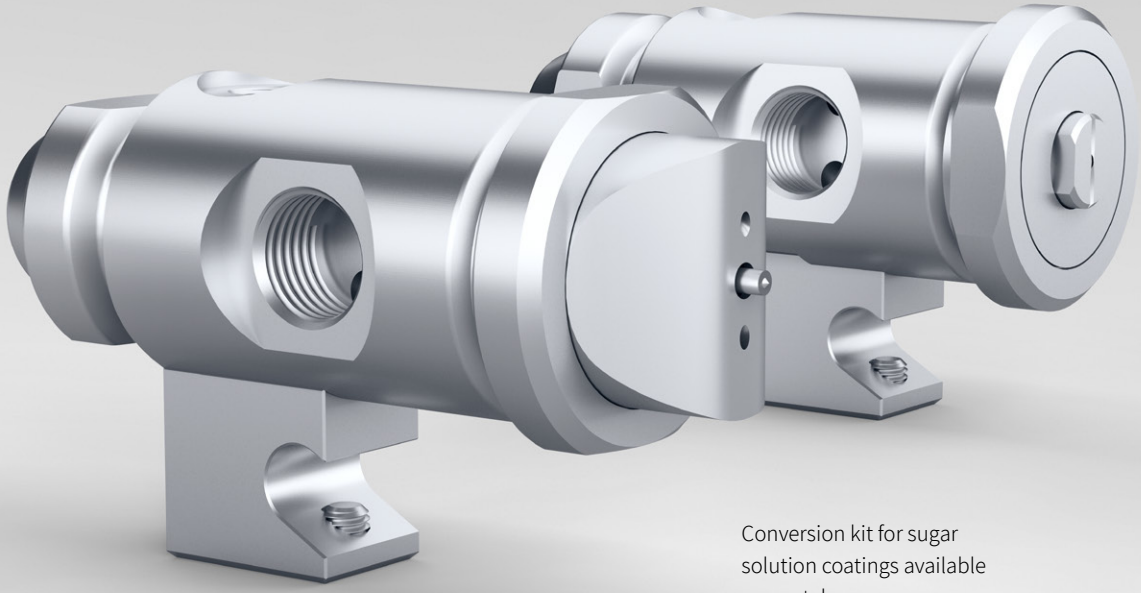
30 – 180 g/min

System-side challenges mean we have to constantly update our product technology. The product design of the 930 S35 ABC EVO production nozzle has been optimised on the basis of the S35 series. As such, the weight of the nozzle and the amount of space it requires have been reduced considerably and handling has been simplified. The performance data of both production nozzles are identical, likewise the spray quality, as confirmed by laser-optical examinations carried out at the SCHLICK Test & Research Center. The EVO series is also available as an ATEX version.



The nozzle unit with its built-in connectors is made from a solid block of stainless steel. This means the weight and size of the EVO series has been reduced by around 30% compared with the tried-and-tested 930 S35 ABC production nozzle.

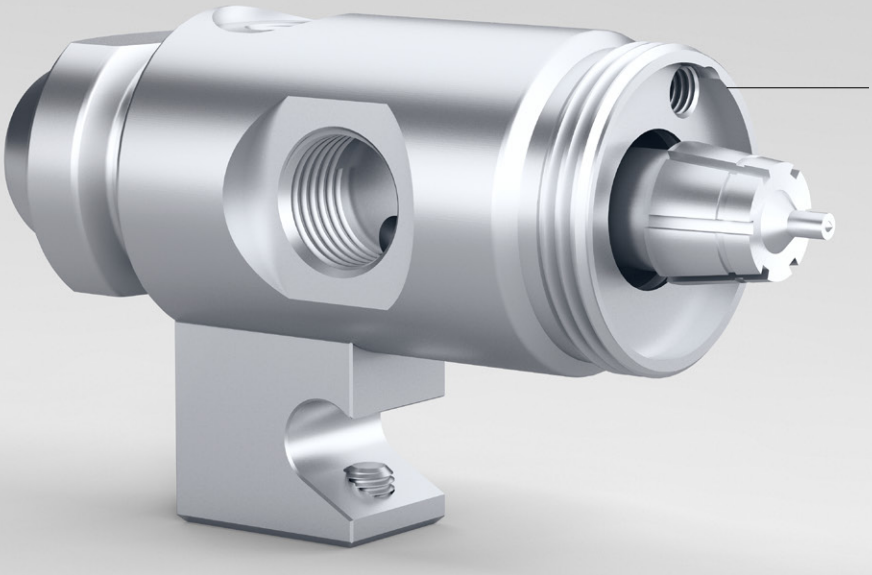




Conversion kit for sugar solution coatings available separately.

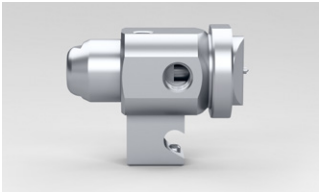
30 – 180 g/min

The 930 S45 ABC model was specially developed for systems with only one air supply for pattern air (PA) and atomising air (AA), and has the same spray behaviour as the 930 S35 ABC production nozzle. This means that even older systems can benefit from SCHLICK's ABC technology. The 930 S45 ABC and the 930 S35 ABC can both be used for sugar solution coating applications, providing the corresponding conversion kit is used.



The precise spraying angle is set through the various slats in the body of the nozzle.

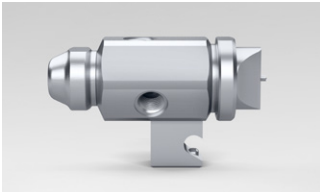
ABC Technology® in detail



Model	951 S24 NANO ABC	970 S75 ABC	Start ABC 930
Type	Nano-size	Lab-size	Production-size
Drum size	8.5“ / 10.5" / 12“	12“ / 15" / 19“	19“ / 24“ and larger
Spray pattern	Oval flat spray	Oval flat spray	Oval flat spray
Spray angle	approx. 60°	approx. 60°	approx. 60°
Capacity	1 – 10 g/min (coating)	5 – 60 g/min (coating)	30 – 110 g/min (coating)
Standard orifices	0.5 mm	0.5 – 1.2 mm	1.2 mm
Control	Separate attachments for pattern air (PA) and atomising air (AA)	Separate attachments for pattern air (PA) and atomising air (AA)	Single attachment 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)	7 individual pieces + SCHLICK Precision-O-sealing-rings (EPDM-FDA)
Setting	SCHLICK Anti-Bearding Cap (ABC), cleaning needle, liquid return system (locked as standard)	SCHLICK Anti-Bearding Cap (ABC), cleaning needle, liquid return system available	SCHLICK Anti-Bearding Cap (ABC), 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 (it takes very little effort to replace the liquid insert and ABC cap with a flat spray tip). ATEX version also available.	Entry-level coating nozzle with ABC Technology®
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	Fixing unit for attachment to a rod (diameter = 10 mm) that is available separately; other diameters available on request
Applications	Coating, (tablet) coating	Coating, (tablet) coating	Coating, (tablet) coating
Material*	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8

* other materials available on request

ABC Technology® in detail



Model	930 S35 ABC	930 S35 ABC EVO	930 S45 ABC
Type	Production-size	Production-size	Production-size
Drum size	19“ / 24" and larger	19“ / 24" and larger	19“ / 24" and larger
Spray pattern	Oval flat spray	Oval flat spray	Oval flat spray
Spray angle	approx. 60°	approx. 60°	approx. 60°
Capacity	30 – 180 g/min (coating)	30 – 180 g/min (coating)	30 – 180 g/min (coating)
Standard orifices	0.5 – 2.2 mm	0.5 – 2.2 mm	0.5 – 2.2 mm
Control	Separate attachments for pattern air (PA) and atomising air (AA)	Separate attachments for pattern air (PA) and atomising air (AA)	Single attachment for pattern air (PA) and atomising air (AA)
GMP-compliant design	7 individual pieces + SCHLICK Precision-O-sealing-rings (EPDM-FDA)	7 individual pieces + SCHLICK Precision-O-sealing-rings (EPDM-FDA)	7 individual pieces + SCHLICK Precision-O-sealing-rings (EPDM-FDA)
Setting	SCHLICK Anti-Bearding Cap (ABC), cleaning needle, liquid return system available	SCHLICK Anti-Bearding Cap (ABC), cleaning needle, liquid return system available	SCHLICK Anti-Bearding Cap (ABC), cleaning needle, liquid return system available
Features	Conversion kit for the coating of sugar solutions obtainable separately (it takes very little effort to replace the liquid insert and ABC cap with a flat spray tip). 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 (diameter = 10 mm) that is available separately; other diameters available on request	Fixing unit for attachment to a rod (diameter = 10 mm) that is inclusive; other diameters available on request	Fixing unit for attachment to a rod (diameter = 10 mm) that is available separately; other diameters available on request
Applications	Coating, (tablet) coating	Coating, (tablet) coating	Coating, (tablet) coating
Material*	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8	Materials which conform to FDA: 1.4404 (AISI 316 L), with surface quality of Ra < 0.8

* other materials available on request

Benefits of ABC technology at a glance

Safe.
No product build-up or bearding thanks to the SCHLICK Anti-Bearding Cap (ABC).

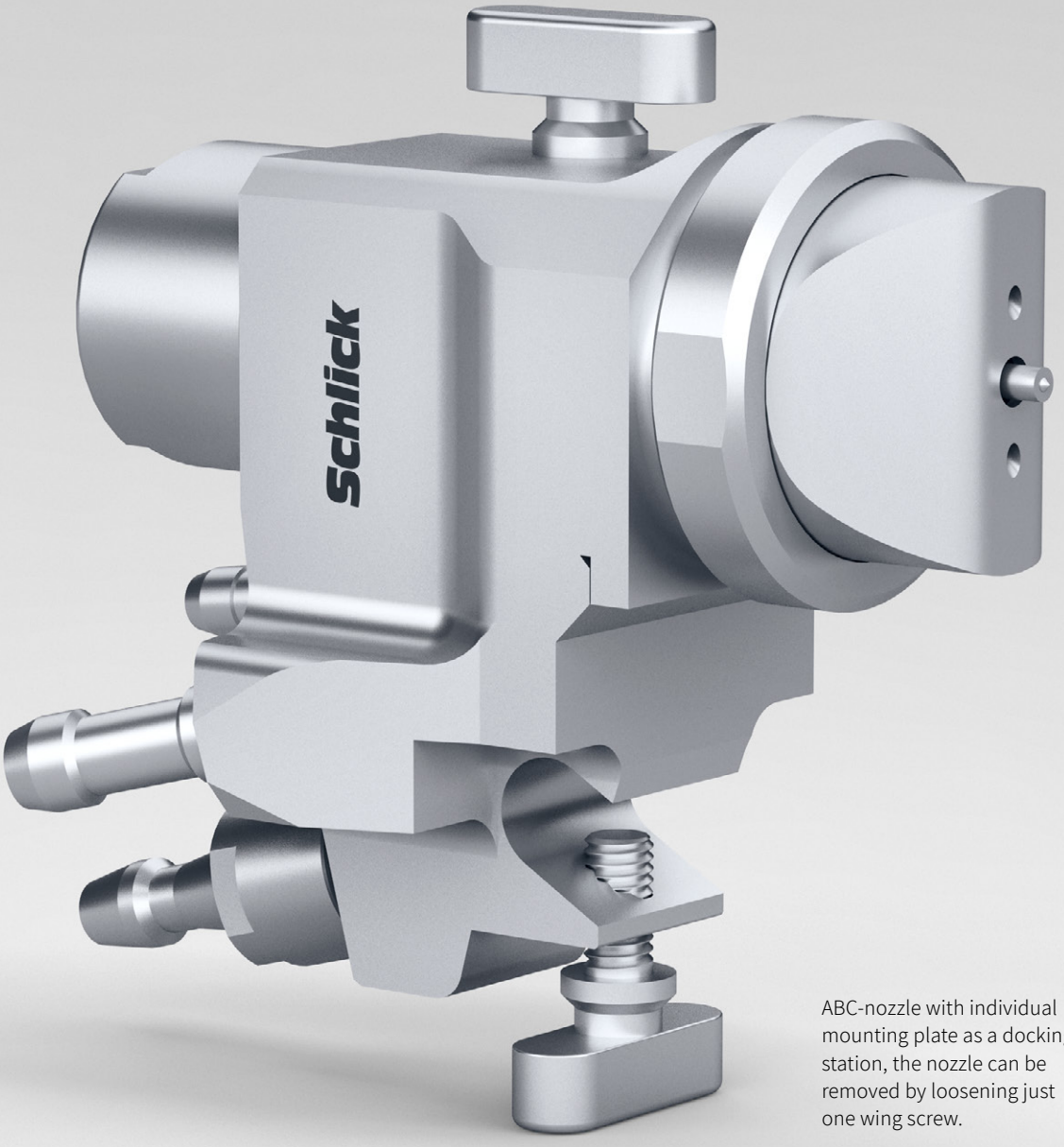
Variable.
Perfect upscaling and downscaling for stable production processes.

Perfect.
Optimal homogeneous and reproducible spray results.

Optimised.
GMP-compliant design for the strictest production quality requirements.

Sophisticated.
Cleaning needle as standard, optionally available with liquid return system.

Practical.
Easy cleaning and servicing: manual assembly/ disassembly.



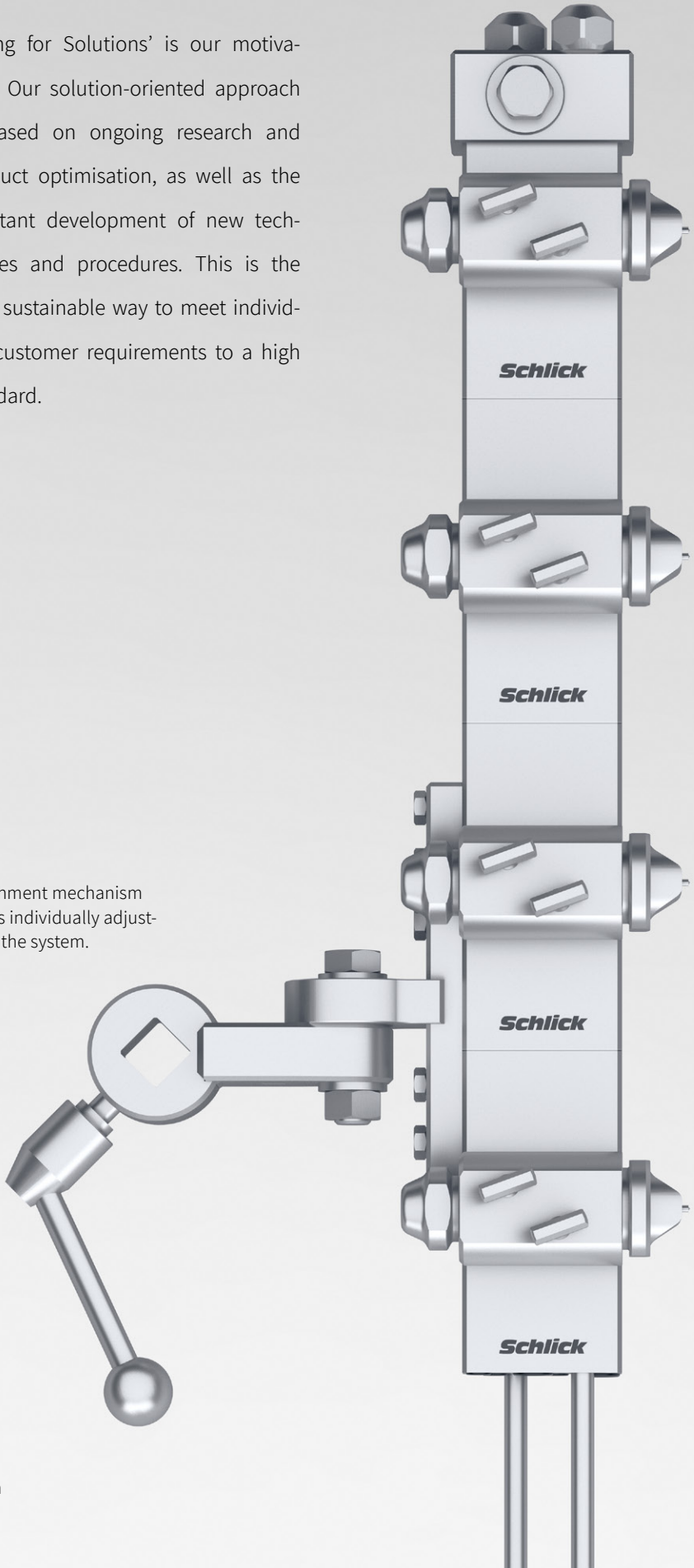
ABC-nozzle with individual mounting plate as a docking station, the nozzle can be removed by loosening just one wing screw.

Special and custom versions.

Many of our customers demand custom solutions and bespoke modifications, which can only be achieved through close consultation with expert advisers and engineers. Whatever the requirements, be it an individual system attachment, a specific large-scale spray coverage, or a process-specific design, SCHLICK can help. Our customers rightly trust in our expertise. With our fast and flexible approach, we will work to find a solution that meets your precise requirements and develop innovative technologies to realise your goals. All in line with our motto: Your application – our solution.

Customised.

‘Living for Solutions’ is our motivation. Our solution-oriented approach is based on ongoing research and product optimisation, as well as the constant development of new techniques and procedures. This is the only sustainable way to meet individual customer requirements to a high standard.

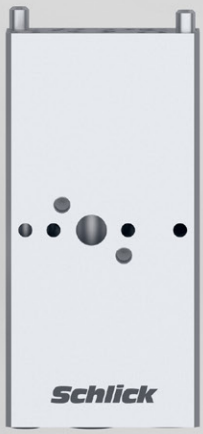


Attachment mechanism that is individually adjusted to the system.

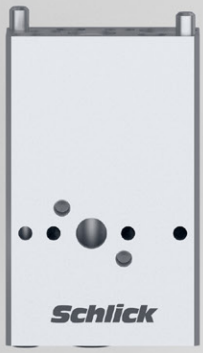
The SCHLICK Professional Coating Arm consists of individual blocks that can be easily linked, each with one ABC nozzle.

The clearly defined dimensions of the blocks mean that spacing and alignment errors between the nozzles during installation are eliminated.

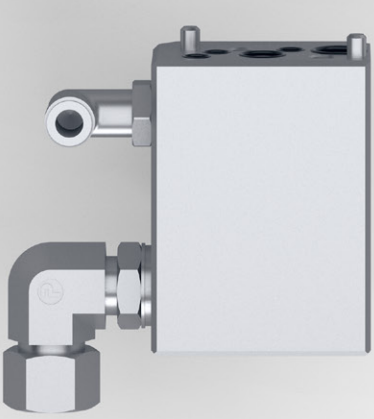
Constant and close contact with the customer, from their initial enquiry right through to product renewal, is fundamental to our business model. It ensures we can supply our customers with the very best solutions exactly when they need them. This applies for both standard and custom solutions.



All nozzles are supplied evenly via a common distribution system, thus ensuring reproducible spray results can be achieved on an ongoing basis. No additional hoses or fittings are required in the coater.



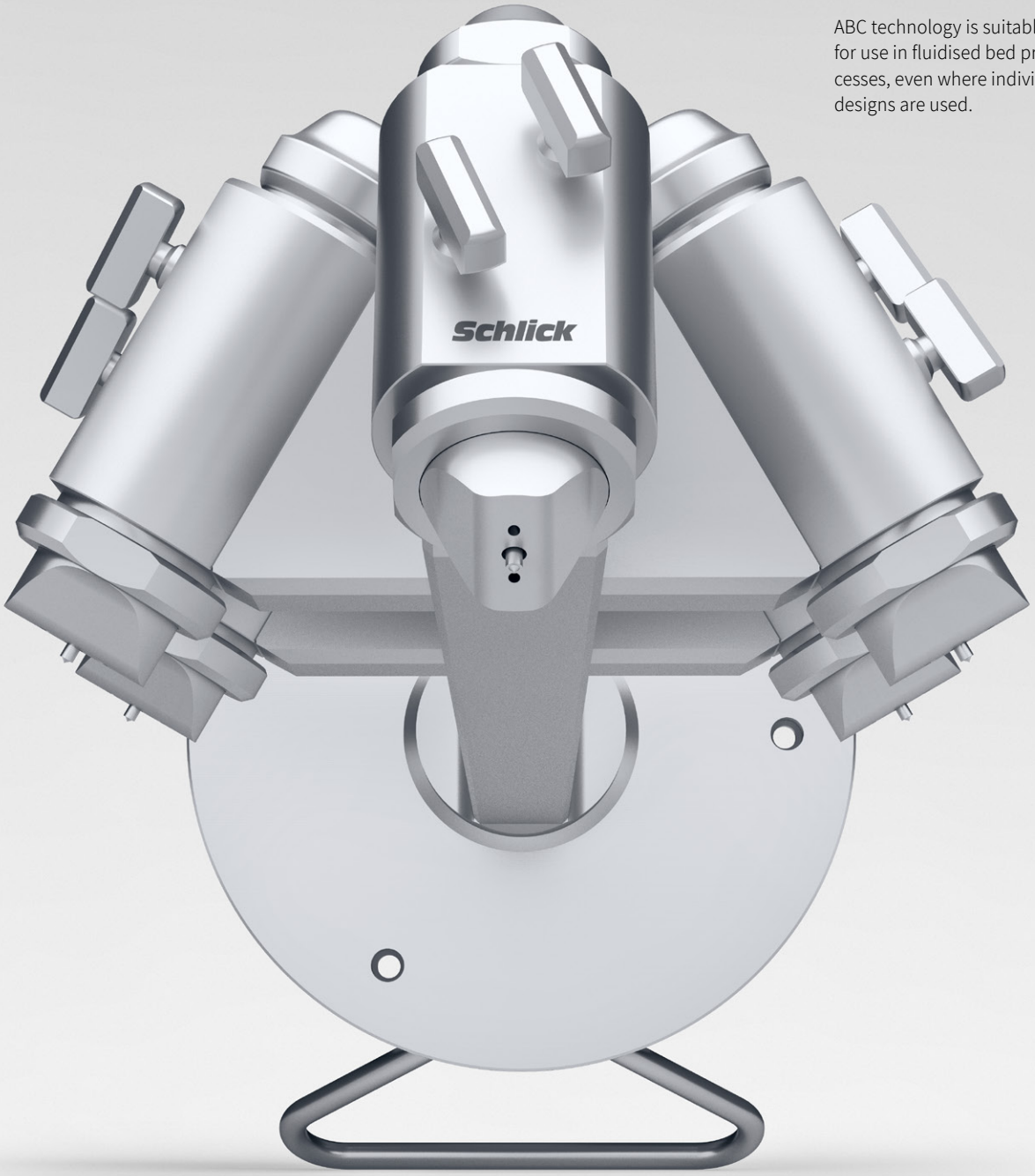
The nozzles are assembled/ disassembled by hand using just two screws.



Specially adapted connection for control air, atomising air, pattern air and liquid (with flow and return).

Transforming ideas into reality.

Our approach is based on two key pillars: a high level of vertical integration and extensive experience in the development and optimisation of spray technology systems. More than 90,000 designs and solutions are testament to our success. In fact, examples of our solutions can be found in almost every industry. All have been subject to rigorous functional and reliability testing at the SCHLICK Test & Research Center prior to commissioning, as reliability is key if you want to keep modern manufacturing processes running smoothly.



ABC technology is suitable for use in fluidised bed processes, even where individual designs are used.

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.

> **Please contact us**

Phone +49 9565 9481-0
Mail info@myschlick.com

> **Worldwide SCHLICK support**

Schlick
Atomizing technologies
Living for Solutions.

Düsen-Schlick GmbH
Hutstraße 4
96253 Untersiemau/Coburg
Germany
Tel.: +49 9565 9481-0

www.myschlick.com
info@myschlick.com