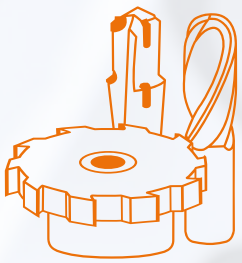
VOLLMER



V*Grind* 340S

////////// ROTARY TOOLS //

Grinding machine for the complete machining of carbide tools upwards of 0.3 mm in diameter

THE GREATEST PRECISION FOR EVEN THE SMALLEST OF TOOLS.

VERTICAL MULTI-LEVEL MACHINING THAT SETS NEW STANDARDS. THE PRECISION AND EFFICIENCY OF THE **V***Grind* SERIES IS NOW ALSO AVAILABLE FOR ROTATIONALLY SYMMETRIC SOLID CARBIDE TOOLS IN THE 0.3 MM TO 12.7 MM RANGE.

THE **V***Grind* 340S: A FIVE-AXIS GRINDING MACHINE THAT IS EQUIPPED WITH ALL THE ATTRIBUTES THAT MODERN TOOL MANUFACTURING REQUIRES. AND, WHAT'S MORE, THERE ARE PLENTY OF INTUITIVE DETAILS FOR THE PRODUCTION OF SMALL SIZES TO BOOT.

NEW LINEAR INDUCTION MOTORS ON THE X, Y AND Z AXES PROVIDE A CLEAR INCREASE IN PERFORMANCE. THE RESULT: EVEN GREATER PRECISION, FOR AN EVEN BETTER SURFACE QUALITY.

V*Grind* 340S –
AN ENTICING OPTION, DOWN TO THE SMALLEST DETAIL.

V*Grind* 340S – SUPERIOR IN EVERY WAY

//// 1 **WALL CONCEPT**

Very rigid, compact construction with optimal accessibility and overview for the operator.

//// 2 **MULTI-LAYER MACHINING**

Two vertically configured grinding spindles with the grinding wheel set at the C axis pivot point. Reduced machining times thanks to shorter linear-axis travel distances.

//// 3 **MODERN CONTROL-DESK CONCEPT**

Height-adjustable, with touchscreen, 19" diagonal screen size and optimum view into the machining chambers.

//// 4 **NUMROTO*plus*®**

The reliable, intuitively operated software with 3D tool and machine simulation, combined with collision monitoring.

//// 5 **GRINDING-WHEEL CHANGER**

Provides even more flexibility in your manufacturing processes – with eight HSK-50 grinding wheel sets. Both grinding spindles can be loaded with complete flexibility.

//// 6 **AUTOMATION**

Such as with the VOLLMER HP 160 pallet magazine or the HPR 250 free-arm robot for increased capacity and flexibility.

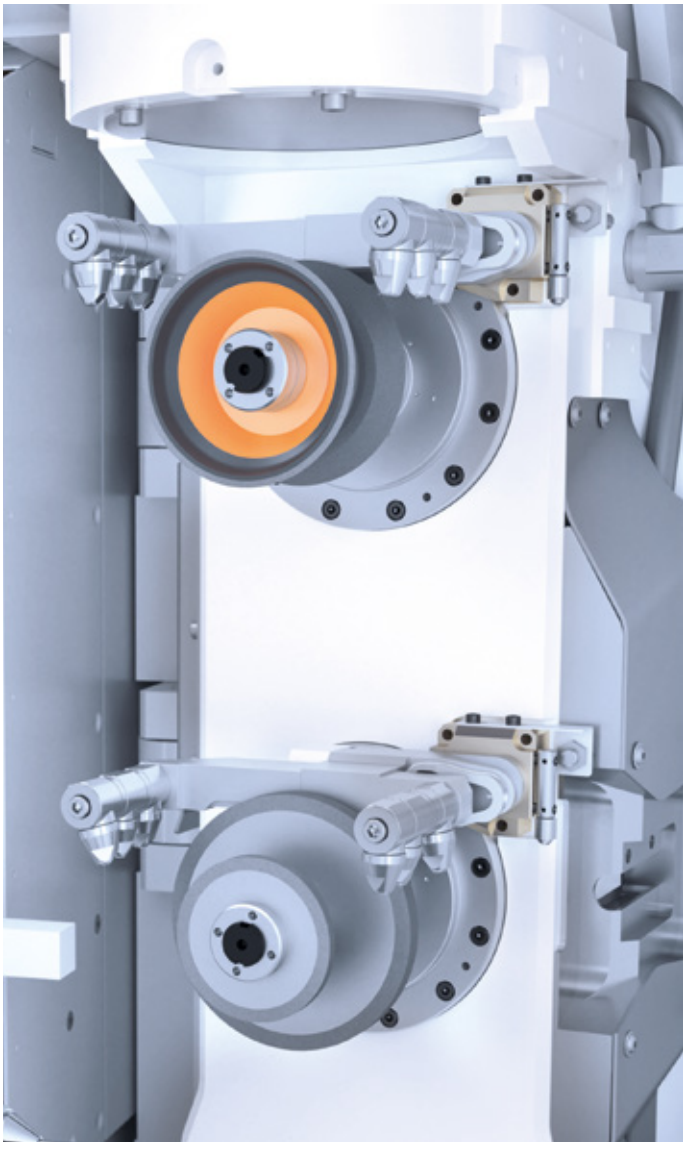
/// THE MACHINE CONCEPT

Precision and efficiency squared: The **V***Grind* 340S benefits from two vertically arranged grinding spindles. This principle is complemented by several useful details and options for machining small radii. The result: Maximum perfection at the lowest tolerances.

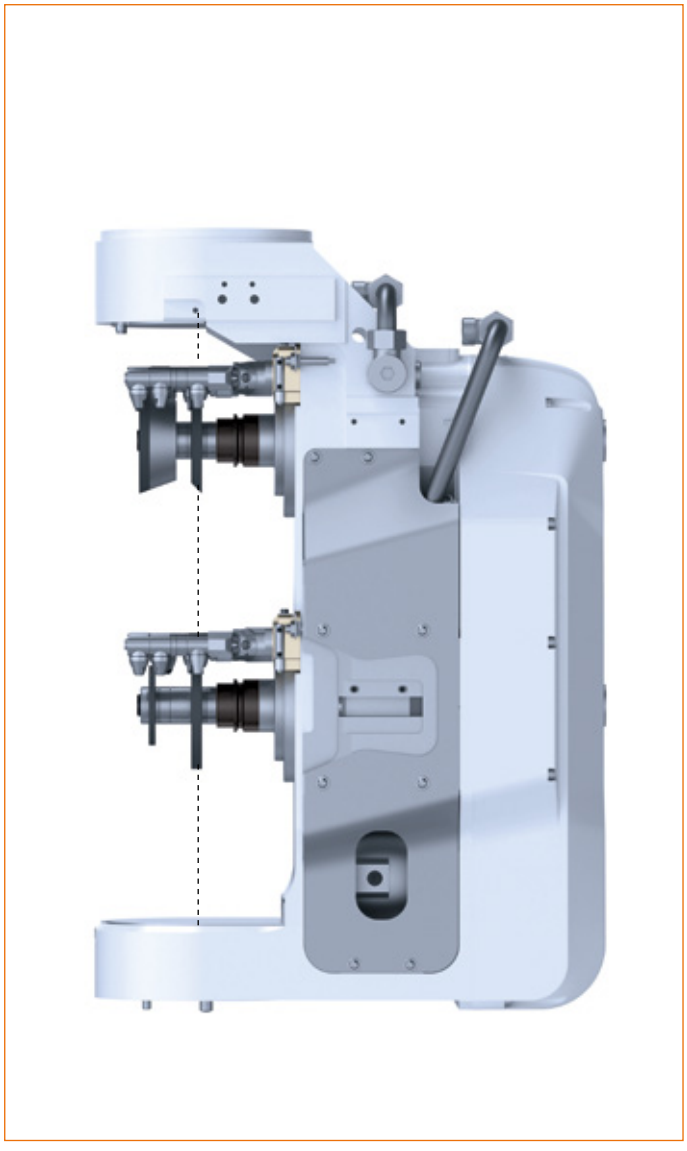
/// Five-axis CNC grinding machine with innovative kinematics

/// Two grinding spindles situated one above the other with the grinding wheel set positioned at the C axis pivot point – for ensuring extremely precise grinding results

/// The vertical spindle arrangement solves the well-known problems related to fixed and floating bearings



//// **V***Grind* 340S
with innovative machine concept



//// **PIVOT POINT FOR GRINDING WHEEL SETS**
located in the centre of the C axis

/// New wear-free linear induction motors on the X, Y and Z axes not only guarantee lasting consistency of quality and lower maintenance costs, but are also the key to improved surface quality

/// Innovative wall concept with the highest possible rigidity and outstanding damping thanks to polymer concrete

/// Equipped with a tool steady rest as standard for the best radial run-out quality on the workpiece, as well as linear scales for even greater precision

/// Effective motor and spindle cooling concept for higher thermal stability and lasting power and precision

/// Both spindles can be fitted with various different grinding wheel sets. The automation option ensures seamless conversion

//// **STEADY REST** for perfect radial run-out for milling cutters and drills with a long cutting edge

/...// THE MACHINE CONCEPT

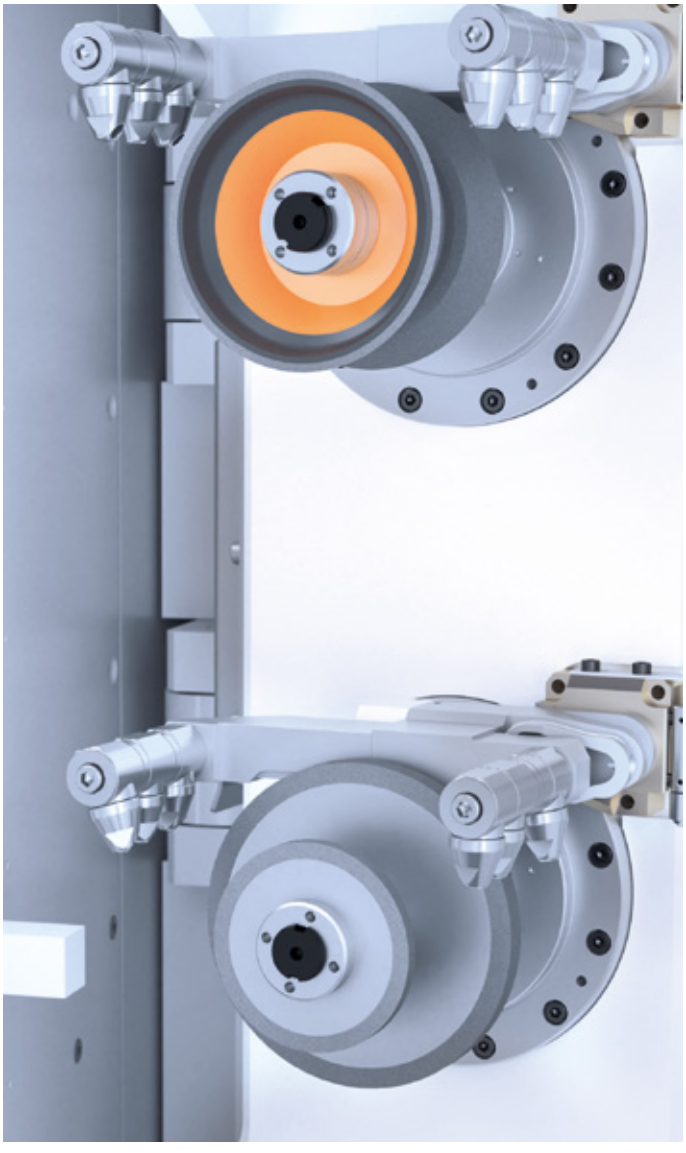
OPTIONAL EQUIPMENT

/// Flexible automation options for loading of carbide tools

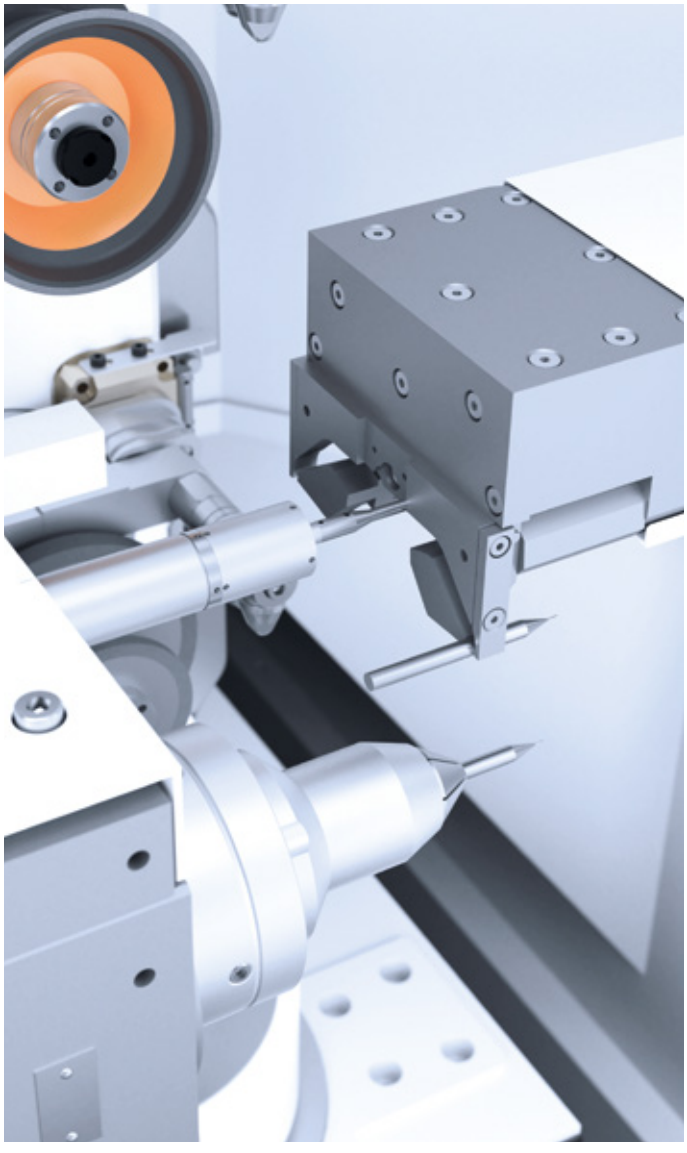
/// Grinding spindle available with a motor or belt drive

/// Automatic changing of grinding wheel sets complete with coolant nozzles for optimum productivity

/// Automatic gripper compensation as an in-process solution: Maximum precision when loading and unloading tools and reduction sleeves for decreased wear and optimal radial run-out



//// **COOLANT NOZZLES**
for optimum coolant supply



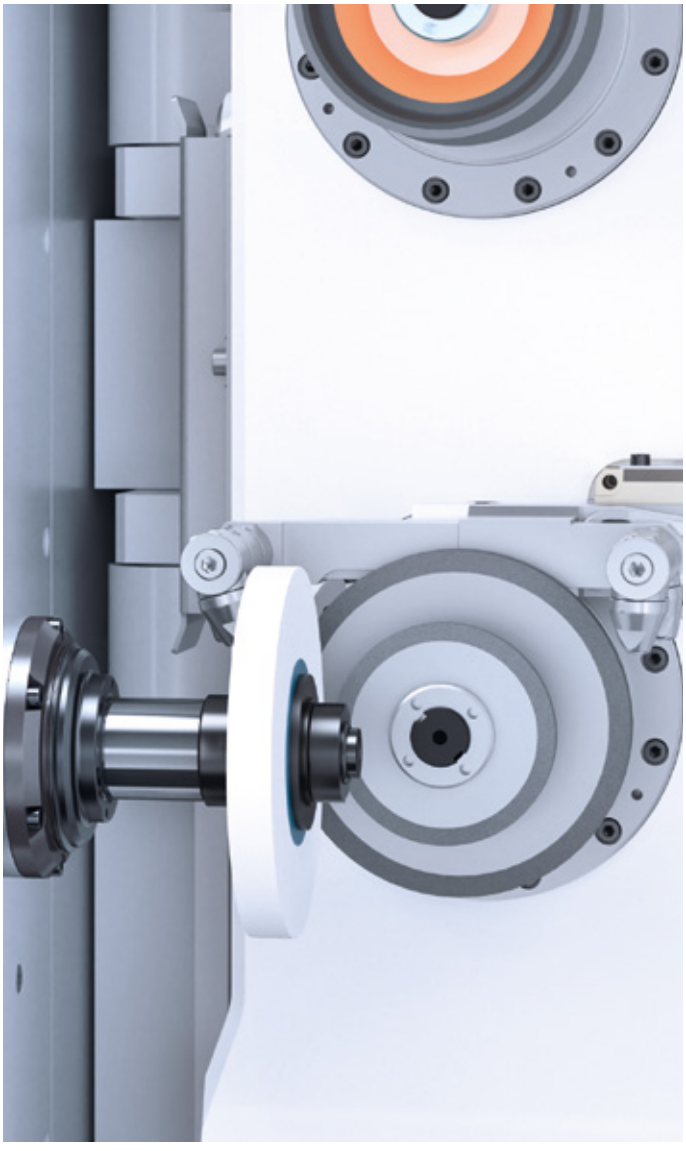
//// **GRIPPER COMPENSATION**
Safe, precise loading and unloading

/// Internal grinding wheel dressing device: For consistently optimal radial and axial run-out

/// Wheel probe: Grinding wheel alignment and wear control within the machine

/// Automated changing of intermediate sleeves with bayonet

/// Automatic sticking unit enables the abrasive coating to be opened during production



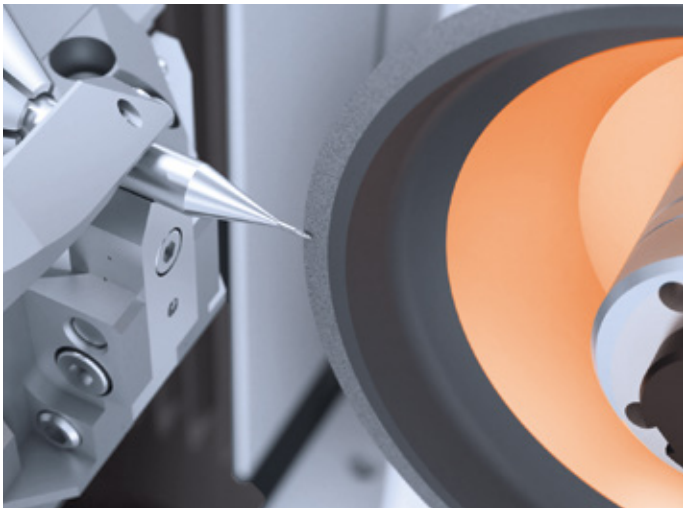
//// **INTERNAL DRESSING DEVICE**
New efficiency: Fine dressing of the grinding wheel as an internal process

//// **STICKING UNIT**
for opening the abrasive coating

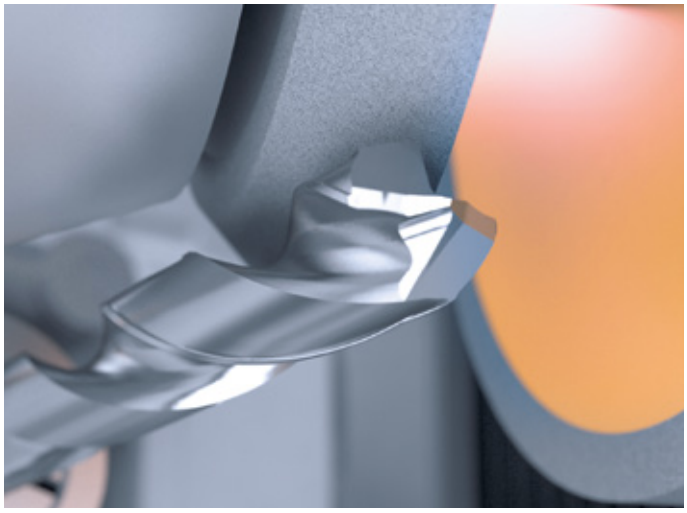
/// THE APPLICATION

The **V***Grind* 340S was designed to produce carbide drills and milling cutters with a diameter ranging from 0.3 to 12.7 mm.

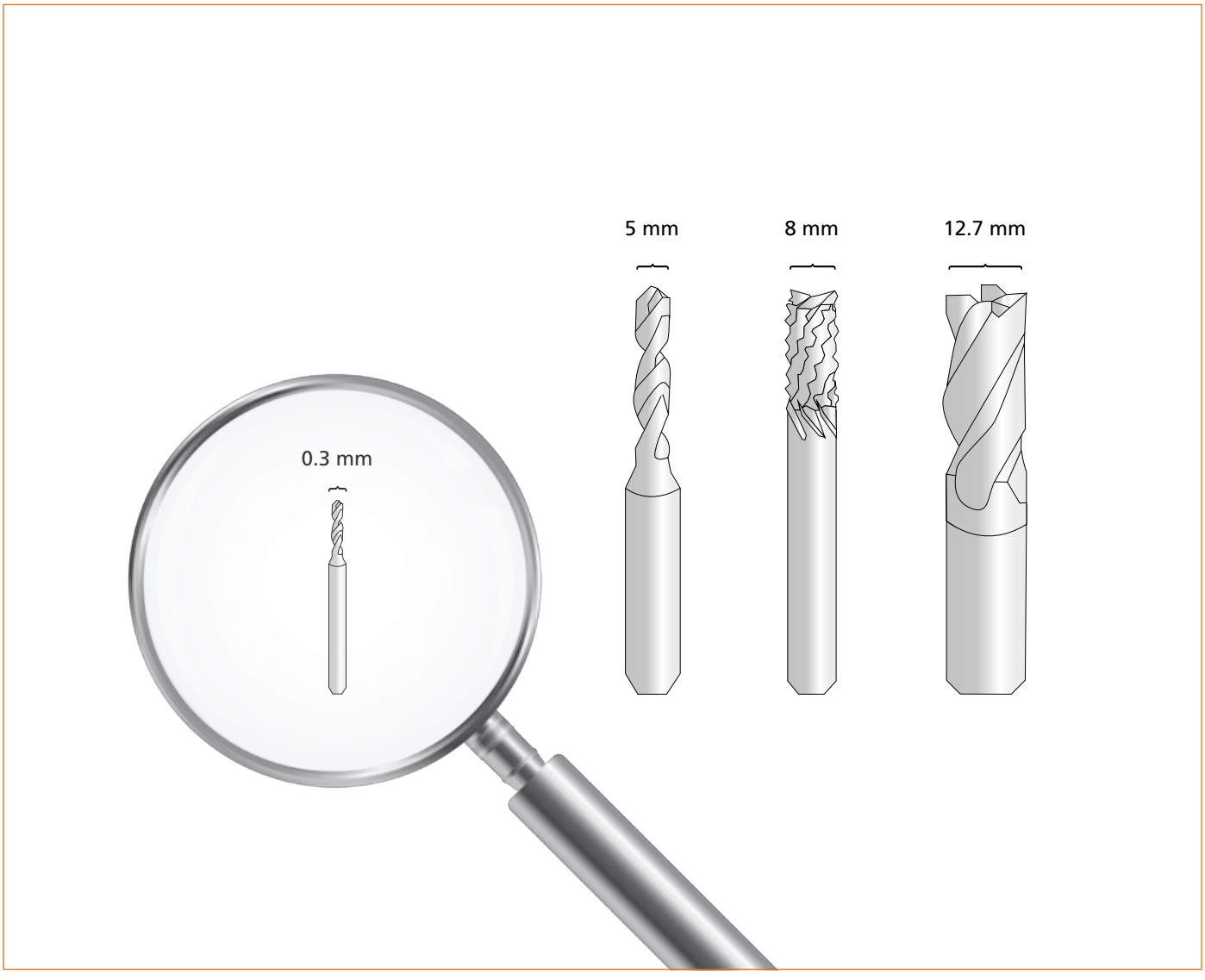
The high flexibility provided by the possibility to change both grinding wheel packages, the reduced changing times thanks to the positively guided system and the meaningful automation options provide the best prerequisites for efficient and high-quality manufacturing.



//// MACHINING CARBIDE MILLING CUTTERS



//// MACHINING CARBIDE DRILLS



//// **MAXIMUM PRECISION**
at the smallest scale: From 0.3 mm

/// THE OPERATING CONCEPT

In order to be able to exploit the full potential of your **V***Grind* 340S, simple and intuitive operation is a fundamental prerequisite. This begins with the control panel, which is positioned so that not only the LCD display, but also the working area can always be observed in the best possible manner. Operation via the keyboard or touchscreen allows for precise machining of the tool.

The multifunction handwheel ensures even more flexibility: It can be freely positioned on the enclosure and is designed for setting a required axis – without using the control desk. In short: With the **V***Grind* 340S, it becomes a simple pleasure to achieve the best results.

//// **ERGONOMIC OPERATION**
Flexibly height-adjustable, swivelling control desk, variable multifunction handwheel, optimal view into the machine, easy access to grinding spindles

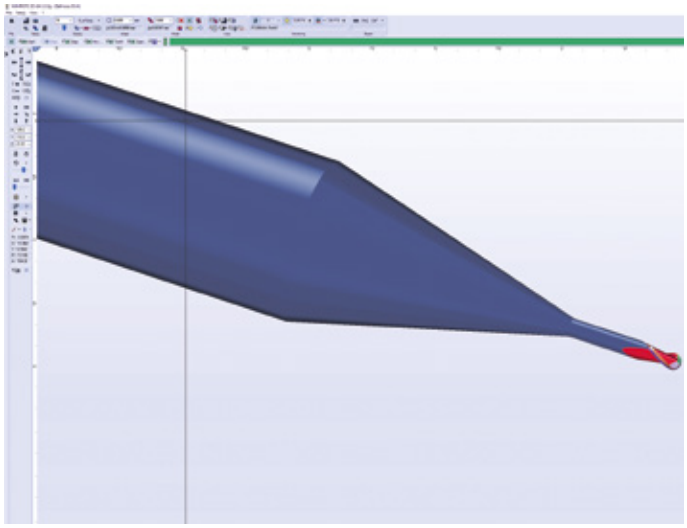
/// SOFTWARE NUMROTO*plus*®

VOLLMER consciously opted for a sophisticated system that is already established on the market. The logically structured interface guarantees intuitive handling. With established programming systems, a large variety of tools can be manufactured and resharpened. As a result, every detail on individual tools can be altered and adapted to individual needs.

Fully informed: Thanks to a perfect 3D diagram of the tool and machine. And with collision monitoring, you can always stay on the safe side.

/// Develop
/// Simulate
/// Monitor
/// Produce
/// Measure
/// Resharpen
/// Document

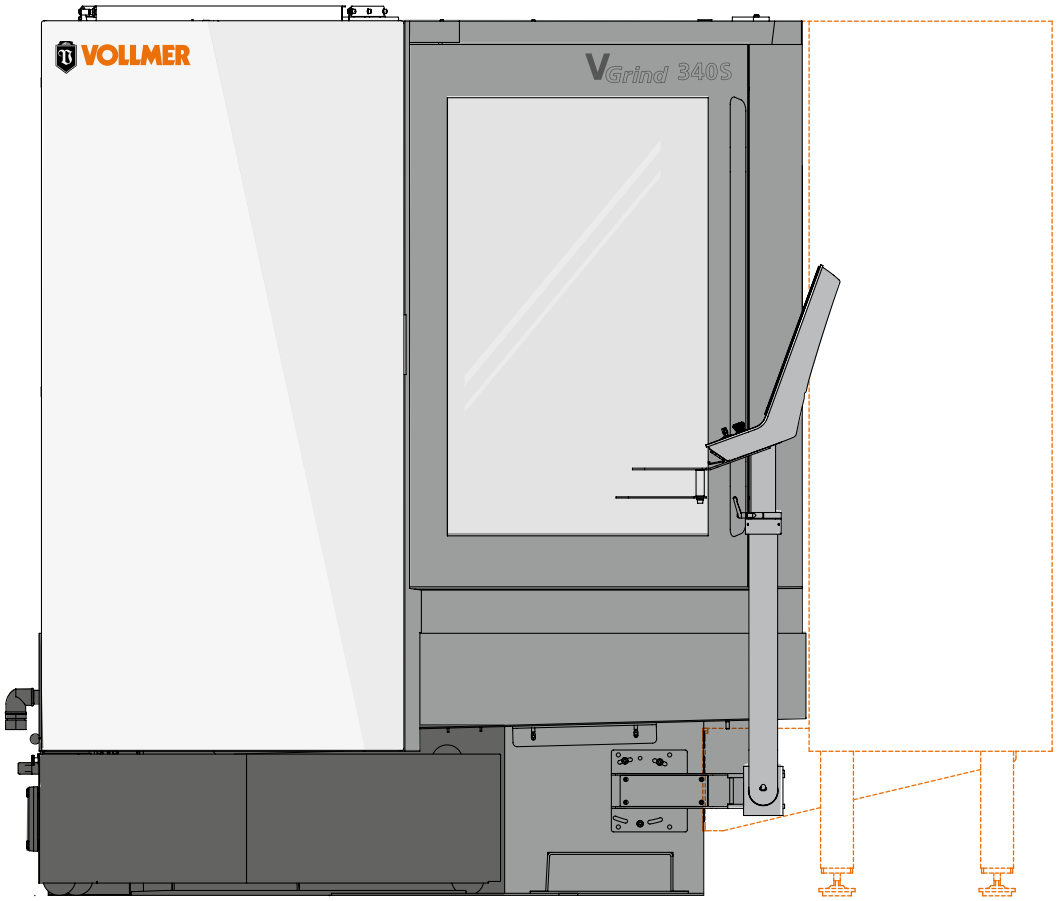
//// **PROVEN SOFTWARE SYSTEM**
NUMROTO*plus*®



//// **PROGRAMMING**
of different tools

/// THE AUTOMATION

One of the key factors in modern tool production is automating the work processes. The **V***Grind* 340S therefore features a range of useful configuration options that allow you to implement large batches of small tools and make your manufacturing processes more precise, quicker and safer.



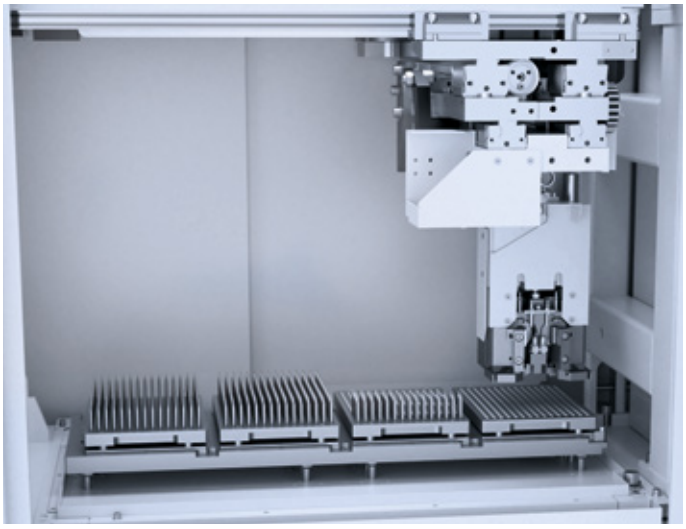
//// **TOOL AUTOMATION**
An extremely wide variety of automation solutions can be attached

/// TOOL AUTOMATION

With the various automation options that are available, the **V***Grind* 340S can be optimally adjusted to your requirements.

/// HP 160 pallet magazine with compact pallets (for up to 900 slots) and double gripper to guarantee a quick change between short machining times

/// HPR250 free-arm robot: Allows for the automatic machining of tools with various shaft diameters



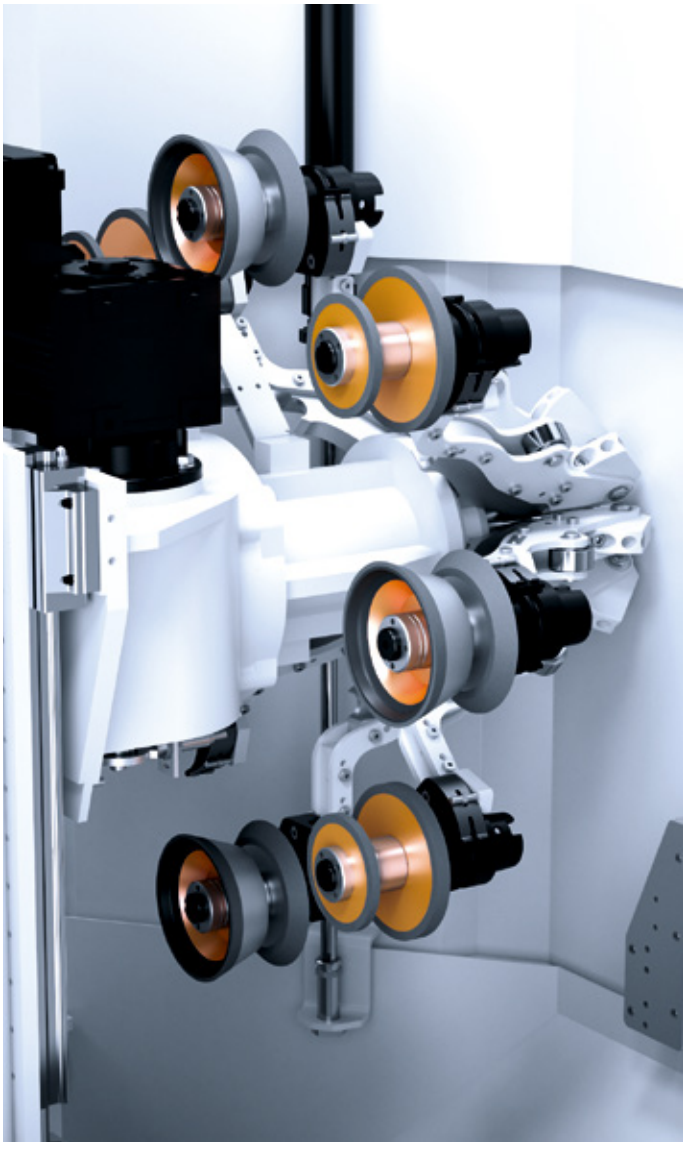
//// **HP 160 PALLET MAGAZINE**
for the quick supply of up to 900 workpieces

//// **HPR250 FREE-ARM ROBOT**
for increased capacity and even greater flexibility

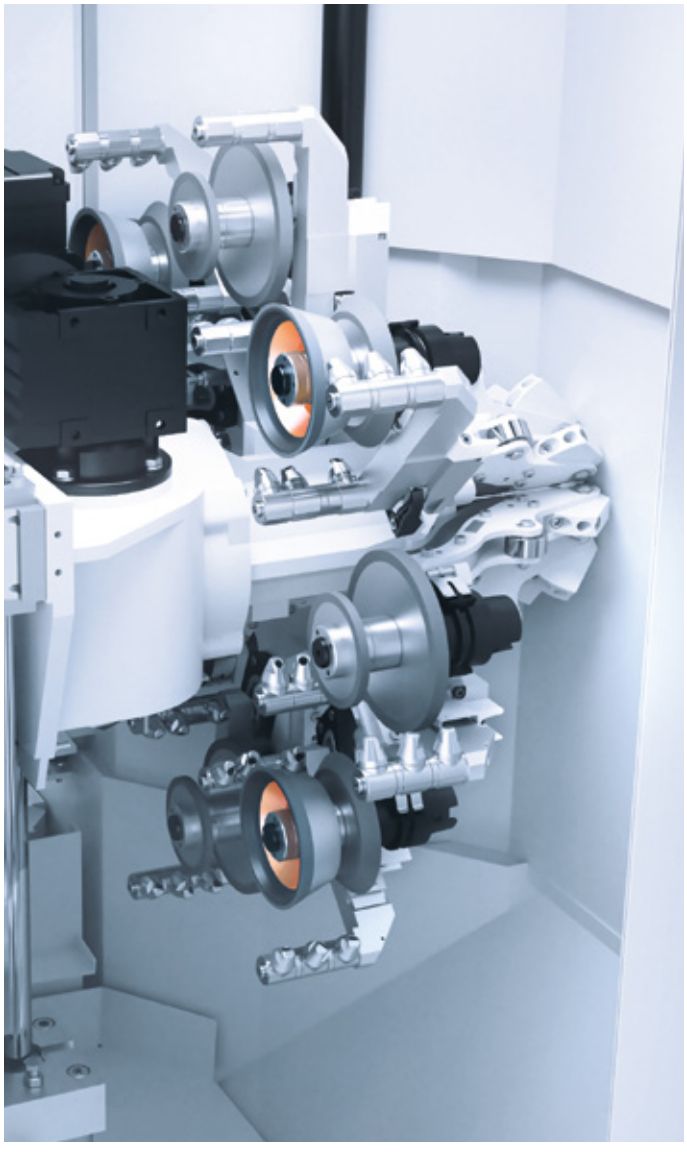
/...// THE AUTOMATION

/// EIGHT-TOOL GRINDING-WHEEL CHANGER

Always supply the right grinding wheel – with no manual intervention required: The optimum automation system for eight grinding wheel sets. If required, this can also include the coolant nozzles on both grinding spindles. This is a vital contribution to productivity within your manufacturing process.



//// **EIGHT-TOOL GRINDING-WHEEL CHANGER**
for efficient tool changes and reduced non-productive time



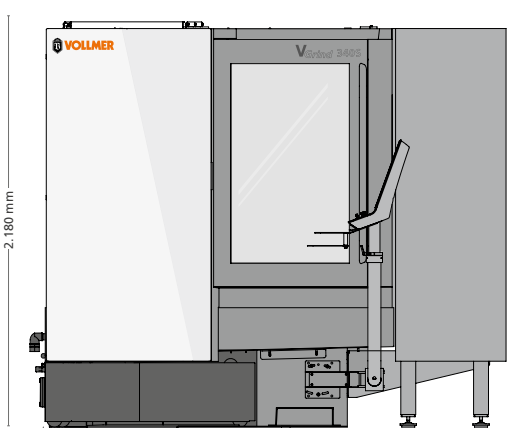
//// **EIGHT-TOOL GRINDING-WHEEL CHANGER**
including coolant nozzles

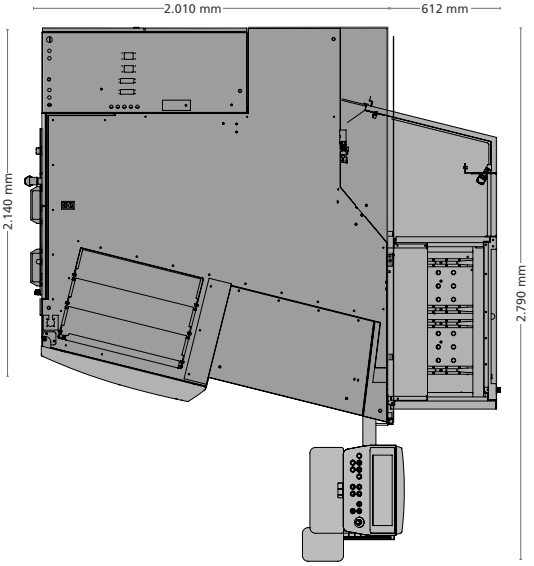
/// SPECIFICATIONS

Tool		
Outside diameter	up to 12.7 mm*	
Workpiece length	up to 340 mm**	
Grinding wheel		
Diameter	max. 150 mm***	
Grinding spindles		
	Belt spindle	Motor spindle
Speed	10,500 rpm	10,500 rpm
Driving power 100% ED	11 kW	10 kW
Spindle ends made of	HSK50****	HSK50****

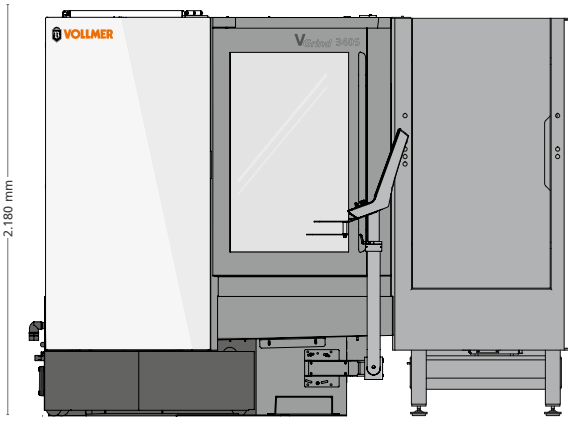
Traverse ranges	
X1 axis	330 mm
Y1 axis	450 mm
Z1 axis	500 mm
A1 axis	360°, 450 rpm optional 1000 rpm
C1 axis	+15° to -200°
Connected load	approx. 18 kVA
Weight	approx. 4900 kg net

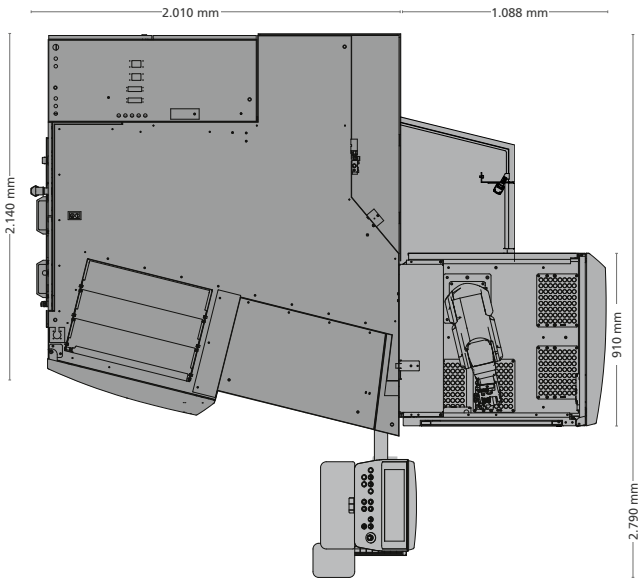
*Depending on the tipping, the machine kinematics also allow for larger diameters.
**From the front edge of the workpiece carrier without measuring the cooling channel.
***Max. 125 mm with supporting device.
****Up to three grinding wheels per spindle end.





//// MACHINE DIMENSIONS
V*Grind* **340S** with HP 160





//// MACHINE DIMENSIONS
V*Grind* **340S** with HPR 250

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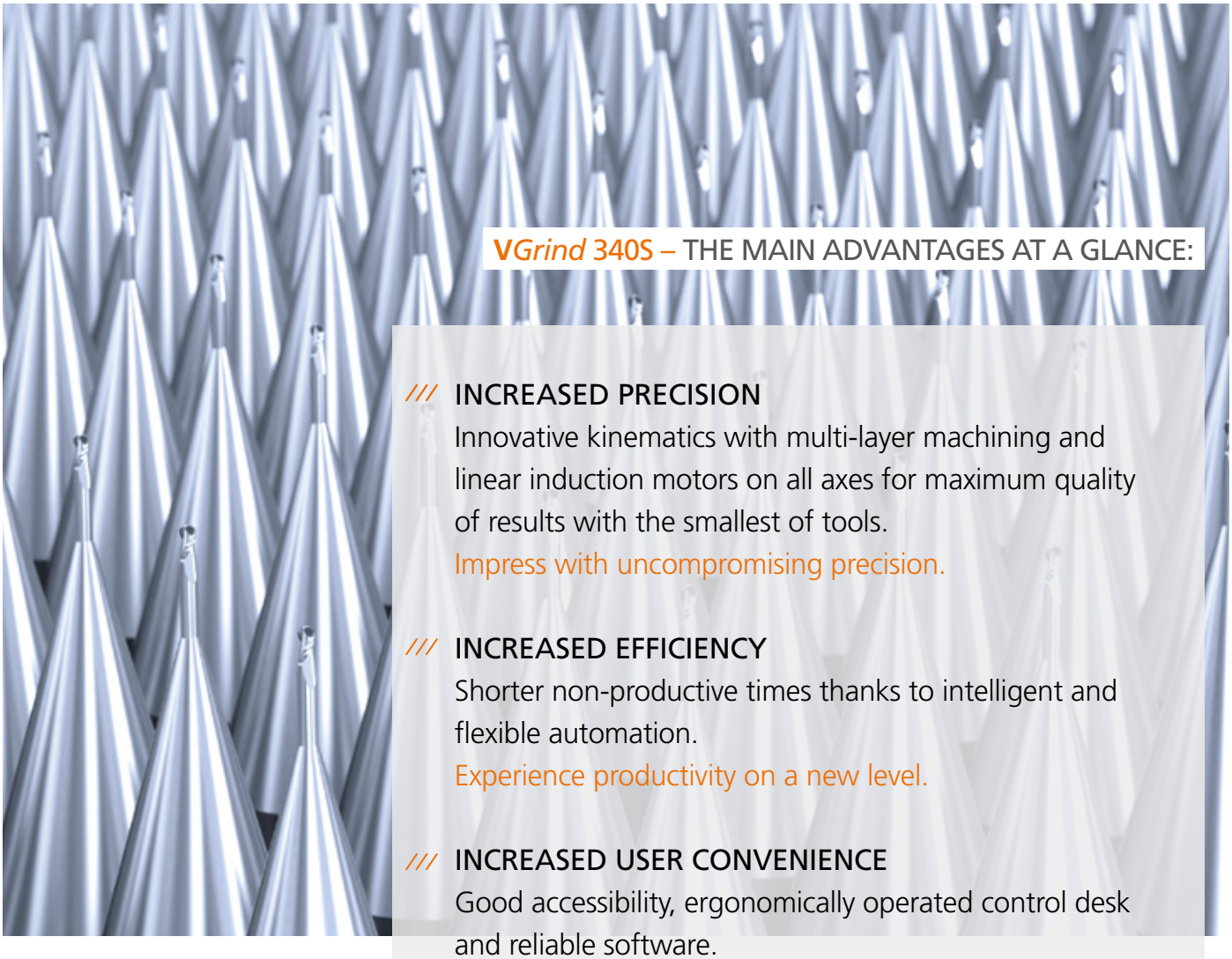

*V*Grind 340S – THE MAIN ADVANTAGES AT A GLANCE:

/// **INCREASED PRECISION**
Innovative kinematics with multi-layer machining and linear induction motors on all axes for maximum quality of results with the smallest of tools.
Impress with uncompromising precision.

/// **INCREASED EFFICIENCY**
Shorter non-productive times thanks to intelligent and flexible automation.
Experience productivity on a new level.

/// **INCREASED USER CONVENIENCE**
Good accessibility, ergonomically operated control desk and reliable software.
Make your work easier.

/// **INCREASED FLEXIBILITY**
Efficient machining of carbide tools upwards of 0.3 mm in diameter.
For precision in the format of your choice.

312/en/1000/07.19/Holzer

VOLLMER WERKE Maschinenfabrik GmbH
Ehinger Straße 34 // D-88400 Biberach/Riß
Tel. +49 7351 5710 // Fax +49 7351 571130
info@vollmer-group.com

www.vollmer-group.com