

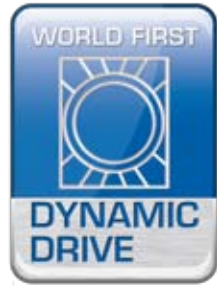
**SHW**

Werkzeugmaschinen

# PowerSpeed 6

**More power. More dynamic. More precision.**





## PowerSpeed 6 with DynamicDrive®.

As far as dynamic performance is concerned SHW machine tools have always been the yardstick for machines of their size. Now the PowerSpeed 6 with its patented SHW DynamicDrive® is once again introducing a quantum leap: It masters even longer travels with even greater power, it is more rigid to ensure the greatest possible precision.

### **Dynamic performance and precision ...**

... redefined – through a world premiere: the patented **DynamicDrive®**. By combining a continuously adjustable headstock support with modern roller bearing guideways we have been able to maximise precision.

This gives your machine the following advantages:

- Increased resistance to wear
- No stick-slip
- Higher speeds
- Almost maintenance-free

### **Size, speed and power**

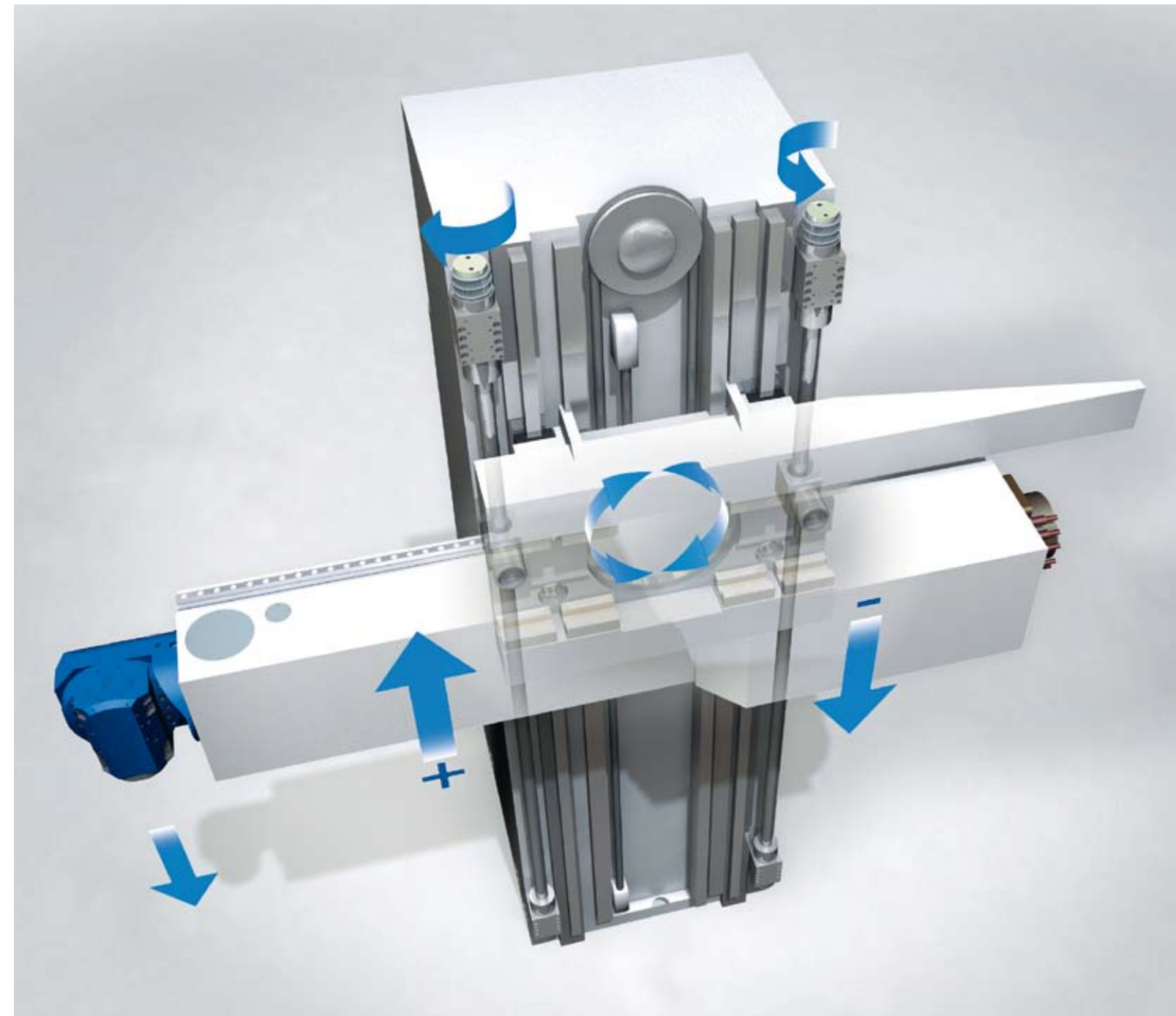
- Power up to 55 kW
- Torque up to 1,190 Nm
- Speed up to 8,000 min<sup>-1</sup>
- The PowerSpeed 6 can handle displacements up to 30,000 mm in the X-axis, up to 3,100 mm in the Y-axis and up to 1,500 mm in the Z-axis!

### **Value analytical innovation**

The machine bed widened to 1,220 mm allows us to integrate the Quattro power chain. Thus the power supply chain is protected by the telescopic cover from chips and swarf.

Through its increased size, the new, wider integral column ensures even greater rigidity and precision.

The decentralised layout of the drive and control systems ensures not only reduced losses in the supply lines but also contributes to the outstanding dynamic properties of the PowerSpeed 6. The travelling control unit now only contains the drive and control components needed by the moving column. A stationary control cabinet controls all the other installed axes, e.g. rotary tables, turntables, etc.



## Compact and powerful: the SHW universal milling head (orthogonal head).

- Your PowerSpeed 6 will be equipped with exactly the right milling heads to suit your requirements.
- Every SHW machine tool contains the know-how we have built up over 50 years making universal milling heads. The orthogonal head is supplied as standard with the PowerSpeed 6! Thus you get all the advantages of this head "as standard":
  - 64,800 different machining positions
  - Milling head (A-axis) rotating through 180°, milling head adaptor (C-axis) through 360° (in each case radially)
  - Each position is set fully automatically and calculated in the NC program
  - Force and positive connections guarantee that in each position the drive power is fully transmitted and made available
  - Tool holder SK 50/HSK 100
  - Drive power up to 55 kW
  - Torque up to 1,190 Nm
  - Speed range up to 8,000 min<sup>-1</sup>

### Machining capabilities



### Milling head adaptor

$360^\circ \times \text{milling head } 180^\circ = 64,800$   
various positions in an imaginary hemisphere can be achieved



## One clever head is not enough for us: the automatic head changing system.

### As dynamic as your demands.

### As flexible as your tasks.

The SHW head changing system is designed for those who want to combine the advantages of different machines in a single machine. With this system, we not only offer a universal head exchange interface but also a stepless C-axis, which can be used as a full NC-axis in the program.

Other heads, such as the fork head for 5-axis simultaneous machining, are part of our standard range. Individual heads for special customer requirements can be custom-made.

State-of-the-art torque drives in the head change interface and the latest control technology allow simultaneous machining of the C-axis together with the other NC-axes.

The C-axis can be hydraulically clamped in any position – so even the most difficult cutting specifications are no problem.

Our standard milling heads include:

- 1 SHW Universal orthogonal head  
Fluid cooled with a max. speed of 8,000 min<sup>-1</sup>
- 2 SHW Horizontal head up to 1,000 mm
- 3 SHW Angle head in ultra compact design
- 4 SHW Fork head for 5-axis simultaneous machining

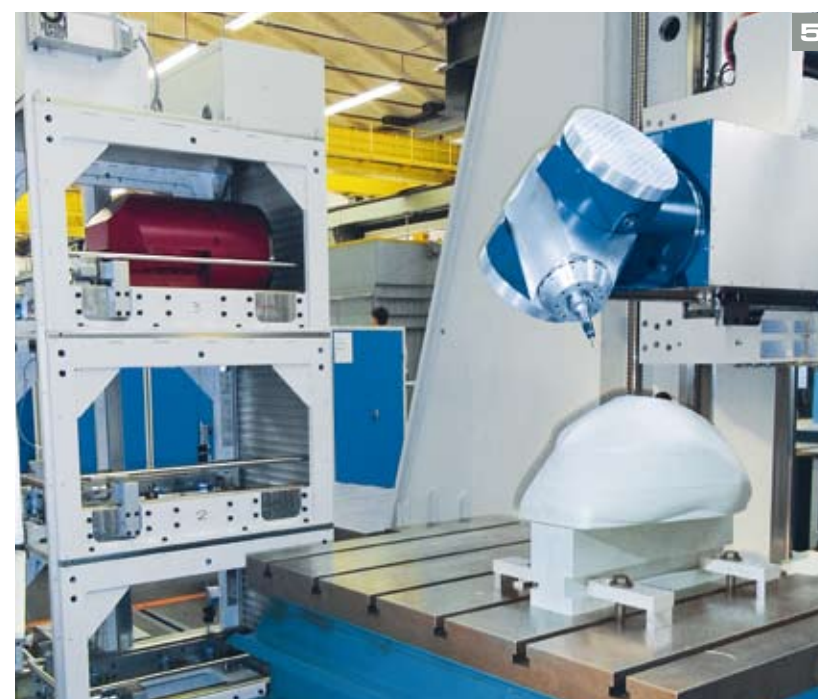




# SHW expertise: Versatile specialist.



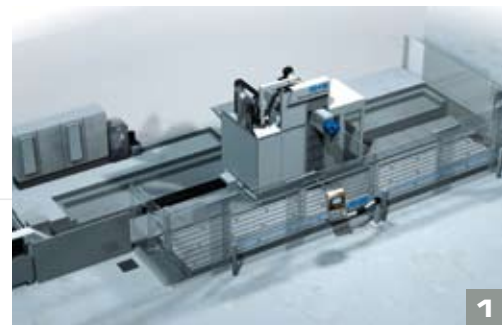
- 1** Toolmaking
- 2** Engine manufacture
- 3** Gearing



- 4** Mechanical engineering
- 5** Mould making
- 6** Environmental technology



## The SHW modular system for all-inclusive, customisable solutions.



Our sophisticated modular system enables us to respond to your demands with extreme flexibility. The machining modules can be combined with variable bench assemblies. This means that we can design all work areas to meet your specific needs. You also benefit from our years of experience. You receive a workpiece-specific solution that ensures cost-effective production.



- 1 Classic with face plate
- 2 Face plate with integrated rotary table
- 3 Double column system
- 4 Fully enclosed

## We are consistent in many ways. By always remaining flexible.

SHW tooling machines represent the famous "Made in Germany" quality claim and – to raise the standard even further – the best performance from Swabia. And we are bound by the fact that our origins are here, our success is grounded here, and we see our future here. In recent years we have grown steadily at our location and we have continued to invest in our company and our employees.

In the future, too, we want to continue to move forward, remain flexible and think ahead. With self-confidence and sound judgement we thus create the conditions to meet our customers' needs in the future, assert our position as a technological market leader and take a firm step forward.



# PowerSpeed 6: Power and speed in a new dimension.

## More power

Power	up to 55 kW
Torque	up to 1,190 Nm

A machine bed widened to 1,220 mm opens up new dimensions:

X-axis	2,000 – 30,000 mm
Y-axis	up to 3,100 mm
Z-axis	up to 1,500 mm

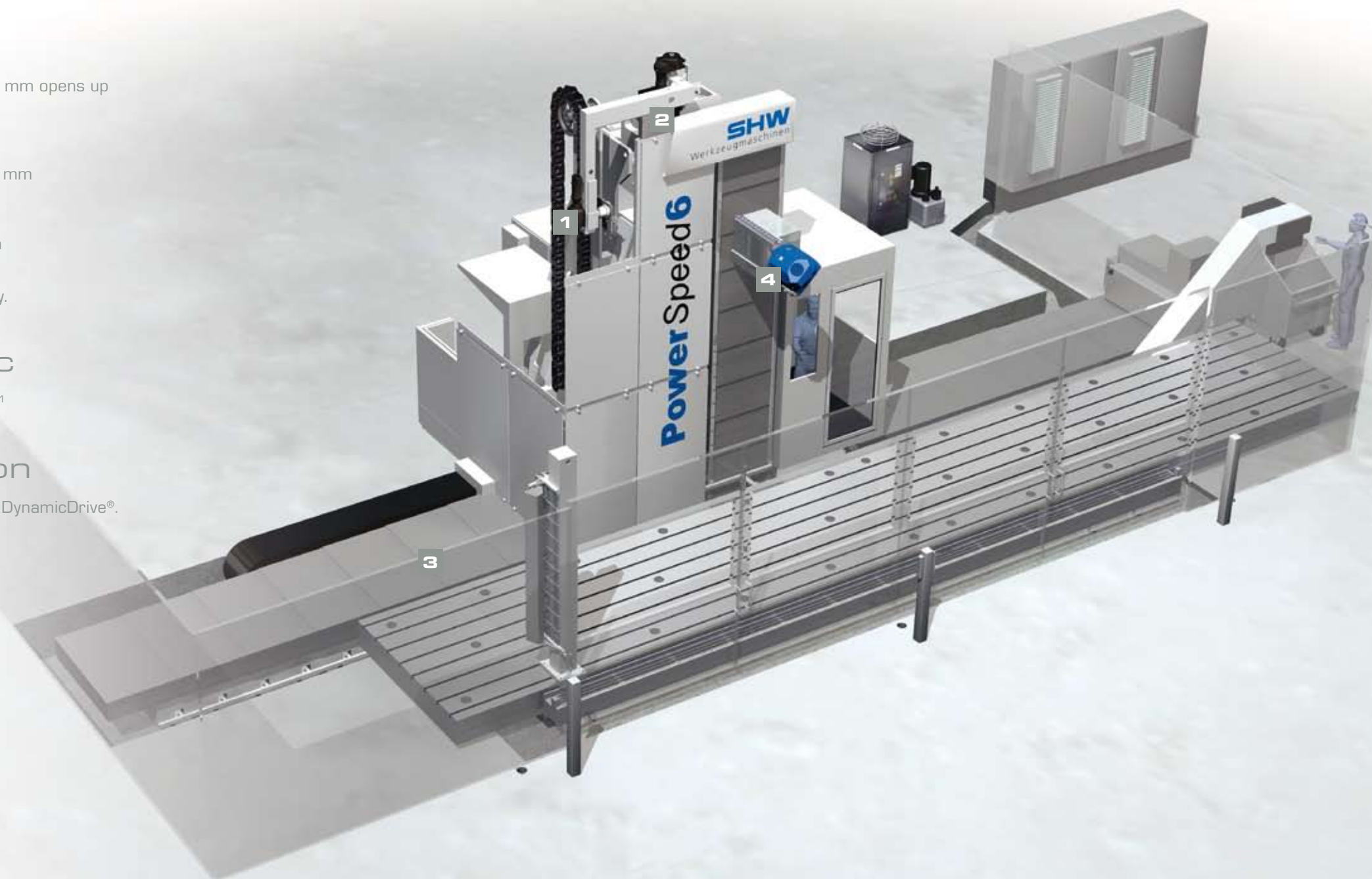
and offers you increased flexibility.

## More dynamic

Speed range	up to 8,000 min <sup>-1</sup>
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## More precision

Through the patented world first DynamicDrive®.



Tool robot



Machine column



Machine bed



Optimised guideway system



PowerSpeed 6:  
Power and speed  
in a new dimension.

The perfect balance between  
innovation and experience.



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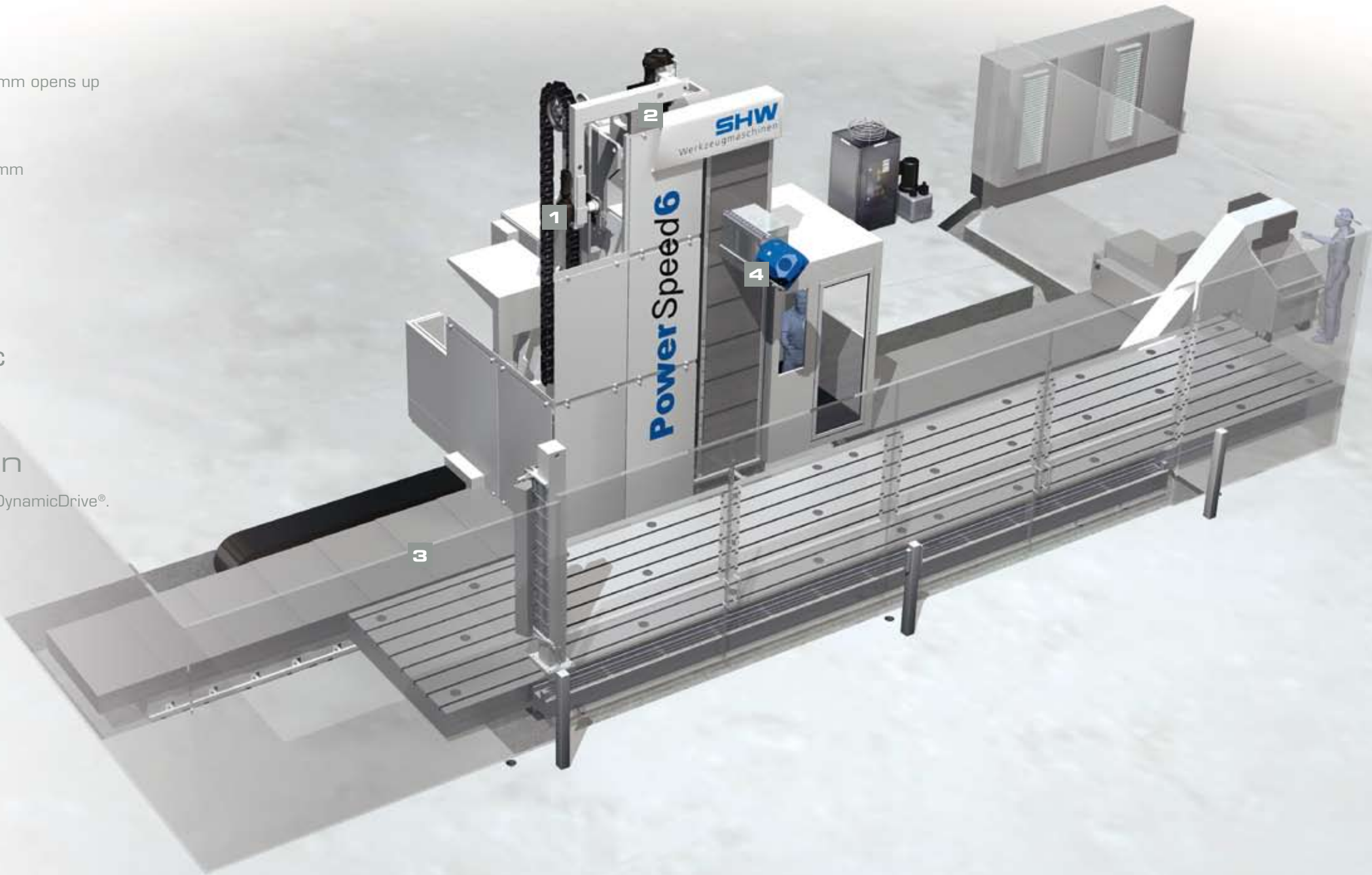
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More dynamic

Speed range	up to 8,000 min <sup>-1</sup>
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More precision

Through the patented world first DynamicDrive®.



1

Robot tool changer  
tool for the fastest chip-to-chip time and the  
highest availability

2

Two fluid-cooled drives in the vertical axis  
for dynamic displacement of the vertical axis

3

Optimised guideways and rack-and-pinion drive  
for power in the x-axis and highly dynamic  
acceleration

4

Close proximity of the guideways to the columns  
and headstock ensure compact lines of force and  
thus increased rigidity for high performance  
machining

Technical data

<b>Machining area/travels</b>		
X-axis – table/stands lengthwise	mm	2,000 – 30,000
Y-axis – carriage vertical	mm	2,100 – 3,100
Z-axis - headstock crosswise	mm	up to 1,500
<b>Travelling speeds</b>		
Feed rates X, Y, Z	mm/min	2 – 30,000
Rapid traverses X, Y, Z	mm/min	up to 30,000
Acceleration	m/s <sup>2</sup>	up to 5
Feed rate – rotary table	min <sup>-1</sup>	0 – 8
Rapid traverse – rotary table	min <sup>-1</sup>	up to 8
<b>Drive power</b>		
Speed ranges	kW	up to 55
	min <sup>-1</sup>	up to 8,000
<b>Tool holder</b>		
Optional	SK 50 DIN 69871 HSK 100 A DIN 69893	
<b>Table assemblies</b>		
Clamping surface	Machine table mm	from 2,000 x 1,000 to 30,000 x 3,000
<b>Rotary tables</b>		
Clamping surface	fitted or separate mm	Diameter 1,000 up to customer requirements
<b>CNC System</b>		
	Siemens and Heidenhain	
<b>ATC</b>		
Number of pockets	48, 66, 90, 120, 150	
<b>Pick-up system</b>		
	for oversized and special tools depending on customer requirements	

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