

**SHW**

Werkzeugmaschinen

# PowerForce 8

**Power. Dynamics. Precision.**





## PowerForce 8: Power and dynamics in a new dimension.

This impressive machine is all about an excellent combination of power, dynamics and precision. The PowerForce 8 comes with the new, stepless orthogonal head as standard and is equipped with drive power of up to 90 kW and torque of up to 1,725 Nm. In addition, the hydraulic work platform, with its towering vertical travel path, sets completely new standards in terms of design and layout.

### **The most important technical data:**

#### **Output**

- up to 90 kW

#### **Torque**

- up to 1,725 Nm

#### **Speed range**

- up to 5,000 min<sup>-1</sup>

#### **Travel paths**

A machine bed widened to 2,000 mm allows new dimensions:

- X = 50,000 mm, Y = 7,100 mm, Z = 2,000 mm





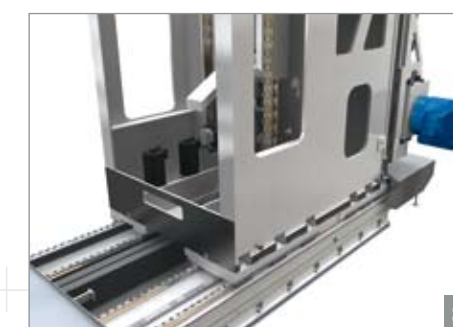
The perfect balance  
of power and dynamics.



*Tool change in a new dimension: the tool carrier for tools up to an individual weight of 40 kg and a diameter of 320 mm.*



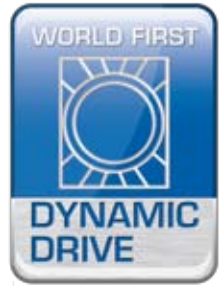
*Vertical rack and pinion drive.  
Four electric motors wired to each other ensure highly dynamic feed rate behaviour.*



*Optimised guide tracks and rack and pinion drive for power in the X-axis and highly dynamic acceleration.*



*Close spacing of the guide tracks to the column and headstock results in short power transfer distances and thus higher rigidity for powerful milling and machining.*



## PowerForce 8 with DynamicDrive®.

In terms of dynamics, large-class SHW tooling machines have always set the benchmark. The PowerForce 8 with its patented SHW DynamicDrive® again makes a quantum leap: it handles even longer travel paths with even greater power and stability with the utmost precision.

### Dynamics and precision

Redefined – thanks to a world first: the patented **Dyna-micDrive®**. The combination of an infinitely variable head-stock carrier with modern roller bearing guides allows us to achieve a high degree of precision.

The advantages for your machine include:

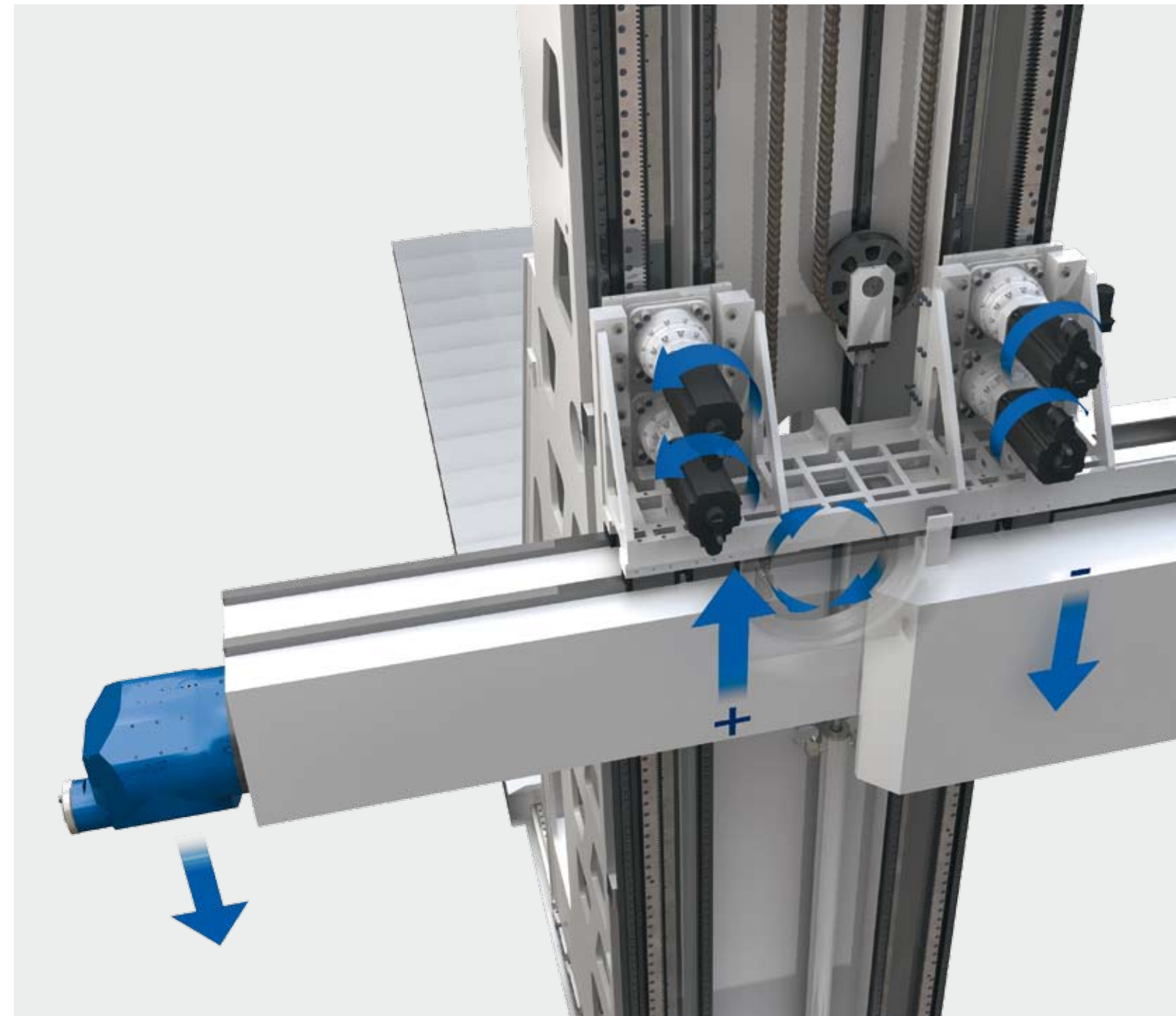
- Less susceptible to wear
- No stick-slip
- High speeds
- Virtually maintenance-free

### Innovations in value analysis

The machine bed widened to 2,000 mm allows us to integrate the Quattro energy chain. This means the energy supply chain is protected against chips and coolant emulsion by the telescopic cover.

Due to its new dimensions, the new, wider machine column provides even greater stability and precision.

The decentralised design of drive and control components not only ensures less transmission losses, but also supports the excellent dynamics of the PowerForce 8. The ride-along control cabinet now only contains the drive and control components that supply the travelling column. All other installed axes, e.g. rotary tables, reversible clamps, etc. are supplied from a stationary control cabinet.



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

- The PowerForce 8 is equipped with the milling heads that precisely meet your needs.
- Every SHW machine features the expertise that we have built up over 50 years of manufacturing universal milling heads. The new stepless orthogonal head on the PowerForce 8 comes as standard! As a result, you also get the numerous advantages of this head as standard, including:

- Stepless machining
- Each position is automatically swivelled into and calculated in the NC program.
- An oversized clamp ensures that the drive power is fully transferred and converted in any position.
- Tool holder SK 50/HSK 100
- Drive power up to 90 kW
- Torque up to 1,725 Nm
- Speed range up to 6,000 min<sup>-1</sup>

### Machining options



### Milling head holder

360° x milling head 180° = 64.800

various positions in an imaginary hemisphere can be achieved.



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

### As dynamic as your requirements.

### As flexible as your applications.

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 do 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 tasks are no problem.

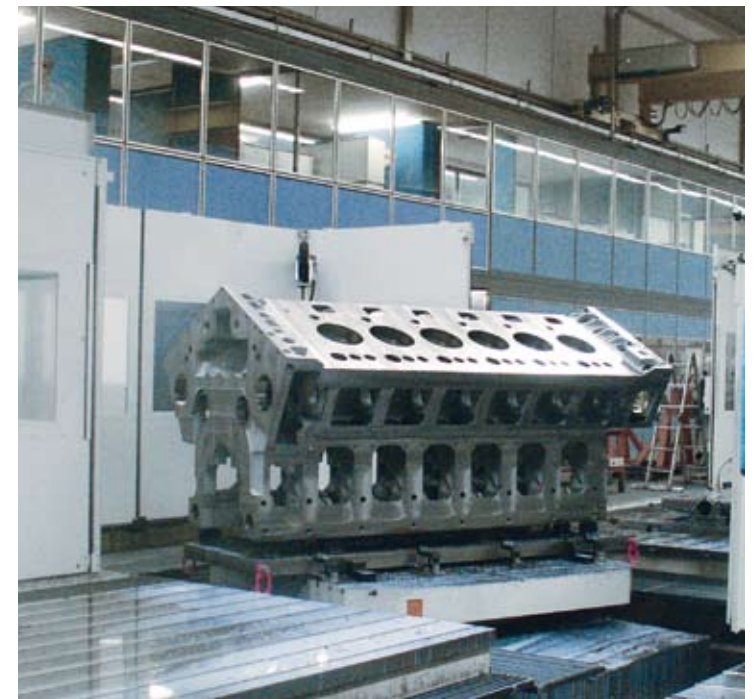
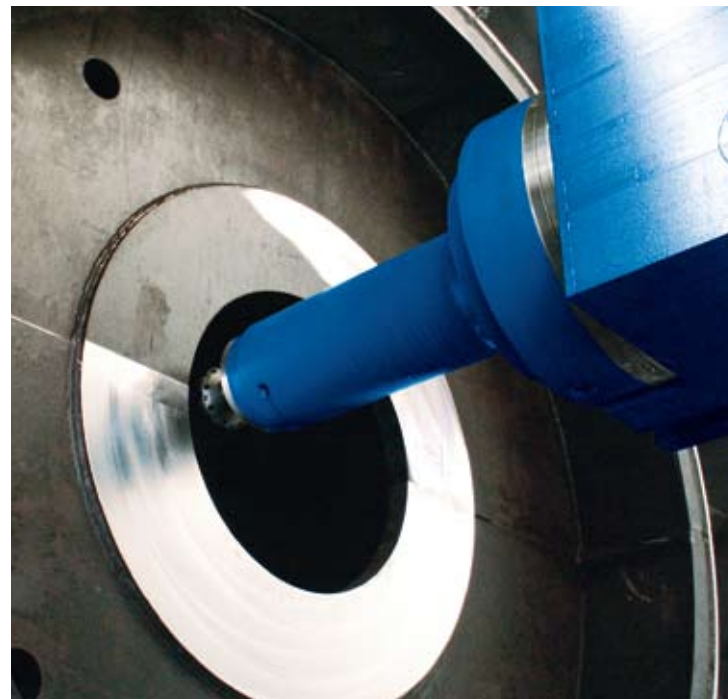
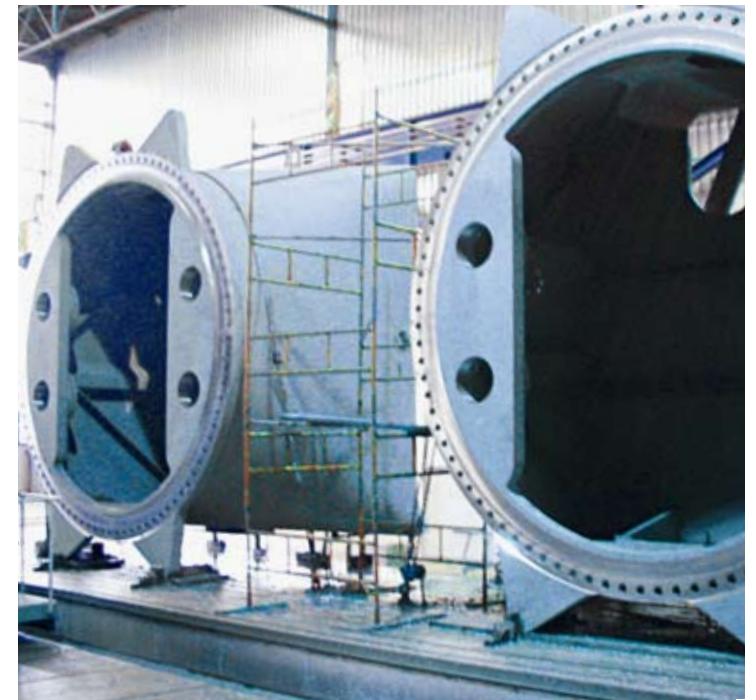
Our standard heads include:

- 1** SHW stepless universal head in orthogonal design, liquid-cooled with a max. speed of 6,000 min<sup>-1</sup>.
- 2** SHW horizontal head up to 1,500 mm.
- 3** SHW angle head in ultra-compact design.
- 4** SHW fork head for 5-axis simultaneous machining.





## Gallery of superlatives: PowerForce machining examples.





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.

Those who come to us get much more than a mere machine.

Our machines have a considerable impact on the processes of our customers. That is why we bear a great deal of responsibility and thus approach each project holistically. We see the task you set us as a challenge. Our aim is to develop and implement the best solution for each situation – and that involves far more than "just" an excellent machine.

#### **Personal support from the outset**

- With us, each customer gets "his own" project team, which stands by his side from the outset and also provides him with advice on the structural design.

#### **"Turn-key" machines**

- The machine that we hand over to you is immediately fully operational.

#### **Training**

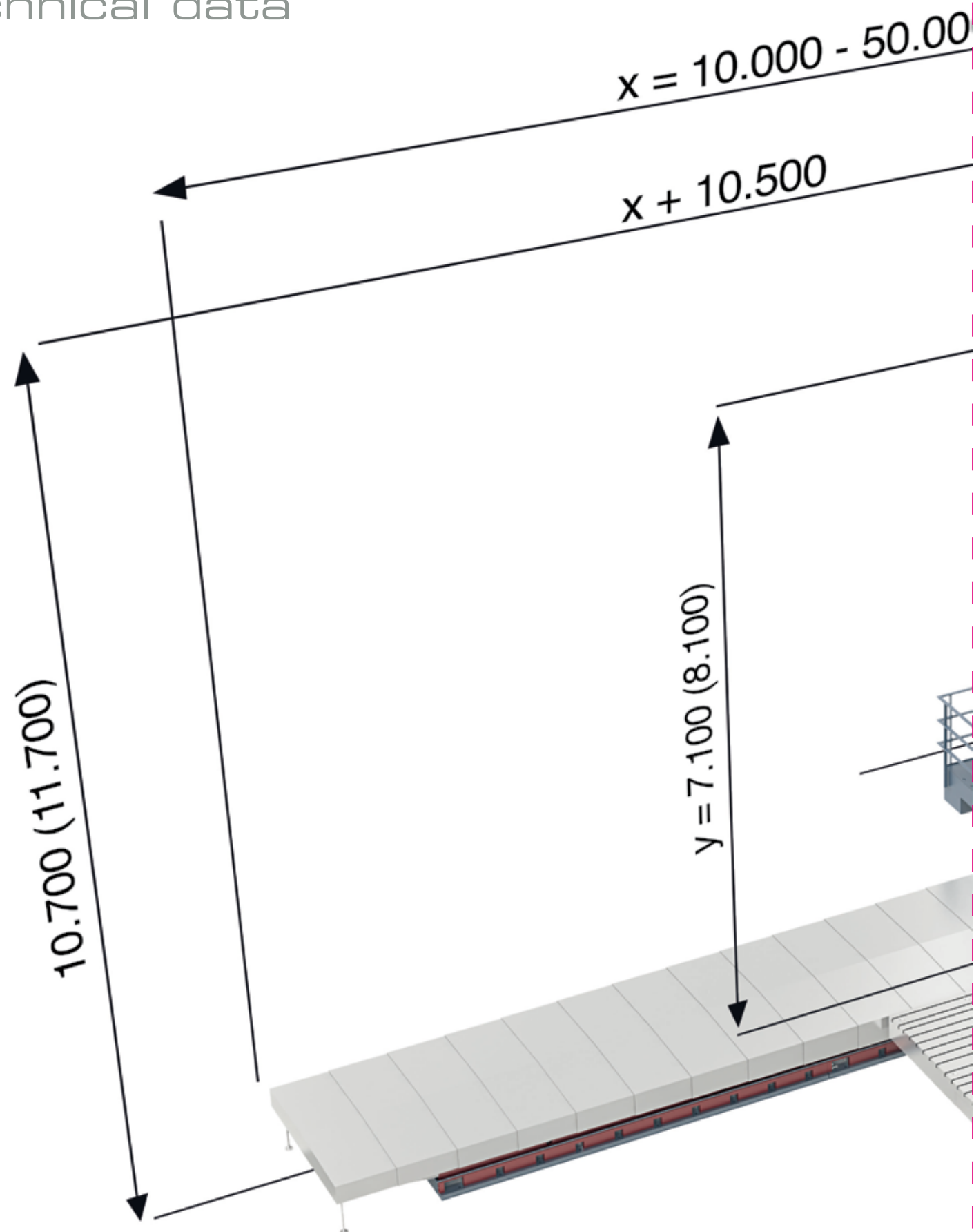
- We provide your operating staff with comprehensive training so that you can take full advantage of all the capabilities of your SHW machine. Our support begins with basic programming courses and extends to production support.

#### **Service – for the life of the machine**

- After commissioning, we continue to provide support for customers' machines. Your SHW service technician will look after and maintain your machine over its lifetime, and will make regular on-site visits.
- We provide the fastest possible service – worldwide.
- All SHW machines are capable of remote diagnosis – a service tool that you can use without additional expense.

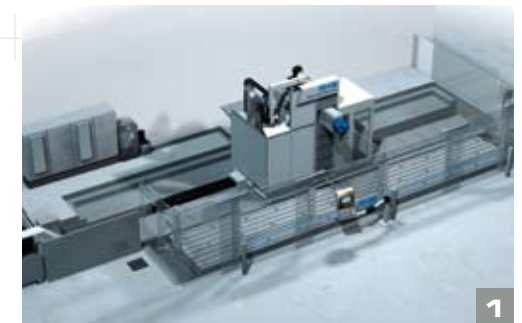


## Technical data



The SHW modular system:  
for individually configurable  
complete solutions.

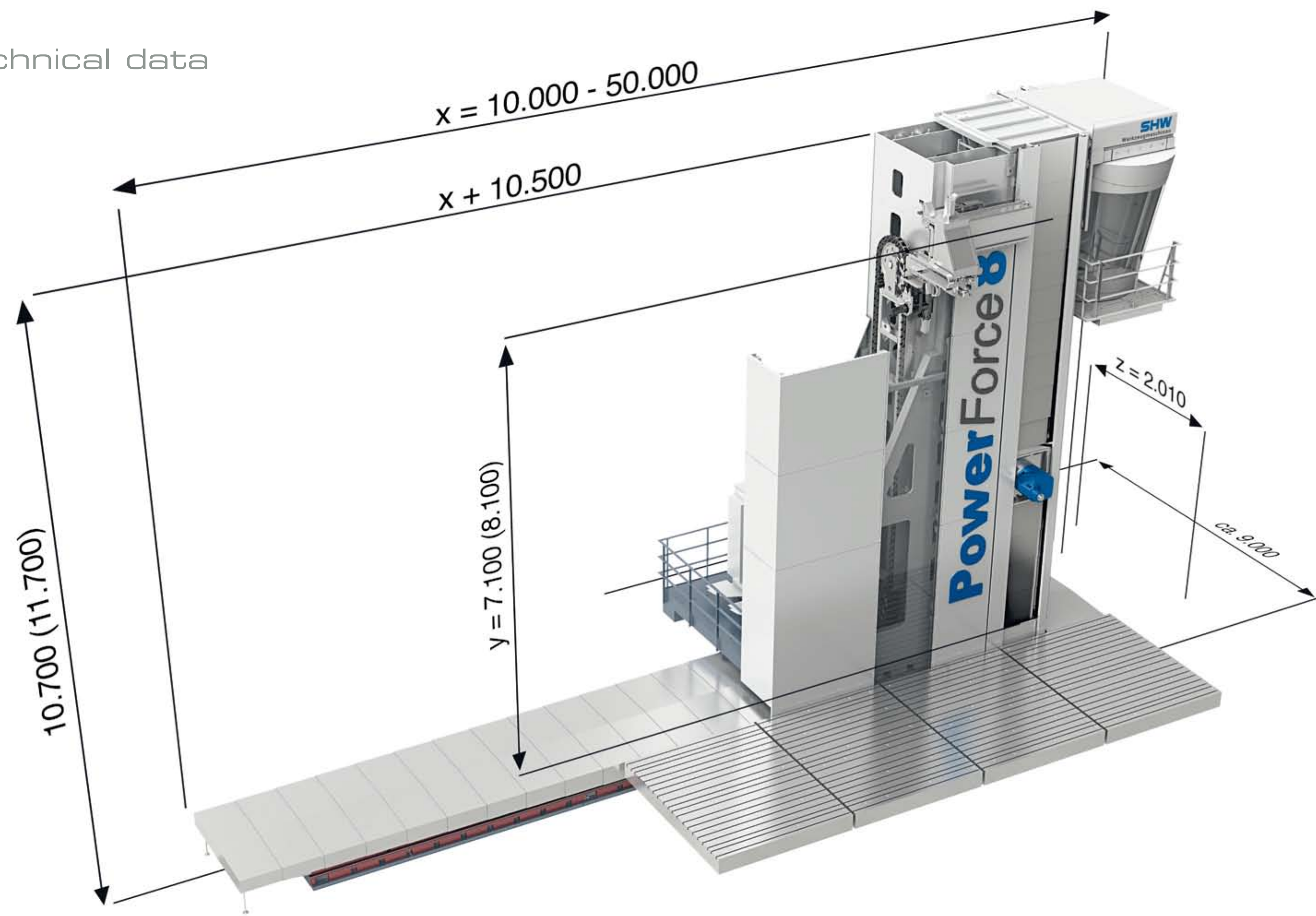
Our sophisticated modular system enables us to respond to your demands with a high degree of flexibility. The machining modules can be combined with variable bench assemblies. This means that we can coordinate all work areas to exactly meet your needs. You also benefit from our many years of experience. 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



Technical data



<b>Machining area / travels</b>			
X-axis – table / stands lengthwise	mm	up to 50,000	
Y-axis – carriage vertical	mm	up to 7,100	
Z-axis – headstock crosswise	mm	2,000	
<b>Travelling speeds</b>			
Feed rates X, Y, Z	mm/min	2 – 36,000	
Rapid traverses X, Y, Z	mm/min	up to 36,000	
Acceleration	m/s²	up to 2	
<b>Drive power</b>			
Speed ranges	kW min⁻¹	up to 90 22 – 5,000	
<b>Tool holder</b>			
Optional		SK 50 DIN 69871 HSK 100 A DIN 69893	
<b>Table assemblies</b>			
Clamping surface	Machine table mm	500 mm segments longitudinal and cross	
<b>Rotary tables</b>			
Clamping surface	fitted or separate mm	Diameter 1,000 up to customer requirement	
Cross movement (W-axis)	mm	1,000 – 3,000	
<b>CNC System</b>			
		Siemens and Heidenhain	
<b>ATC</b>			
Number of pockets		90, 120, 150	
<b>Pick-up system</b>			
		for oversized and special tools depending on customer requirements	

**SHW Werkzeugmaschinen GmbH**

Alte Schmiede 1

73433 Aalen-Wasseralfingen

Tel.: +49 (0)7361 5578 800

Fax: +49 (0)7361 5578 900

[info@shw-wm.de](mailto:info@shw-wm.de)

[www.shw-wm.de](http://www.shw-wm.de)