



**CNC-Machining Center  
OPTIMAT  
BP100, BP120, BP140**

Economic and Complete  
Manufacturing –  
All On One  
machine.

# OPTIMAT BP100, BP120 and BP140

## Your CNC-Machining Center



With the Optimat series, WEEKE is presenting CNC machining centers with quality and reliability looking back on 50 years of experience.

The Optimat Series is manufactured with state-of-the-art technology located Herzebrock-Clarholz, Germany.

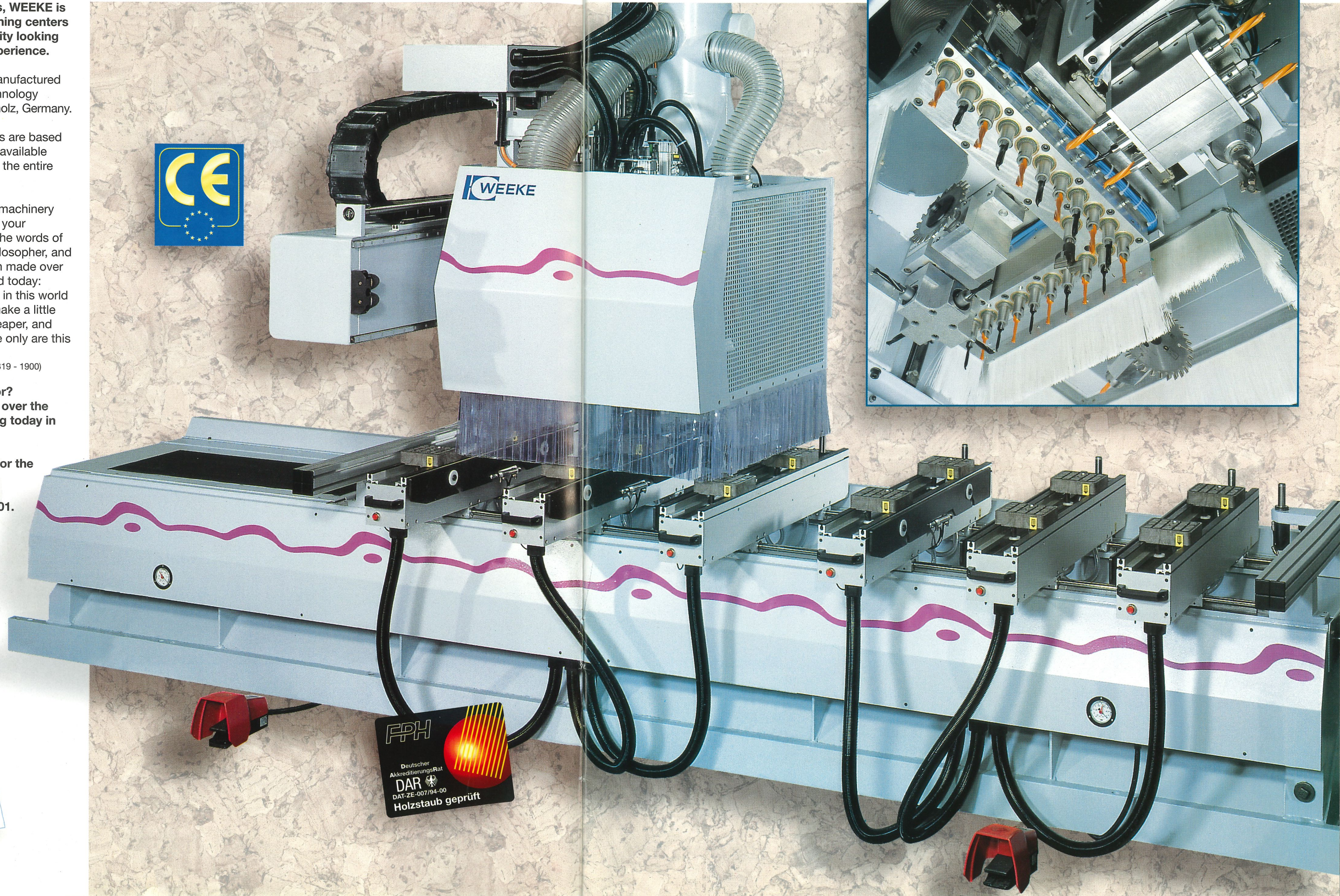
All individual components are based on the latest technology available and are used throughout the entire HOMAG Group.

You decide what quality machinery means to the success of your business. Keep in mind the words of John Ruskin, English philosopher, and how his recommendation made over 100 years ago is still valid today: „There is hardly anything in this world that some man cannot make a little worse and sell a little cheaper, and those who consider price only are this man's lawful prey.“

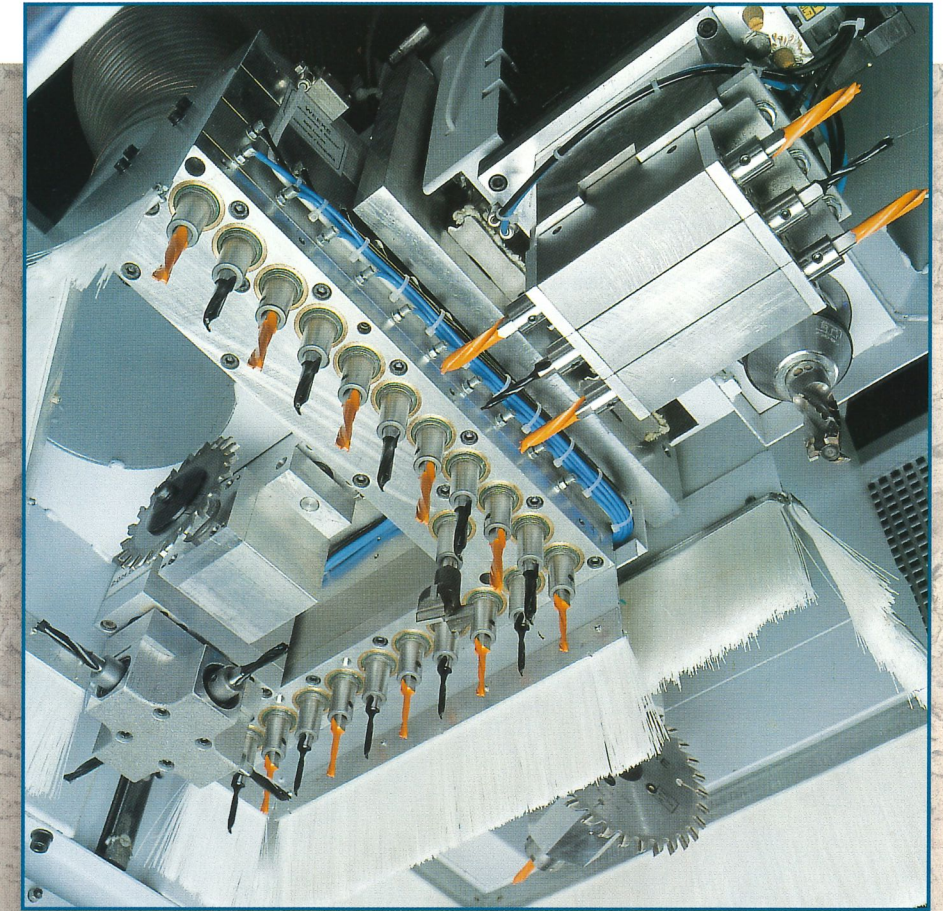
(John Ruskin, Social Philosoph 1819 - 1900)

**What are you waiting for?**  
Ensure your advantage over the competition by investing today in your future.

**WEEKE - Your partner for the future. Member of the HOMAG-Group.**  
Certified by DIN ISO 9001.



Possible head configuration OPTIMAT BP140



# OPTIMAT BP 100, BP 120 and BP 140 – Made by WEEKE

## Flexibility is essential to success in today's competitive marketplace



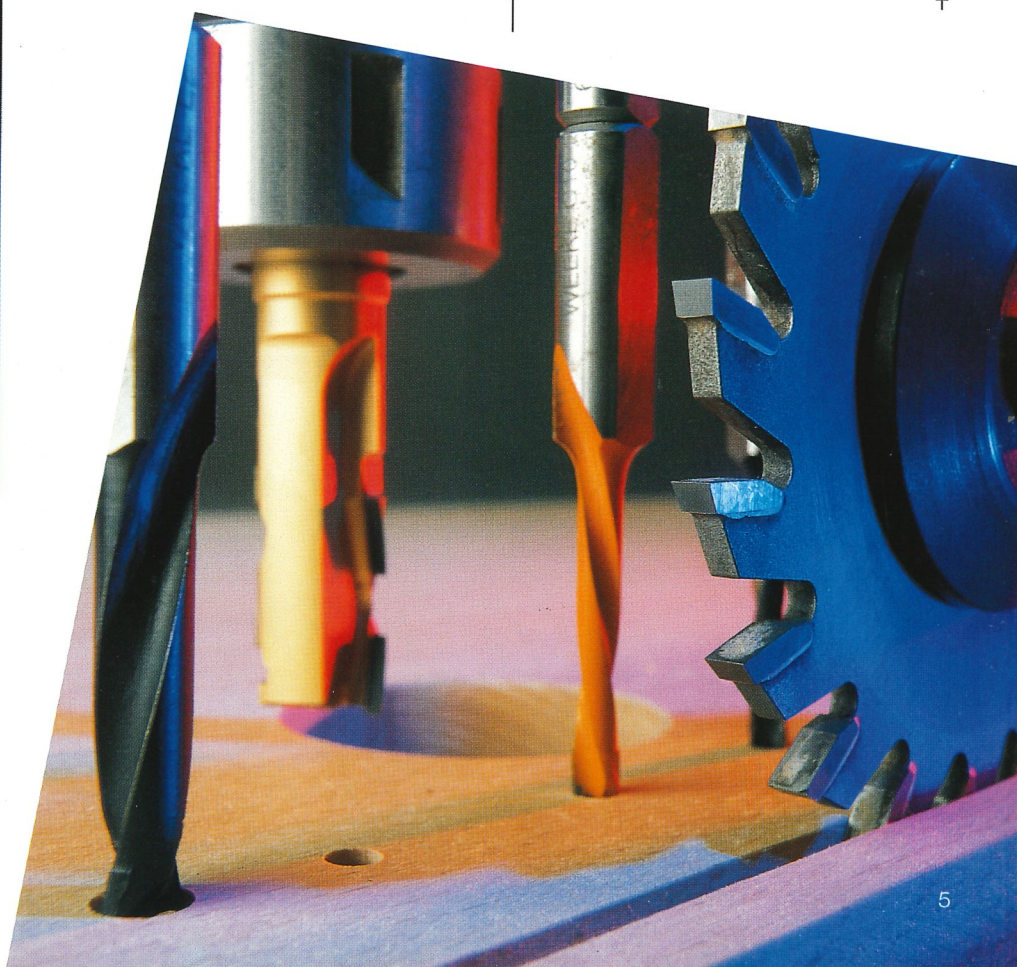
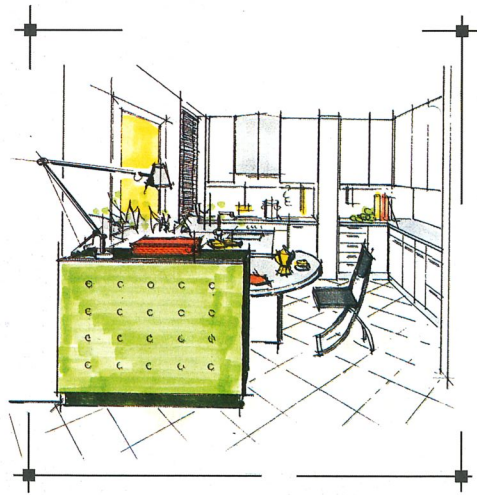
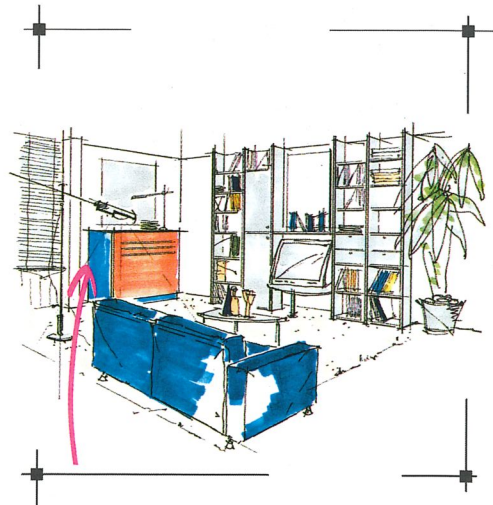
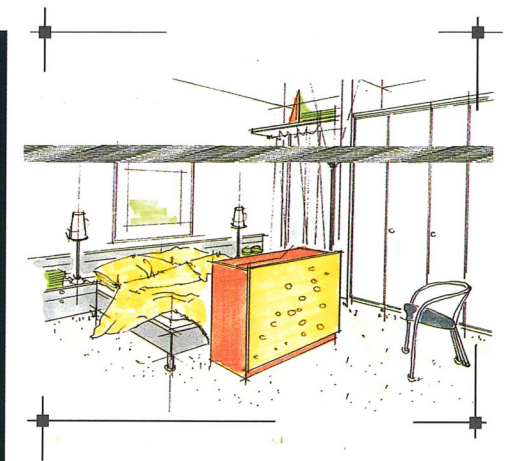
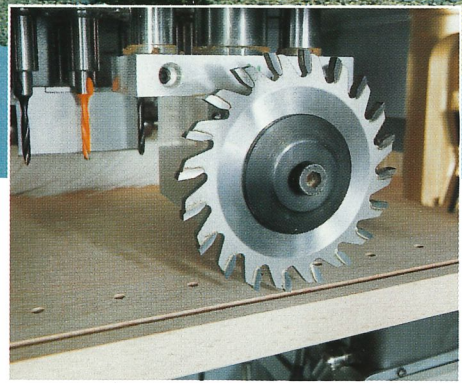
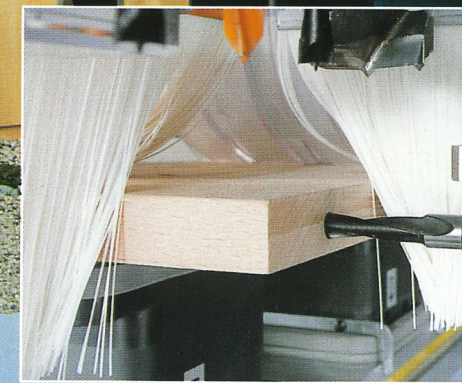
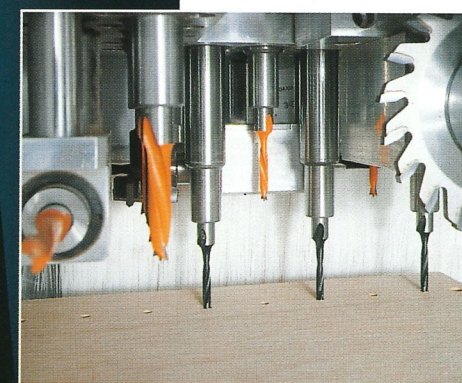
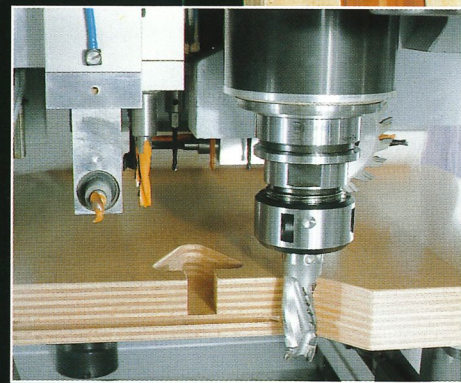
You have:

- Craftsmanship
- Creativity
- Flexibility
- Good Business Sense

You know why you are successful: you don't sell what you are able to produce, you produce what you are able to sell.

As your partner, we have the same opinion and offer you the capability to continue your success in the future with the Optimat Series.

The Optimat Series offers flexibility for a wide range of applications. This allows you to handle production in a cost effective manner providing an advantage against your Competition.



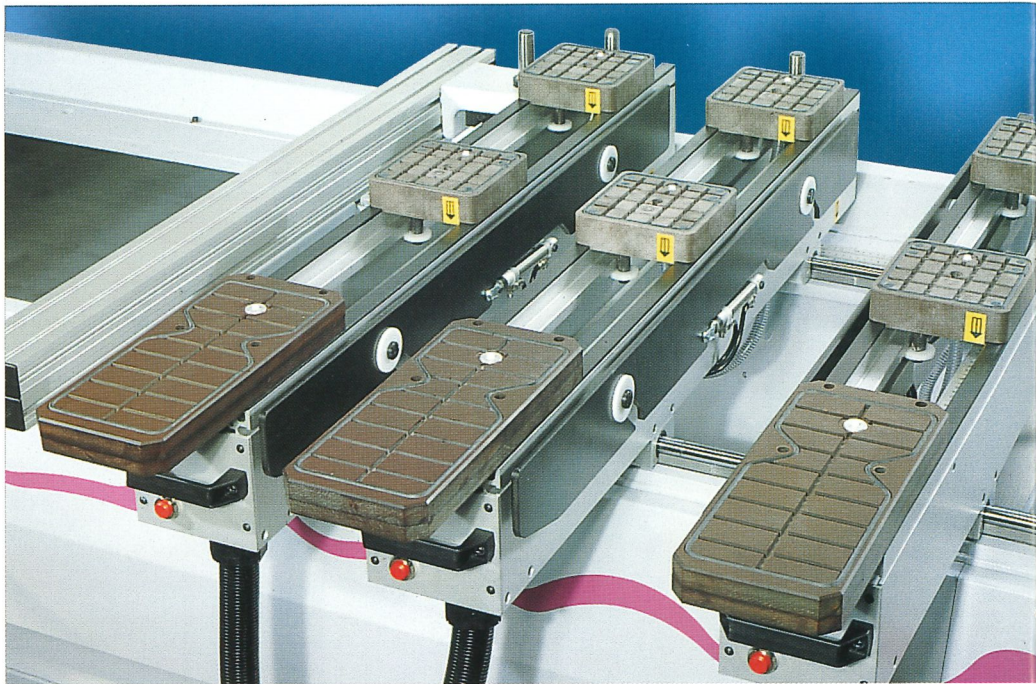
# Innovation in Part Hold-Down Technology

## Easy Positioning of the Vacuum Pods

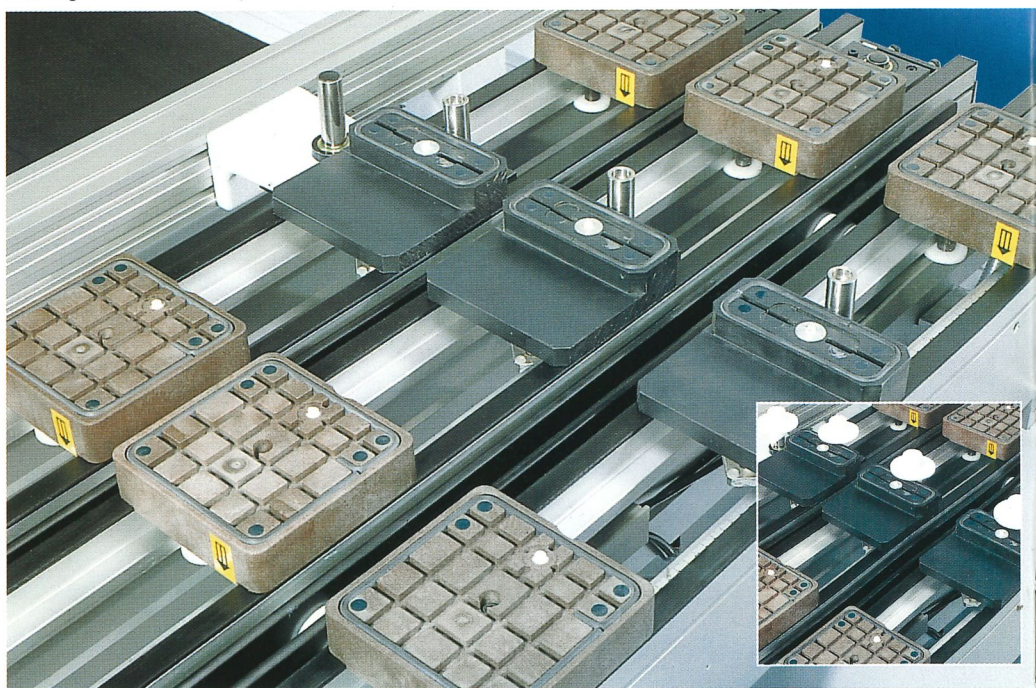
The clamping of the workpieces is one of the most critical issues for the Quality of CNC-manufacturing. The combination of machine stability, high precision tooling and effective clamping guarantees a quality product leaving the machine. With these factors in mind we developed the console table with easy positioning of the vacuum pods. Our vacuum system provides high flexibility in order to clamp the workpiece.

**The following technical features illustrate this flexibility.**

- The side stops can be moved.
- A strong vacuum pump, including electronic vacuum control ensures strong clamping of the workpiece.
- Scales on the benches and the pods assist the operator in positioning during set-up.
- Strong stops (D=20mm) secure an accurate positioning of heavy workpieces.
- The gasket of the vacuum pod can be changed easily.
- Optional 90° indexing pods provide hold down flexibility for narrow parts.
- Panel feeding rails for an easy feeding of the machine.
- Optional Extended vacuum pods provide panel support out to 1250 mm.
- 2nd row of stops assists operator in loading narrow parts.
- Optional hold down devices and pneumatic cylinders for clamping frames or mouldings.



Working field extension up to 1250 mm



2nd Row of stops (middle)

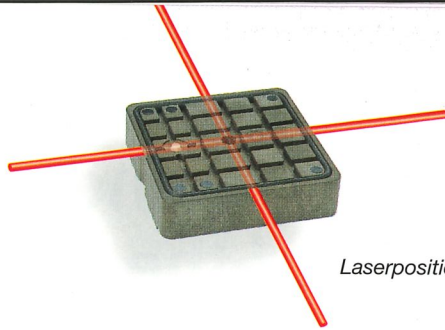
Device for overhang ▲



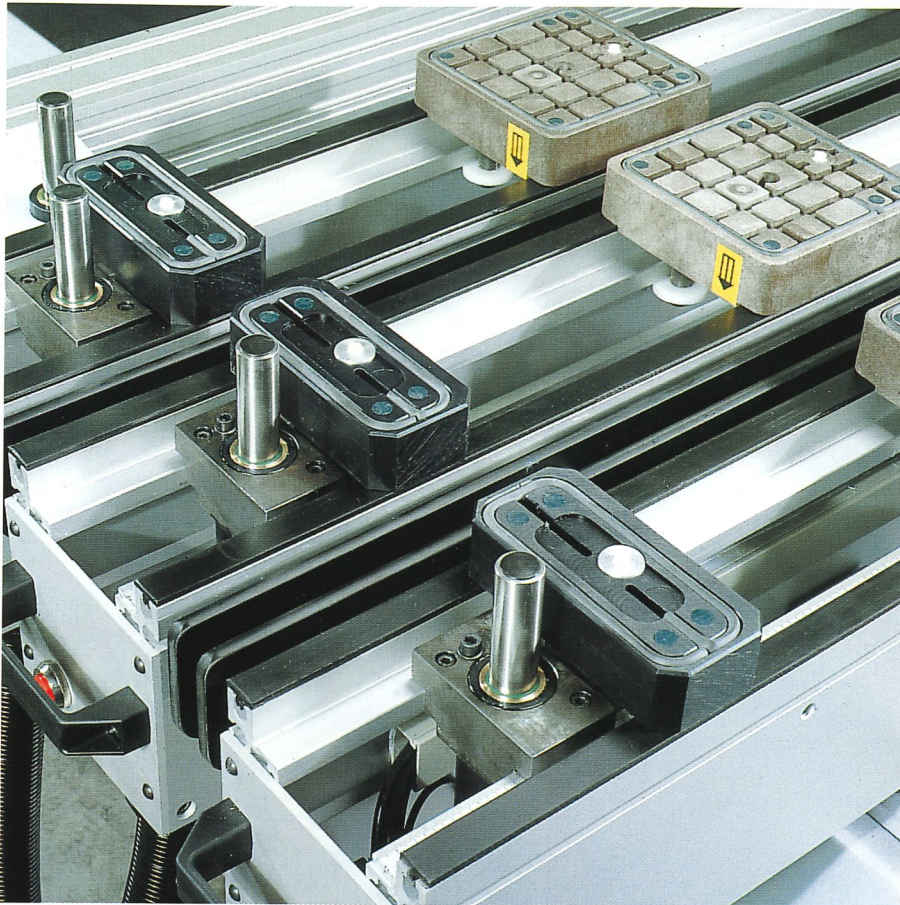
On top pods (90° indexing)



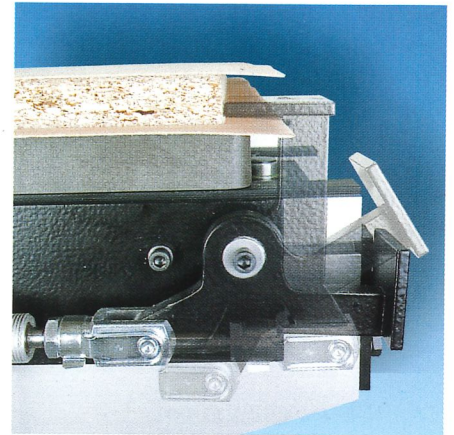
Panel feeding rails



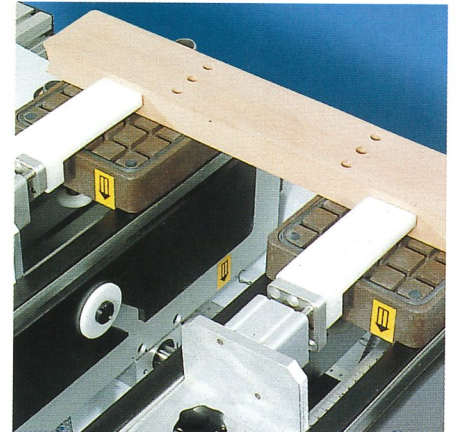
Laserpositioning



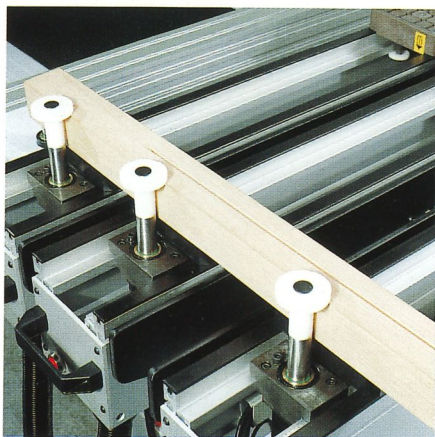
2 nd. Row of stops with narrow pods (front)



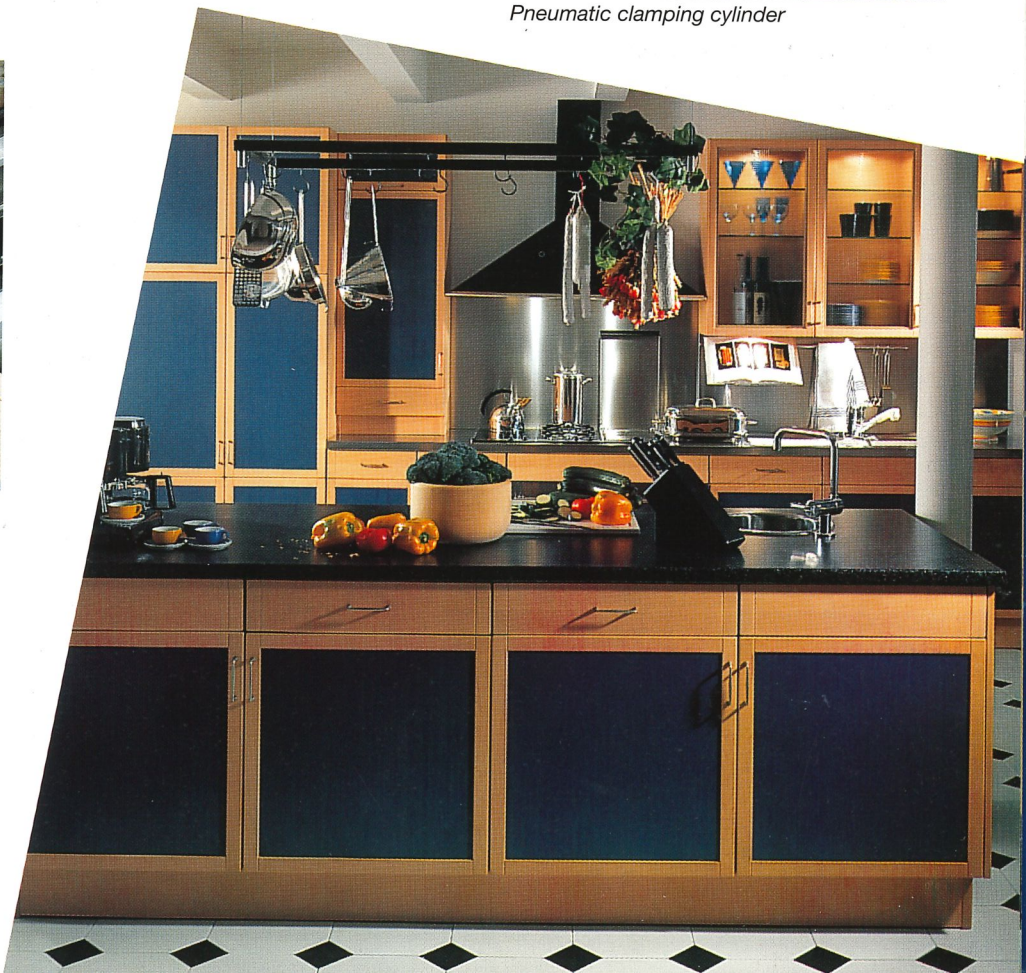
Cylinder for overhang



Pneumatic clamping cylinder



Hold-down device



# HSK63 – State-of-the-art technology with unmatched accuracy and repeatability

## The Main Spindle of the OPTIMAT BP120 and Optimat BP140

The OPTIMAT BP120 and BP140 provide fast and accurate drilling, grooving and routing on a wide variety of applications

In addition, the OPTIMAT BP140 provides the C-axis interface to allow the use of flexible aggregates from the HOMAG Group.

### Innovative Technology for truly demanding jobs

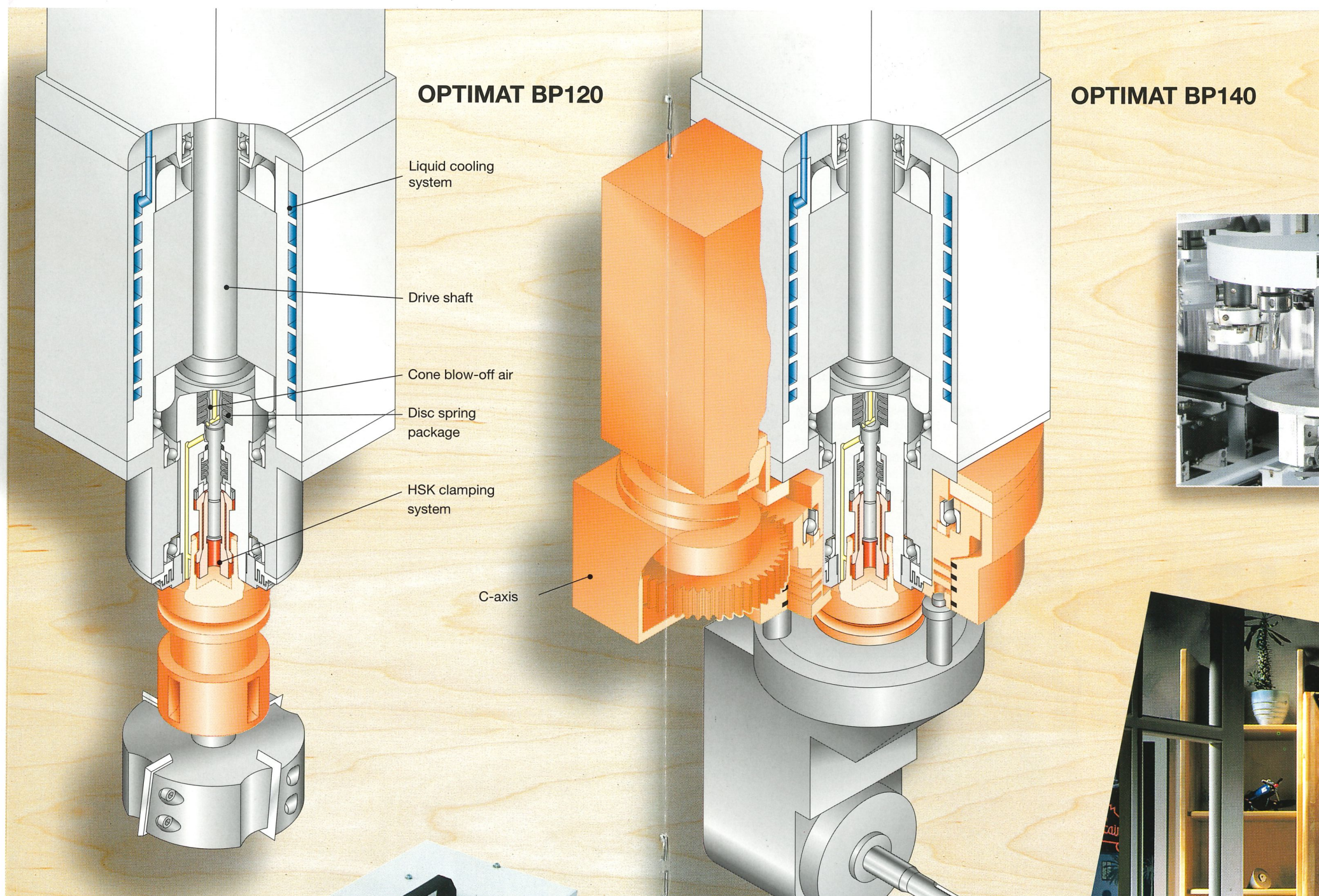
The modern routing spindle has to manage today's challenges. The latest workpiece materials like MDF, solid surface material, Lexan and Plexiglas expect more from the heart of the machine - the main spindle. We took the challenge and designed our machine with:

- Constant Temperature even at high RPM and heavy routing.
- No heating at the bearings = **High Reliability**
- Electronic Sensors = **Long Life**

### HSK Tool Interface

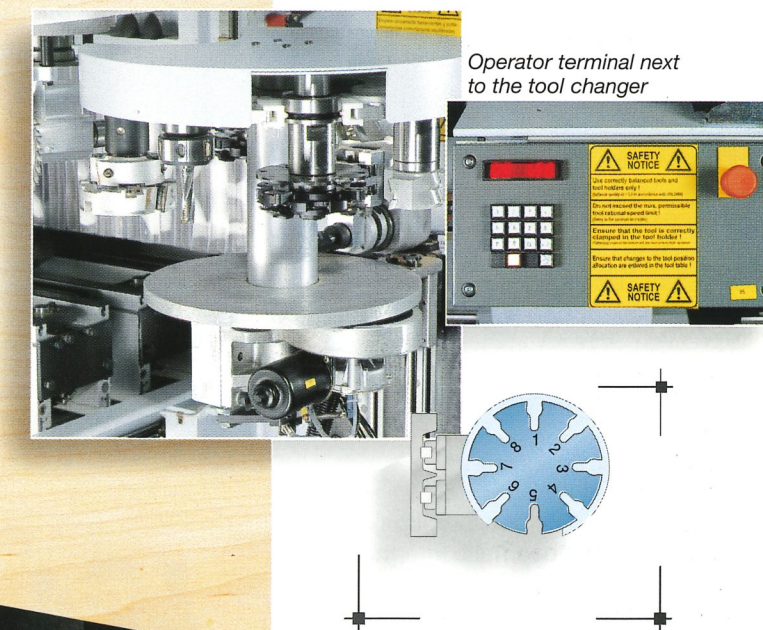
Although the SK-System (SK30 or SK40) is very common the advantages of the **HSK Tooling Interface** are obvious. The increasing demand for quality and cutting quantity (volume) is causing higher cutting speeds. As a result there is an increase of rpm with this increase there are higher centrifugal forces. The **HSK-System** clamps from the inside increasing centrifugal force causing more strength. The large surface between the tool holder and spindle and a force of 11 kN make this system unique. It is able to handle the challenge of today and tomorrow.

The SK-Systems clamp from the outside. Increased centrifugal force weakens the system and reduces the cut quality.

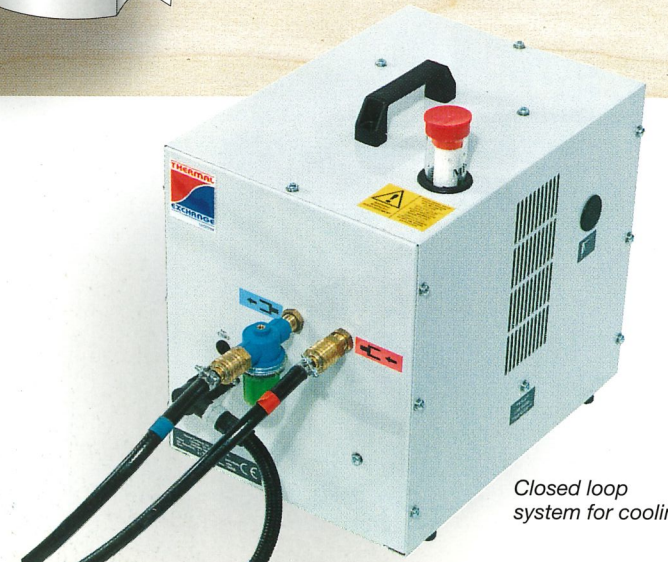


### Ride Along Tool Changer

The tool changer carrying 8 tools, is mounted at the support and rides along in X- direction reducing tool change times and allowing two field operation (only BP120 and BP140).



Operator terminal next to the tool changer



Closed loop system for cooling



# The C-axis and the pneumatic Interface of the OPTIMAT BP140

Head configurations with fixed aggregates must be ordered up-front when buying the machine. You don't know what will happen in the future. WEEKE understands this problem and came up with a perfect solution: The aggregate capability. The aggregate capability gives you maximum flexibility.

You don't have to look forward to the future when buying the machine. We will offer a solution which considers the demand of the future.

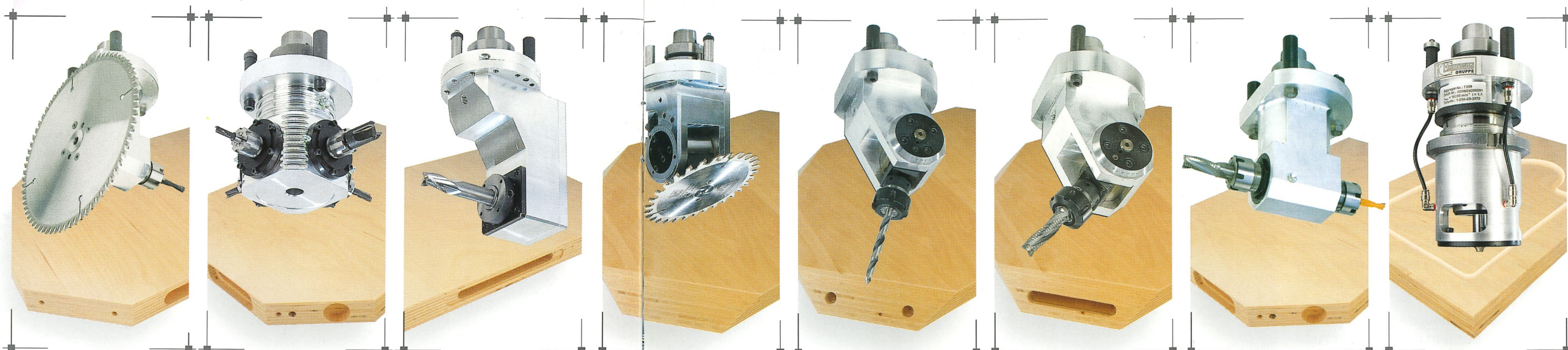
## The C-Axis

Safe and accurate fixing of the aggregates with the HSK-tooling interface and three strong pins = high operating quality and long tooling life

Free programming of the aggregates (360°) = processing with every angle.

## The Pneumatic Interface

At place where air consumption is necessary the pneumatic interface is what you need – High Accuracy for floating applications and a long tool life when routing a cam box.



**HSK 63 combination aggregate**  
For boring, routing and sawing such as connections, grooves and through cuts etc. under any angle (0°-360°)  
Max saw blade diam. 180 mm.

**HSK 63 routing aggregate**  
For boring and routing up to a depth of 50 mm under any angle (0°-360°).

**HSK 63 cam box routing aggregate**  
For cam box routing, hinge slots and horizontal routing up to a depth of 128 mm (0°-360°).

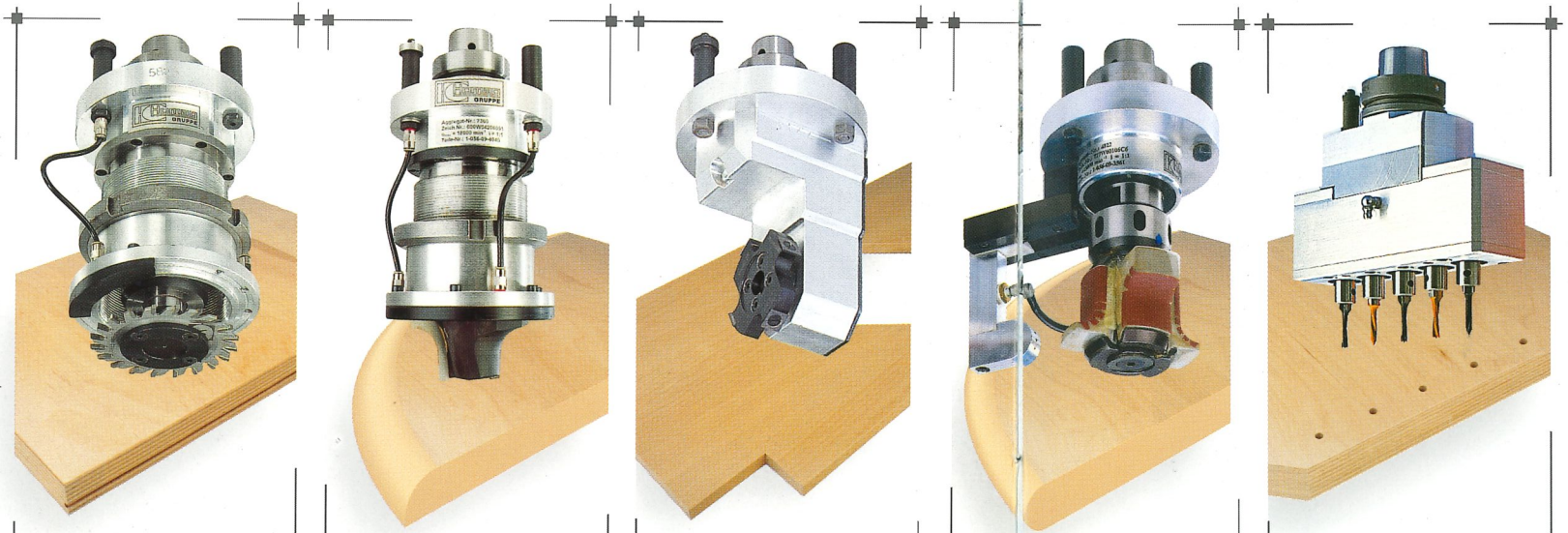
**HSK 63 boring/sawing inclinable**  
For boring and sawing up to a depth of 50 mm under any angle (0°-360°).  
The inclination of the borer or the saw blade can be adjusted manually (0°-90°).

**HSK 63 boring/routing inclinable**  
For boring and sawing up to a depth of 78 mm under any angle (0°-360°).  
The inclination of the borer or the saw blade can be adjusted manually (0°-90°).

**HSK 63 boring/routing inclinable**  
For boring and sawing up to a depth of 78 mm under any angle (0°-360°).  
The inclination of the borer or the saw blade can be adjusted manually (0°-90°).

**HSK 63 routing aggregate 2 spindles (clockwise/anti-clockwise operation).**  
For boring and routing up to a depth of 50 mm under any angle (0°-360°).

**HSK 63 routing vertical with tracing ring**  
For routing in the workpiece surface, for routing of profiles or for tongue and groove connections. The complete surface of the tracing ring can lie on the workpiece. Chips are being removed by the integrated blow nozzle.



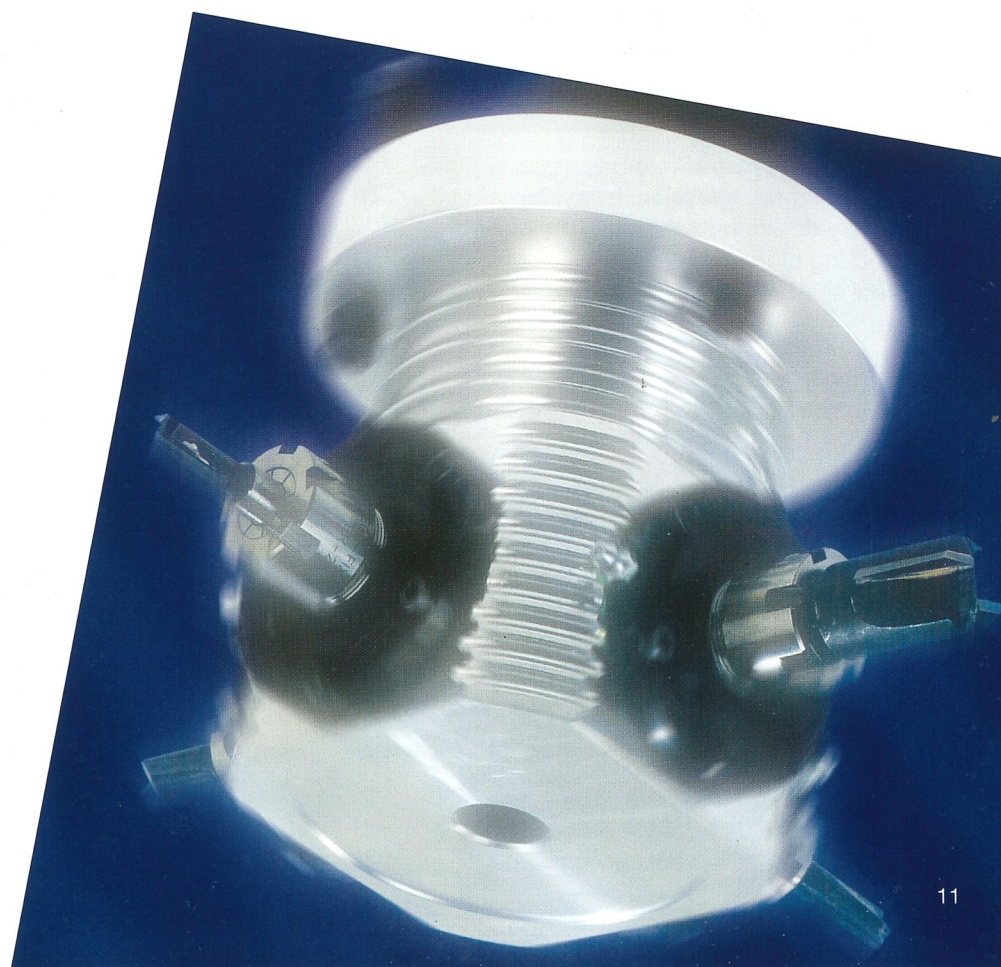
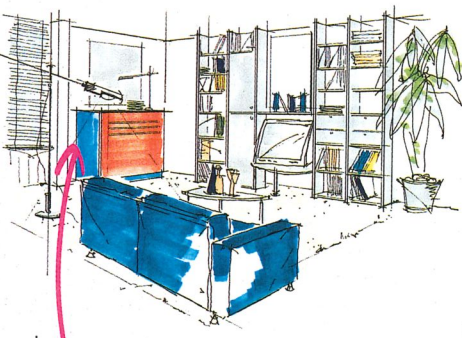
**HSK 63 routing vertical with tracer shoe**  
For routing in the workpiece surface, for routing of profiles or for tongue and groove connections, with C-axis controlled tracer shoe. Chips are being removed by the integrated blow nozzle.

**HSK 63 routing vertical with tracing ring**  
For routing in the workpiece surface, for routing of profiles or for tongue and groove connections. The complete surface of the tracing ring can lie on the workpiece. Chips are being removed by the integrated blow nozzle (0°-360°).

**HSK 63 corner notching aggregate**  
For sharp-edged rectangular notching up to a material thickness of 25 mm under any angle (0°-360°).

**HSK 63 adapter for sanding tool**  
For sanding of MDF or solid wood edges. The sanding tool is continuously cleaned by a blow nozzle.

**HSK boring aggregate**  
For hole row borings under any angle (0°-360°). Possible distances 25, 30, 32 or 50 mm).

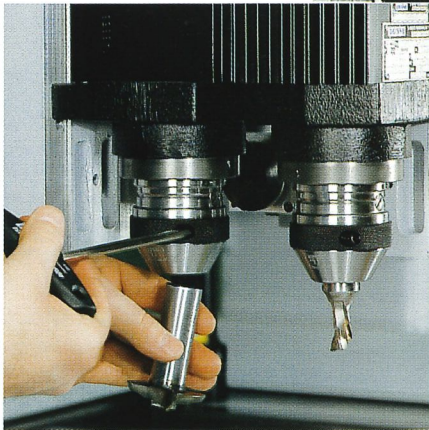


# OPTIMAT BP100 The Alternative to the Tool Changer The Hydro Quick Change System

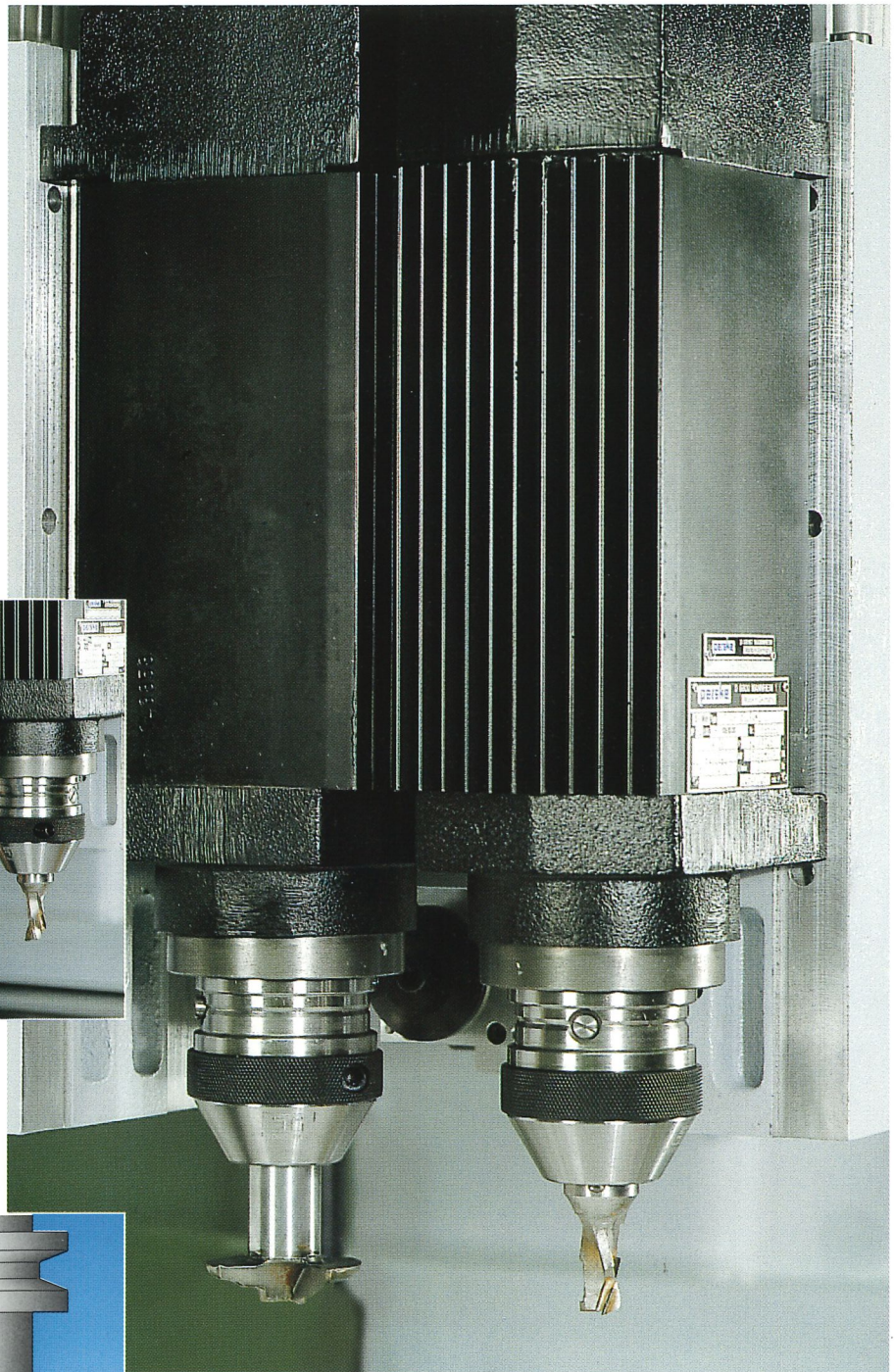
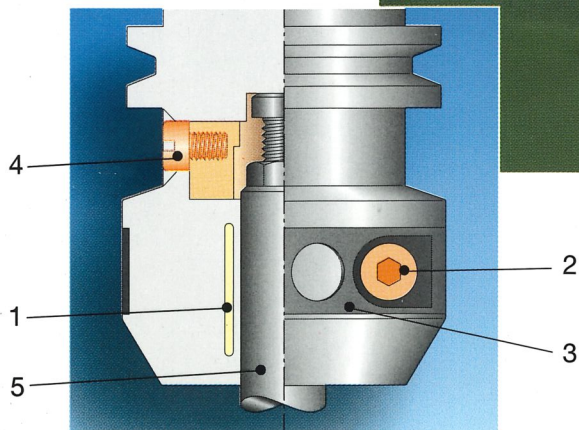
The OPTIMAT BP100 provides perfect conditions for a fast and accurate drilling and grooving. Two powerful router spindles with the **Hydro Quick Change System** secure a high routing quality.

Two additional free places, give the space for additional applications like:

- Two router motors
- 90° indexing grooving saw
- Drilling aggregate 25 mm pattern
- Horizontal drilling unit (up to 10 spindles)



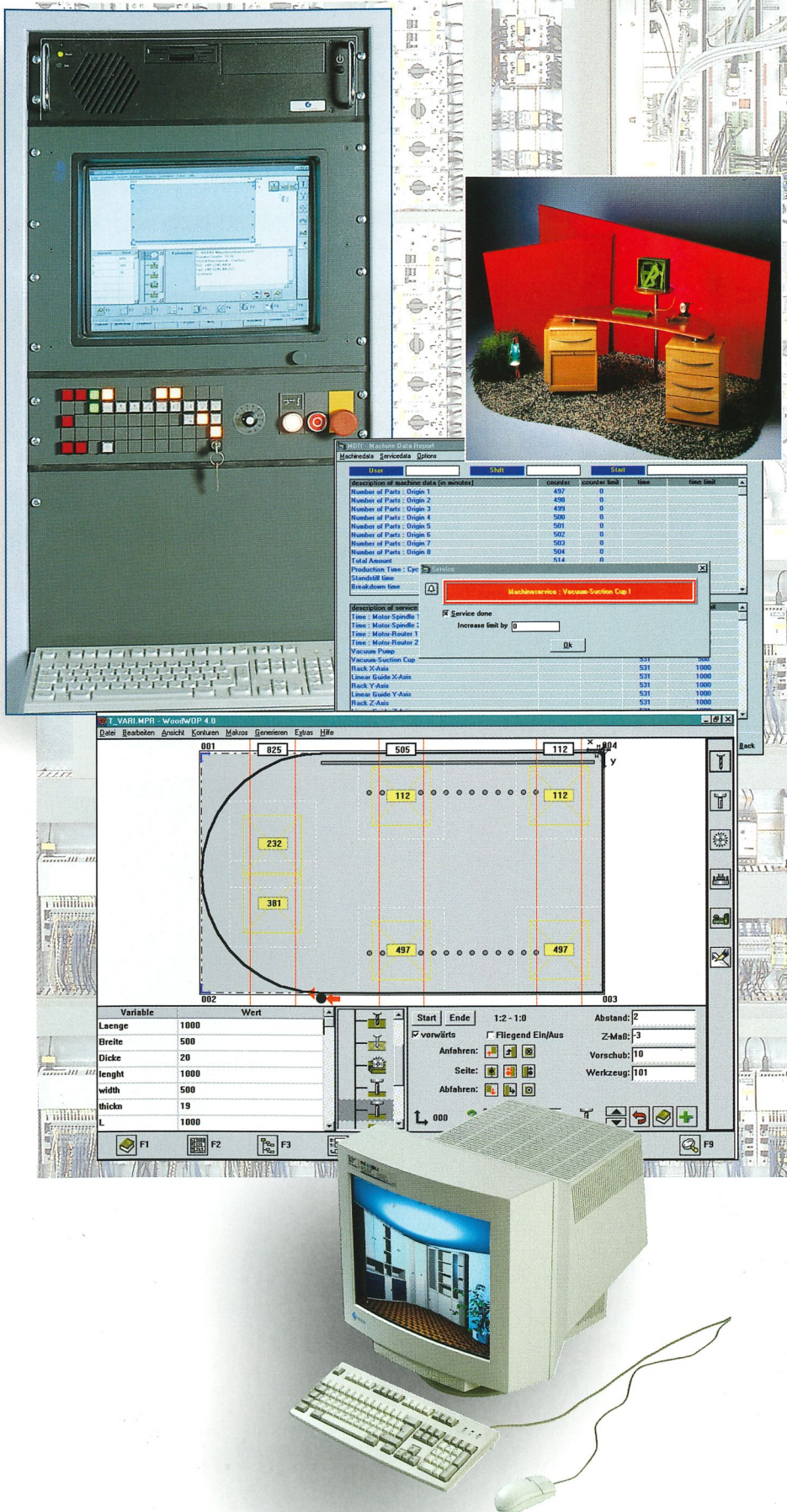
- 1 Housing for hydraulic oil
- 2 Screw for compression safety ring
- 3 Safety device for the router
- 4 Locking of the router
- 5 Tool shaft



- Quick manual tool change with just a few touches.
- Extreme high clamping force at the tooling.
- High cut quality by true running.
- Right and left running of the spindle can be programmed
- All data need to be programmed just one time
- Use of preadjusted tool - no readjustments necessary



# Highlights in Hard- and Software



The WoodWOP and the Homatic 2000 system is developed in close cooperation with you and our specialists.

Short cycle times are in our days a must. Any profit is realized by a fast and safe programming. Easy handling and high reliability you know already from your standard machines are realized by the WoodWOP surface. Parametric programming and the possibility of component technique together with your know-how will lead to a maximum of productivity.

The Interface between Man and Machine has been realized by WEEKE with a PC-System and the Microsoft Windows® world many years ago. Easy handling of the machine in the daily business is the result of this solution - you are moving in a confidential world. You know this world already from your home it provides safety and confidence.

With Woodwop you are going to program your success.

**WoodWOP = Workshop  
Orientated  
Programming**

is optimized for the requirements of smaller shops but also for the wood- and furniture industry.

Interactive menus are an active support to create programs. With WoodWOP you are programming your workpiece and it's necessary applications but not the machine and it's operations.

**CAD/CAM:** For connections with CAD-Systems components for AutoCAD® and AutoCAD LT® are available.

The integration of the OPTIMAT in Computer network systems, barcode systems and remote diagnostic systems is one of a lot of possibilities.

Software interfaces to several software companies of CAD/CAM and branch programs are available.

# Where to go with the OPTIMAT? Onto Your Shop Floor - Automate and improve your current operation!

## Technical Data:

### Travel Range:

X-Axis 3455 mm  
Y-Axis 1695 mm / Z-Axis 260 mm

### Positioning Speed:

X-Axis 80 m/min  
Y-Axis 60 m/min  
Z-Axis 20 m/min

### Max. Workpiece Thickness:

- Up to 80 mm: no limits in applications
- \* Up to 170 mm: with limitations
- \* Up to 200 mm: with limitations  
(when using Clamping Devices)  
(\*please contact WEEKE)

### Dust Extraction Connection:

BP100 D = Ø 200 mm  
BP120/140 D = Ø 250 mm

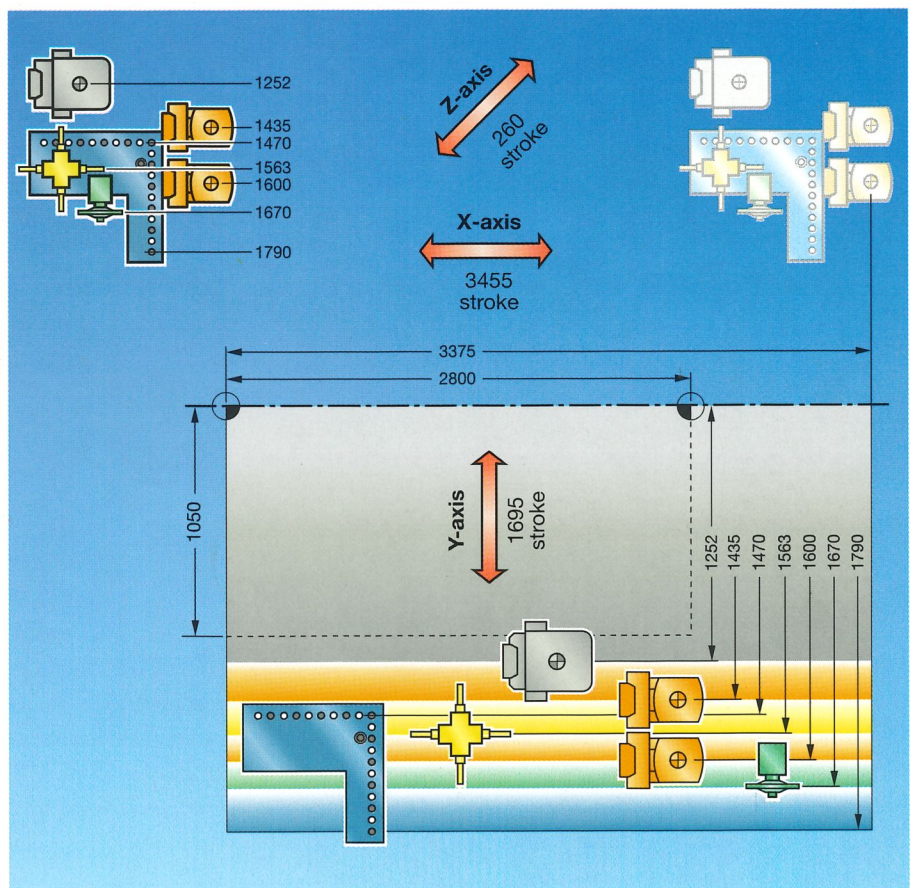
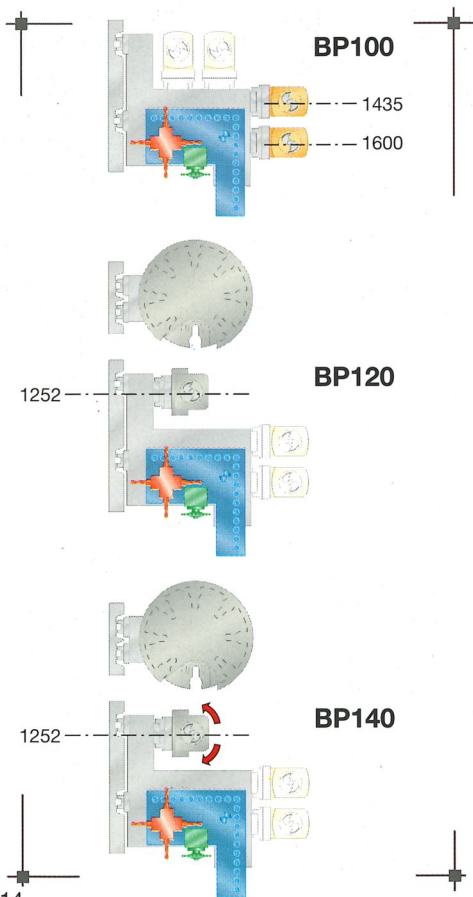
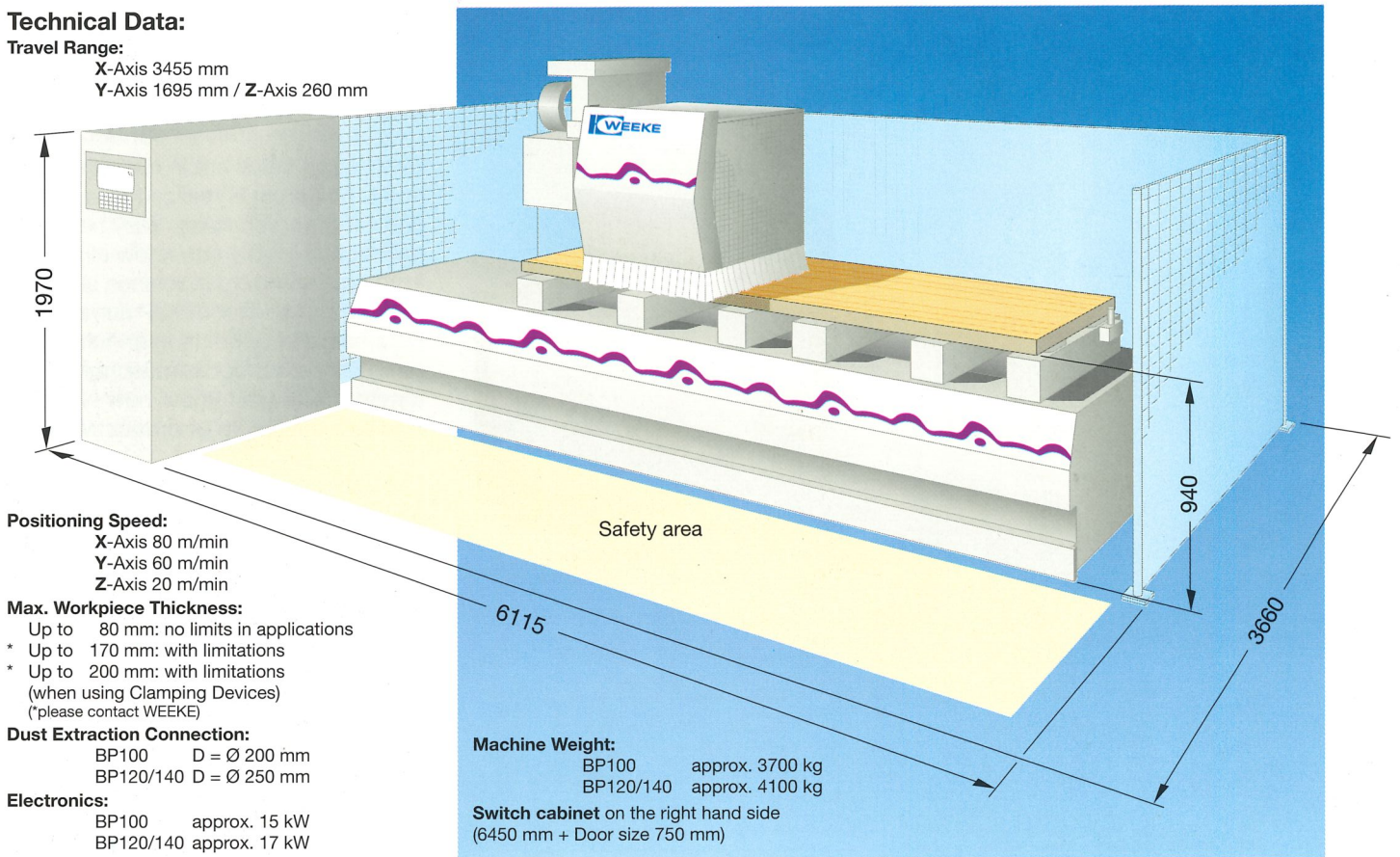
### Electronics:

BP100 approx. 15 kW  
BP120/140 approx. 17 kW

### Machine Weight:

BP100 approx. 3700 kg  
BP120/140 approx. 4100 kg

Switch cabinet on the right hand side  
(6450 mm + Door size 750 mm)



# The All-round Machine for the Future

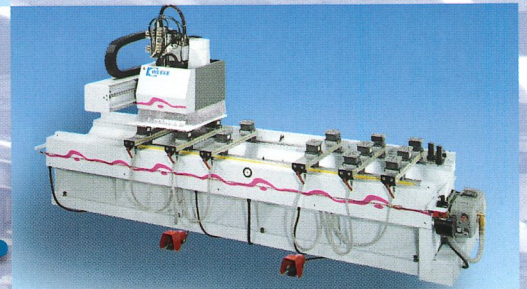


# OPTIMAT-BAUREIHE

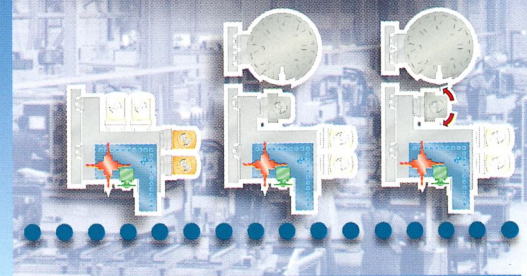
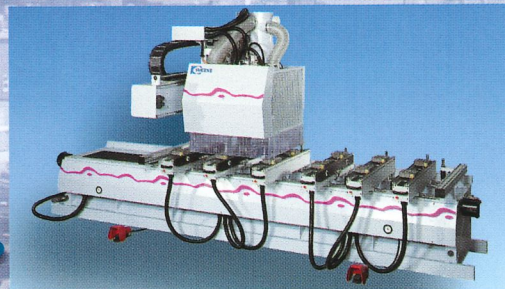
BP60



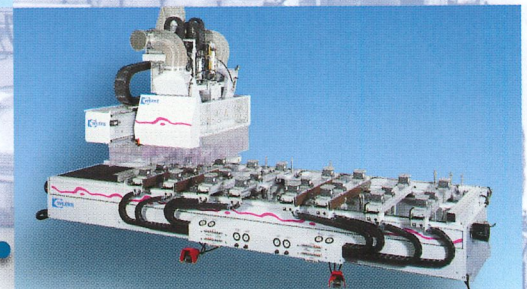
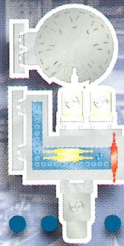
BP80  
BP85



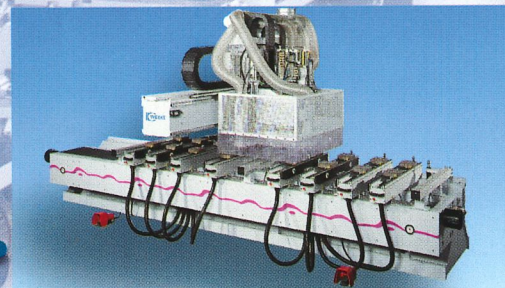
BP100  
BP120  
BP140



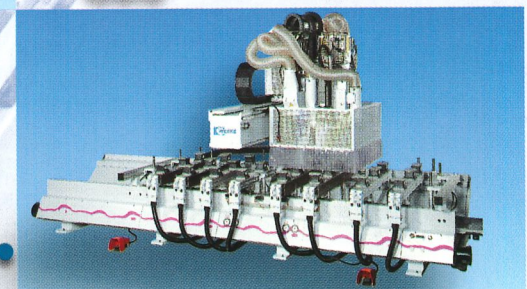
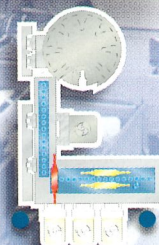
BP145



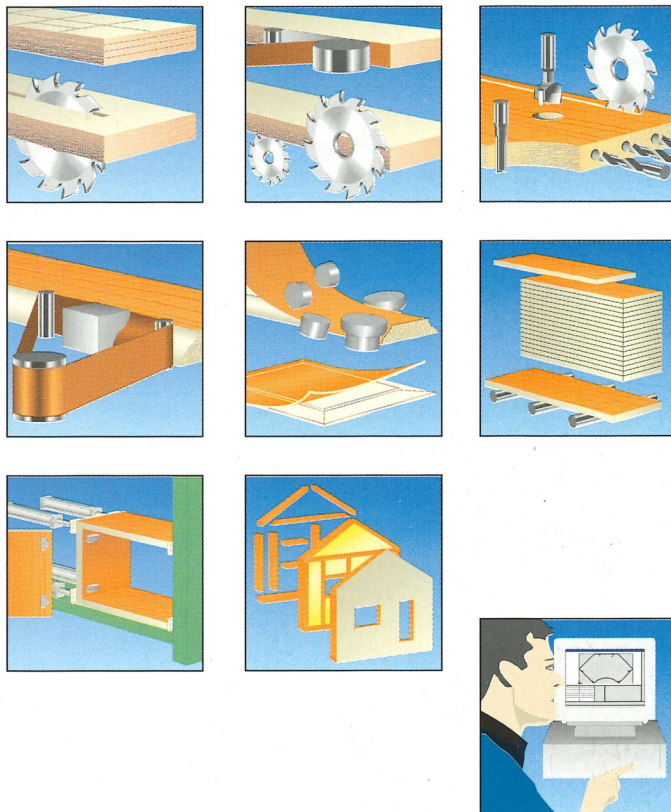
BP150



BP155



The HOMAG Group



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<http://www.weeke.de>

Subject to change, date July, 1999.  
 Photos may show options which are not included in the standard machine.

BP100/120/140 STU/weeke/mam D/5/99