



**HELLER**  
Machines

# HELLER Machines. Made to work.

[www.heller-machinetools.com](http://www.heller-machinetools.com)

**HELLER**  
Automotive

#### **Inside Competence.**

Our extensive know-how allows us to offer innovative and comprehensive production solutions for powertrain, drivetrain and chassis components. Highly productive. For minimal piece-part costs.

**HELLER**  
Machines

#### **Made to work.**

Application know-how and technological competence to cater for all production requirements. With a new generation of machining centres offering a wide range of options in our proven quality.

**HELLER**  
Services

#### **Just closer to you.**

Individual services and custom-made service packages ensure optimum productivity and highest availability of your machines. Anywhere in the world, on site and around the clock.

A detailed close-up photograph of a Heller machining center. The image shows a complex metal structure with several circular openings, likely for coolant or chip removal. A grey metal tool holder is positioned on the left, holding a tool that is in contact with a yellow workpiece. The workpiece is mounted on a grey metal table. The background is a light-colored wall.

**HELLER**  
Machines

**HELLER Machining Centres**

**MCH series**  
For the discerning user

# MCH series: A powerful range.



# Productivity in all forms.

**HELLER's MCH series offers productivity in all forms. Whether you require maximum cutting capacity or high flexibility to adapt your machines to new production conditions – we will configure the MCH to fit your individual needs.**

## **Versatile all-rounders**

The machines from the MCH series are true all-rounders – they are versatile and can be used for almost any machining task. The range benefits from an extremely modular design, which makes it highly adaptive. Therefore you can rest assured we have a machining centre tailored to respond to the challenges you are facing.

## **Speed up!**

Due to its exceptional machine dynamics, optimum positioning and circular accuracy and reduced idle times, speed is guaranteed with this machine. The MCH allows you to speed up safely – it leaves nothing to be desired in terms of machining quality, even in high-volume production.

## **Power you can rely on**

You decide: Do I need more torque or higher speed? We will be happy to advise you about the perfect configuration for your production. The MCH also provides flexibility in this respect - you can choose between a high-torque version with shift gearbox and a high-speed version with direct driven spindle.

## **Clever loading solutions**

The ideal machining cycle mainly depends on two factors: on the one hand, the variety and number of tools required, on the other hand suitable workpiece loading. Whichever you require we will tailor the MCH to your production requirements. The machine is suitable for any type of loading – whether chain-type or rack-type magazine, pallet pool or FMS.

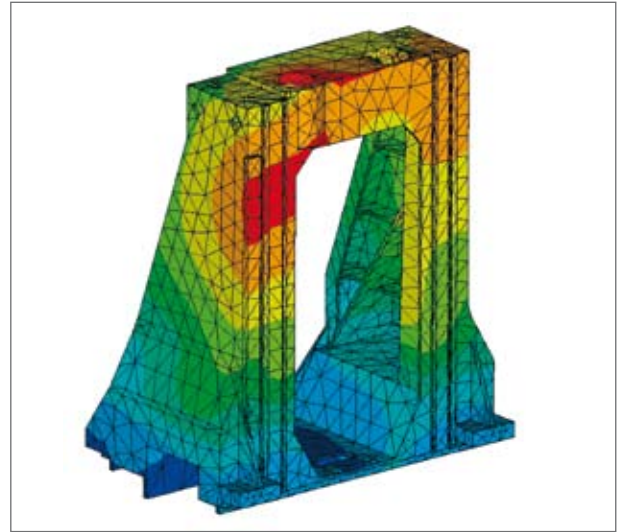
**HELLER MCH series – discover the possibilities!**

# Machine concept MCH series



## Working area MCH series

- **MCH 300:** 1,000 mm x 1,000 mm x 1,000 mm
- **MCH 350:** 1,250 mm x 1,000 mm x 1,000 mm
- **MCH 400:** 1,400 mm x 1,000 mm x 1,250 mm
- **MCH 450:** 1,600 mm x 1,200 mm x 1,250 mm
- **MCH 460:** 2,000 mm x 1,400 mm x 1,250 mm



## Machine bed and column

### Weight-optimised design for superior dynamics

- Inherently rigid design
- Minimal number of installation points
- T-shaped bed with integrated X and Z feed drives
- Thermo-symmetrically designed gantry column

### The benefits to you:

- High performance at consistent precision thanks to optimised design (thermo-symmetry and reduced weight)
- Extremely flexible machine installation due to minimal number of installation points



## Drive technology

### Enhanced power and precision

- Direct drives with high rigidity and dynamics
- Linear guideways with pre-loaded rolling elements in X, Y, Z
- Option: dynamic package for a 20% increase in rapid traverse speed and 75% higher axis acceleration

### The benefits to you:

- Reduced table deformation and higher precision with internally arranged drives
- Linear guideways with rolling elements for outstanding positioning accuracy and machining quality
- Dynamic package gives significant speed increase



## Spindle

### High precision made by HELLER

- Proven zero-spindle system based on extensive HELLER know-how
- Maintenance-friendly, modular spindle unit
- In-house manufacturing competence ensures highest quality
- Direct driven work spindle unit with hollow shaft motor: 45-12,500 rpm, 460 Nm
- Two-range gear box: 822 Nm or 1,145 Nm, 45-6,000 rpm
- Online temperature growth compensation
- Spindle tapers: HSK 100, SK 50 , BT 50

### The benefits to you:

- Zero-spindle system ensures fast and cost-effective exchange of the spindle
- Stiff spindle nose for high process stability
- High accuracy due to high-precision bearings and drive, free from transverse forces

# Machine concept MCH series



## Work area

### Reduced chip accumulating surfaces, higher precision

- Steep chip chutes
- Minimised chip accumulating surfaces
- Optimised flushing devices
- Clearly arranged and easily accessible work area



## Space requirements

### Smaller footprint, reduced costs, faster installation

- Components and units fully integrated into the machine structure
- Compact design provides very small footprint in this machine range
- Low overall weight

### The benefits to you:

- Higher workpiece precision
- Thermal impact on precision is reduced to absolute minimum
- Well-targeted coolant and lubricant use ensures thermal stability of the machine

### The benefits to you:

- Reduced space requirements save infrastructure costs
- Machine easier to relocate due to minimised installation points



## Workpiece management

### Short tool change times, high precision

- Basic version of rotary table designed as positive locking indexing table 360x1°
- Option: fast NC rotary feed table 360,000x0.001°
- Manually rotated setting station with 4x90° indexing
- Locating and clamping elements covered during tool change operation

### The benefits to you:

- Swivelling pallet changer reduces pallet change times
- Fixed location pins provide high accuracy during pallet change
- Locked rotary indexing table ensures high repeatability



## Tool management

### Ideal for frequent batch size changes

- Fast chain-type magazine with 50 or 100 storage places.  
Option: tool loading parallel to machining
- Universal rack-type magazine with storage capacity for up to 590 tools
- Tool change concept allows tool change parallel to machining (rotary station)
- Option: separate operating panel with display for tool magazine
- Use of special tools on request

### The benefits to you:

- Double gripper minimises tool change cycle
- Shortest tool selection path
- Tool quantity management and tool life monitoring for minimised downtimes

# Machine concept MCH series



## Coolant unit / Chip disposal

### Efficient and expandable according to requirement

- Coolant unit without disposable media filter, optional paperband filter system
- Edge filter: 350 µm, vacuum rotation filter: 40 µm
- Option: extended coolant unit, various pressure steps for internal coolant supply (up to 70 bar), coolant refrigeration unit, central connection for automatic operation, coolant unit installed behind the machine
- Two chip conveyors, one on each side of the Z axis

### The benefits to you:

- Space and cost saving due to installation behind the machine
- Adaptable disposal system tailored to your production requirements



## Control

### High-end technology with functional features developed by HELLER

- Siemens 840 D or Fanuc 160i
- Additional HELLER developments: graphic support, tool management for handling of tool data, pallet management for NC programme assignment to pallets with up to 16 setups, setup functions
- Option: integrated tool monitoring, preventative maintenance, spindle power and feed force display

### The benefits to you:

- Higher flexibility and functionality through special in-house developments such as efficient workpiece and tool management
- Early identification of errors in the machining process to prevent consequential costs



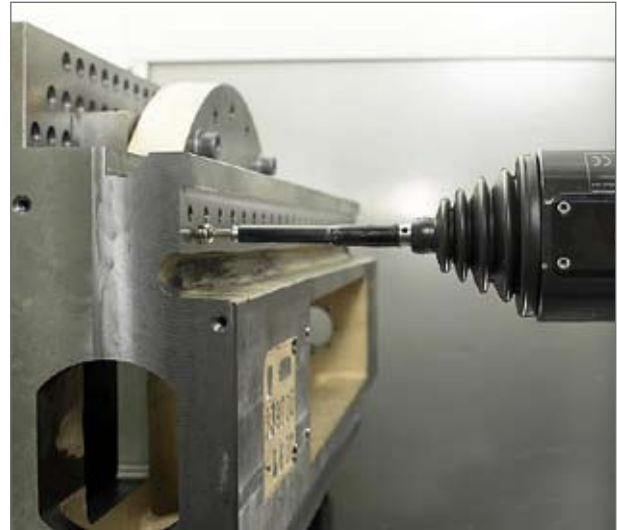
## Automation

### From flexible manufacturing cell to manufacturing system

- Automation with pallet pool or pallet magazine:
  - PP – pallet pool, up to 6 pallets
  - PMB – linear pallet magazine, up to 24 pallets
  - PME – modular expandable pallet magazine, up to 42 pallets
  - PMF – customisable pallet magazine with wide range of functions
- Robot Automation:
  - Drawer- or trolley-based automation systems
  - Automation by means of conveyor and paternoster system

### The benefits to you:

- System solutions provide higher productivity
- Loading independent of machining cycle
- Future-proof machine allowing flexible integration into automation systems when production requirements change



## Options

### Perfectly tailored to your production requirements

- Tool breakage monitoring
- MCIS TDI Planning: determination of required tools, minimisation of loading times
- Tool coding
- Multi-spindle head mounting
- Hydraulic workpiece clamping
- Measuring probe
- Remote diagnostics
- Out-facing slide

### The benefits to you:

- Integrated process monitoring
- Minimised loading times due to MCIS TDI Planning
- Minimised loading and machining times due to machining in a single setup
- Enhanced workpiece accuracy and operational reliability

# We are here for you. Worldwide.

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