

**HELLER**



**The HELLER Group:**

**Solutions worldwide.**

**HELLER solutions:  
Knowing how it's done.**

# HELLER solutions: focus on your success for more than 100 years.



Since the company's foundation in 1894, HELLER has made a name for itself as a reliable partner to the industry. The family enterprise owes its excellent reputation to the qualities it demonstrates all over the globe today. Here are some examples:

1. Manufacturing technology and product design tailored to local needs.
2. Flexible upsizing and downsizing of production capacities with limited spare capacities, multifunctional production equipment and minimal fixed costs.
3. Exchangeable value-adding contents in each plant – in accordance with market requirements, cost structure and exchange rates.
4. Production facilities close to the market.

▼ **1894**

Company founded by Ernst and Hermann Heller.

▼ **1930-50**

Thread milling machines and gantry milling machines in modular design. Introduction of hydraulic controls. Special-purpose machines and transferlines. Bed-type production milling machines. Turret head drilling machines. 24-volt relay control.

▼ **1960**

Machining centres. Rotary table transfer machines. Opening of Plant 2 in Nürtingen.

▼ **1970-80**

HELLER-proprietary uni-Pro CNC control, Flexible Manufacturing Systems. Crankshaft and camshaft milling machines. BEA machining centre range. Foundation of plants in the UK, USA and Brazil.

▼ **1990**

MCP, MCS, MCA, MC and HCS machine centre range. Flexible System Transferline.

▼ **2000**

ISO 9001 and QS 9000 TES certification. MCI, MCH and MCH-C machining centre range.

▼ **2007**

Revolutionary ModuleLine manufacturing concept and H series machining centres.

▼ **2009**

New F series for complete and simultaneous 5-axis machining. Opening of TechnologyCenters in India and China.

▼ **2010**

Innovative milling technology (uP-Gear) for bevel and spur gear machining on 5-axis machining centres MCH-C and F.

# HELLER solutions: efficiency around the globe – for your production.

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## Presence in the Americas

### HELLER Mexico

- Sales and service facilities

### HELLER Brazil

- Production and service facilities for more than 35 years
- Production and assembly of machining centres and manufacturing systems

### HELLER USA

- Production, sales and service facilities
- Largest supplier of horizontal machining centres to companies from the off and on-highway heavy-duty industry.

## Presence in Europe

### HELLER Germany

- Headquarters in Nürtingen including Operations, Development, Finance/Administration and Market Support
- Basis of the HELLER Group's worldwide network
- Tight-knit network of service bases

### HELLER United Kingdom

- Efficient series production of machining centres for the global market

### HELLER Italy, France, Spain

- Subsidiaries with regional sales and service contacts
- Comprehensive technological support from TechnologyCenters

### HELLER Sweden, Switzerland, Slovakia, Russia

- Regional service bases ensure constant availability of the HELLER machines

## Presence in Asia

### HELLER China

- Export to China since 1950, local presence since 2004, subsidiaries in Shanghai and Beijing
- TechnologyCenter in Shanghai since 2009
- Long years of experience with automotive projects in the heavy-duty and light-duty industry

### HELLER India

- Export to India since 1955, more than 300 machines sold
- TechnologyCenter in Pune since 2009, assembly capacity since 2009
- HELLER India founded in 2010

### Automation competence

HELLER provides solutions tailored to the specific requirements with rail-guided vehicles, pallet automation, gantry loaders or robots.



### Process competence

HELLER provides this by developing innovative machining strategies, e.g. with out-facing slide, or for gear machining processes and machining of titanium.



### Materials competence

HELLER demonstrates this through high-quality machining of a wide range of different materials – from aluminium, to steel and grey cast iron through to titanium.



### Workpiece competence

HELLER provides efficient machining solutions for an extremely wide range of parts from the most diverse industries.

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## HELLER solutions: higher productivity through maximum competence.

Being able to build on the competence of a reliable partner to the industry has become one of the most important foundations for boosting productivity in production in the 21<sup>st</sup> century. That is why HELLER engineers do not only focus on the design and application of machine technology. Instead, HELLER also provides assistance and support in optimising the part for production, questions of material flow, design of clamping fixtures and tooling as well as handling between operations. This is guaranteed by HELLER's competences in the following areas:



## HELLER solutions: always in focus – user industries.

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The days when HELLER's customers mainly came from the automotive industry and its suppliers are long past. With a wide range of machining centres, extensive technological know-how and complete solutions for workpiece-specific tasks, HELLER offers persuasive solutions tailored to the needs of many user industries. By focusing on user industries, HELLER is opening up its solution competence to a wide range of industries including general machine and plant engineering, aerospace industry, tool and die manufacturers, drive engineering, job shops and many others.

# HELLER solutions: The world of products and services.

## 4-axis machining centres from the H series

The H series is based on a robust, highly standardised machine concept. Proven components, adequate speeds and a wide range of standard equipment guarantee an excellent price-performance ratio, whilst optional extensions provide a high degree of flexibility.

The compact and powerful models H 5000 and H 6000 have been designed for optimum reliability and high precision and can be customised with a wide range of options tailored to customer requirements. Thus, they are suitable for heavy-duty cutting as well as for the machining of light metals.

The flexibly configurable machining centres H 2000 and H 4000 provide high milling power and are ideal for series production of varying batch sizes.



Technical data	H 2000 SK 40 / HSK 63 / BT 40	H 4000 SK 40 / HSK 63 / BT 40	H 5000 SK 50 / HSK 100 / BT 50	H 6000 SK 50 / HSK 100 / BT 50
Work area (X/Y/Z)	630 x 630 x 630 mm	800 x 800 x 800 mm	800 x 800 x 800 mm	1,000 x 1,000 x 1,000 mm
Pallet size	400 x 500 mm	500 x 630 mm	630 x 630 mm	630 x 630 mm
Max. workpiece height	850 mm	1,000 mm	1,090 mm	1,290 mm
Max. workpiece weight	800 kg 500 kg	1,400 kg 800 kg	1,400 kg 1,000 kg	1,400 kg 1,000 kg
Chip-to-chip time	2.8 s 2.2 s	3.0 s 2.4 s	4.0 s 3.6 s	4.2 s 3.8 s
Rapid traverse	60 m/min 90 m/min	60 m/min 90 m/min	50 m/min 60 m/min	50 m/min 60 m/min
Acceleration	8 m/s <sup>2</sup> 10 m/s <sup>2</sup>	8 m/s <sup>2</sup>	5 m/s <sup>2</sup> 7 m/s <sup>2</sup>	5 m/s <sup>2</sup> 7 m/s <sup>2</sup>
Spindles *	10,000 RPM · 17 kW · 81 Nm 16,000 RPM · 40 kW · 95 Nm	10,000 RPM · 38 kW · 242 Nm 24,000 RPM · 25 kW · 40 Nm	8,000 RPM · 43 kW · 822 Nm 12,500 RPM · 52 kW · 166 Nm	6,000 RPM · 60 kW · 2,292 Nm 12,500 RPM · 52 kW · 500 Nm

\* S6 – 40% duty cycle

## 4-axis machining centres from the MCH series

Our proven machines from the MCH series are true allrounders providing top performance for the machining of heavy workpieces. Whether used for highly productive or flexible manufacturing in the general machine or the automotive industry, MCH machining centres provide great versatility. Loading of the setting station via overhead gantry or, alternatively, directly onto the

rotary table as well as conventional FMS linkage are possible. Excellent accessibility to all assemblies, units and optional equipment plus perfect coolant and chip management ensure optimum machine operation. Due to the various designs and wide range of options available, the MCH series provides a solution for many different applications.



Technical data	MCH 300 SK 50 / HSK 100	MCH 350 SK 50 / HSK 100	MCH 400 SK 50 / HSK 100	MCH 450 SK 50 / HSK 100	MCH 460 SK 50 / HSK 100
Work area (X/Y/Z)	1,000 x 1,000 x 1,000 mm	1,250 x 1,000 x 1,000 mm	1,400 x 1,000 x 1,250 mm	1,600 x 1,200 x 1,250 mm	2,000 x 1,400 x 1,250 mm
Pallet size	800 x 800 mm	800 x 800 mm	800 x 800 mm	800 x 1,000 mm	800 x 1,000 mm
Max. workpiece height	1,200 mm	1,200 mm	1,450 mm	1,450 mm	1,450 mm
Max. workpiece weight	1,250 kg	1,250 kg	2,500 kg / 4,000 kg	2,500 kg / 4,000 kg	2,500 kg / 4,000 kg
Chip-to-chip time	4.4 s (4.2 s) *	4.7 s (4.5 s) *	5.4 s	5.7 s	6.1 s
Rapid traverse	50 m/min	50 m/min	40 m/min	40 m/min	40 m/min
Acceleration	4 m/s <sup>2</sup>	4 m/s <sup>2</sup>	4 m/s <sup>2</sup>	4 m/s <sup>2</sup>	4 m/s <sup>2</sup>
Spindles **	6,000 RPM · 43 kW · 822 Nm	12,500 RPM · 72 kW · 460 Nm	6,000 RPM · 60 kW · 1,145 Nm		

\* with dynamic package \*\* S6 – 40% duty cycle



## Flexible manufacturing systems

As an industry insider, HELLER understands complex manufacturing requirements and is familiar with the complete production and supply process, e.g. of the automotive industry. Building on this experience, HELLER is a preferred partner to all industries requiring flexible manufacturing systems. Based on our machining centres and modules we are able to provide innovative,

comprehensive production solutions, e.g. for the machining of cylinder block and head, crankshafts and camshafts, transmission or chassis components. HELLER manufacturing systems offer flexibility, highest availability, outstanding productivity and competitiveness throughout their complete life-cycle whilst providing minimum piece-part costs.

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The F series comprises two completely different types of 5-axis machining centres with SK40 and HSK63 spindle tapers.

Models FP 2000 and FP 4000 are production-oriented machines equipped with a typical pallet changer that can be fully integrated into standard pallet automation systems. They have been designed for highest availability and productivity and provide the ideal basis for

5-axis/5-sided machining of medium to large volumes.

Now, for the first time, HELLER also offers classic workshop machines for manual table loading on models FT 2000 and FT 4000. Optimum design and accessibility of the work area make these machines the ideal solution for a wide range of parts from different materials machined in small batches.

Technical data	FP 2000 SK 40 / HSK 63 / BT 40	FP 4000 SK 40 / HSK 63 / BT 40	FT 2000 SK 40 / HSK 63 / BT 40	FT 4000 SK 40 / HSK 63 / BT 40
Work area (X/Y/Z)	630 x 630 x 830 mm	800 x 800 x 1,000 mm	630 x 630 x 830 mm	800 x 800 x 1,000 mm
Pallet size/table size	400 x 500 mm	500 x 630 mm	Ø 720 mm	Ø 720 mm
Max. workpiece height	850 mm	1,000 mm	1,300 mm	1,500 mm
Max. workpiece weight	800 kg	1,400 kg	800 kg	1,400 kg
Chip-to-chip time	3.5 s	3.7 s	3.5 s	3.7 s
Rapid traverse	60 m/min	60 m/min	60 m/min	60 m/min
Acceleration	6 m/s <sup>2</sup>	6 m/s <sup>2</sup>	6 m/s <sup>2</sup>	6 m/s <sup>2</sup>
Spindles *	PCU 63: 10,000 RPM · 44 kW · 242 Nm   SCU/SCT 63: 16,000 RPM · 40 kW · 80 Nm			

\* S6 – 40 % duty cycle

## 5-axis machining centres from the F series



For three models of the MCH range HELLER offers an optional compact machining unit with C-axis. The so-called C-unit enables (simultaneous) 5-axis machining and 5-sided machining at a freely selectable machining angle. This machining unit features a CNC controlled rotary axis at a 45° angle below the spindle axis with an accuracy of 360,000 x 0.001°. The MCH series is a universal

production machine providing a high performance potential for customers with a wide spectrum of machining requirements.

## 5-axis machining centres from the MCH-C series



Technical data	MCH 280 C SK 50 / HSK 100	MCH 350 C SK 50 / HSK 100	MCH 450 C SK 50 / HSK 100
Work area (X/Y/Z)	1,000 x 1,000 x 1,100 mm	1,250 x 1,000 x 1,300 mm	1,600 x 1,200 x 1,700 mm
Pallet size	630 x 630 mm	800 x 800 mm	800 x 1,000 mm
Max. workpiece height	1,000 mm	1,200 mm	1,450 mm
Max. workpiece weight	800 kg	1,250 kg	2,500 kg / 4,000 kg
Chip-to-chip time	6.8 s	7.1 s	8.2 s
Rapid traverse	50 m/min	50 m/min	40 m/min
Acceleration	4 m/s <sup>2</sup>	4 m/s <sup>2</sup>	4 m/s <sup>2</sup>
Spindles *	6,000 (8,000) RPM · 43 kW · 822 Nm		

\* S6 – 40 % duty cycle

## Services

The availability and sustained performance of the machines and systems is guaranteed by HELLER Services. With a modular range of services we are catering to your needs throughout the complete lifecycle of the machines and production systems. From commissioning and the reliable supply of economically priced spare parts via remote diagnostics, customised servicing and main-

tenance agreements, training of operating and service staff through to machine relocations and overhauls. A tight-knit network of service bases ensures short response times and extensive, personal support on site around the globe.





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