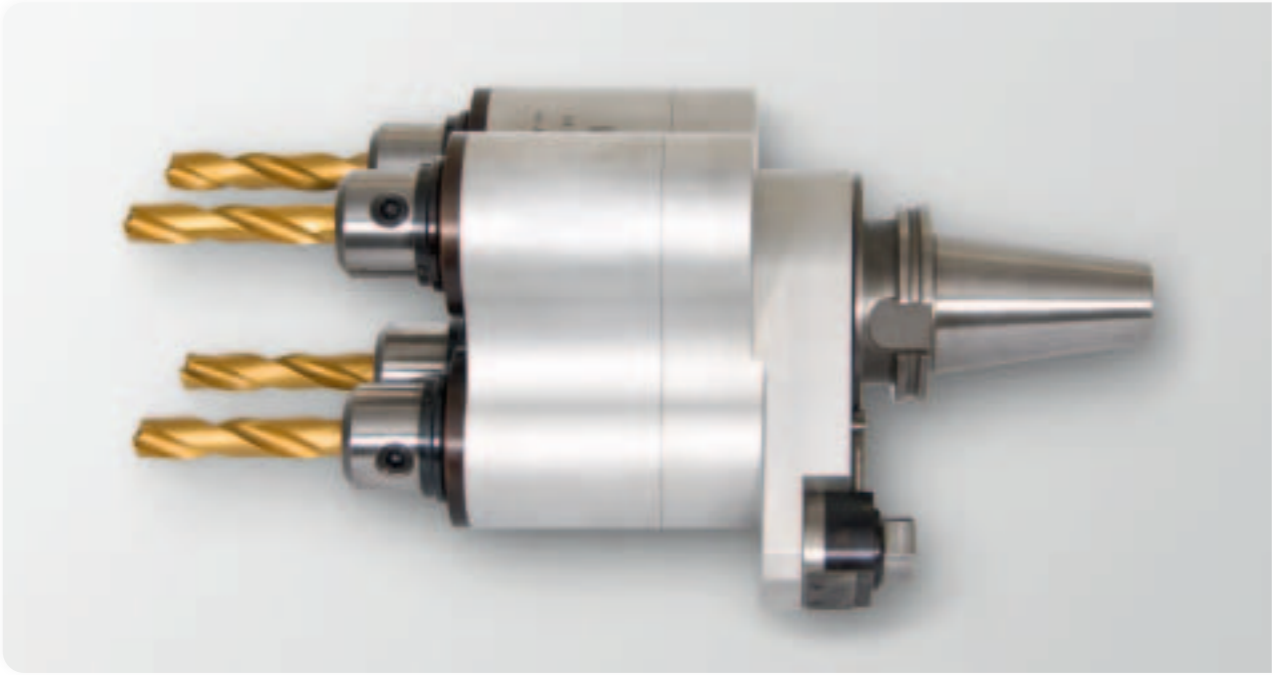




## Multi-Spindle Heads



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### Tradition in Perfection.

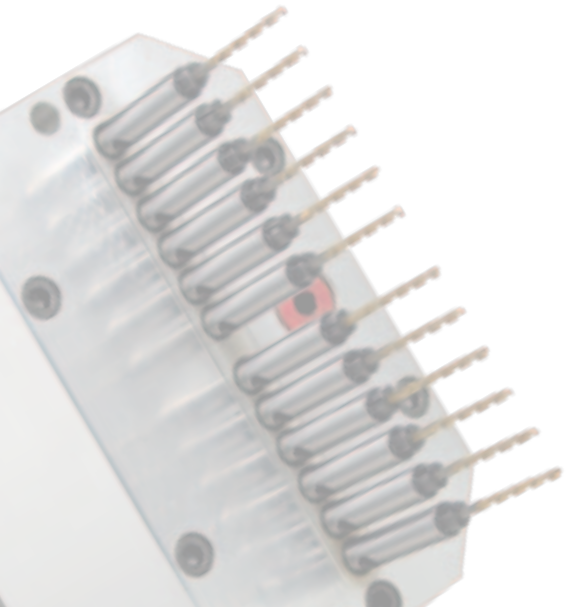


“For more than 50 years the name **ROMAI** has stood for the highest precision and process reliability in machining.

Multi-spindle heads simplify complex machining processes. A different task for almost every head. What all multi-spindle heads have in common are the requirements of precision and reliability.

Here lies the incentive and aspiration of **ROMAI**: Solving new tasks every day. Constantly pushing boundaries.

We look forward to every challenge. Test us.”



# Multi-Spindle Heads from ROMAI



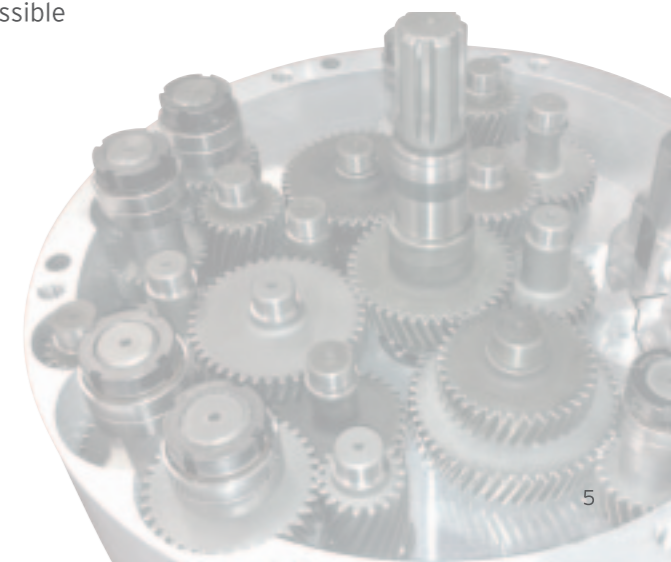
## What you can expect:

- Precision, reliability and low-maintenance costs - Made in Germany
- Especially developed, designed and manufactured for the specific task
- Robust and vibration-dampening housing/gearbox design
- Balanced for a nearly vibration-free run at highest speeds
- Coated and super-finished sealing areas
- Exclusive use of high precision bearings for highest accuracies in radial and axial run-out
- Almost all tool mountings possible
- Gearbox and bearing lubrication individually adjusted to the individual application
- Independent, quick and inexpensive interchangeability of the individual spindles through modular structure

## Optional:

- Spindles adjustable in position, angle, direction, ...
- Threaded spindles for tapping
- Integrated rotational and linear axis
- Testing facilities / IPC / drill breakage control / sensor system
- All kinds of coolant supply (emulsion, air, minimum quantity lubrication technology single/multi-channel, etc.) possible
- Highest speeds possible for cutting speeds when using cemented carbide or PCD tools
- And much more

- Combining several work steps in one
- Economic production by lowering unit costs
- Extending the existing manufacturing capacity despite low acquisition costs
- Sustainably shorter delivery times by minimising processing times
- Process reliability combining several process operations and procedures in one tool
- **Significant reduction of machining times**



## Stationary Multi-Spindle Heads



Stationary multi-spindle heads are firmly mounted or manually exchangeable. They are ideal for high volumes use on transfer centres, production lines, flexible production systems, feed units and special machines.

## Examples of Stationary Multi-Spindle Heads



## Optional features

- Dampening of the power train and the spindles through couplings without play
- High temperature consistency and therefore minimised heat transfer through cooling of housing/jacket
- Master screw spindles as quill units possible
- Integrated shifting and pivoting units
- Single and multi-axis feed units
- Turret head variations
- Console/slide and drive motors
- Tool guidance
- Tool centring
- And much more

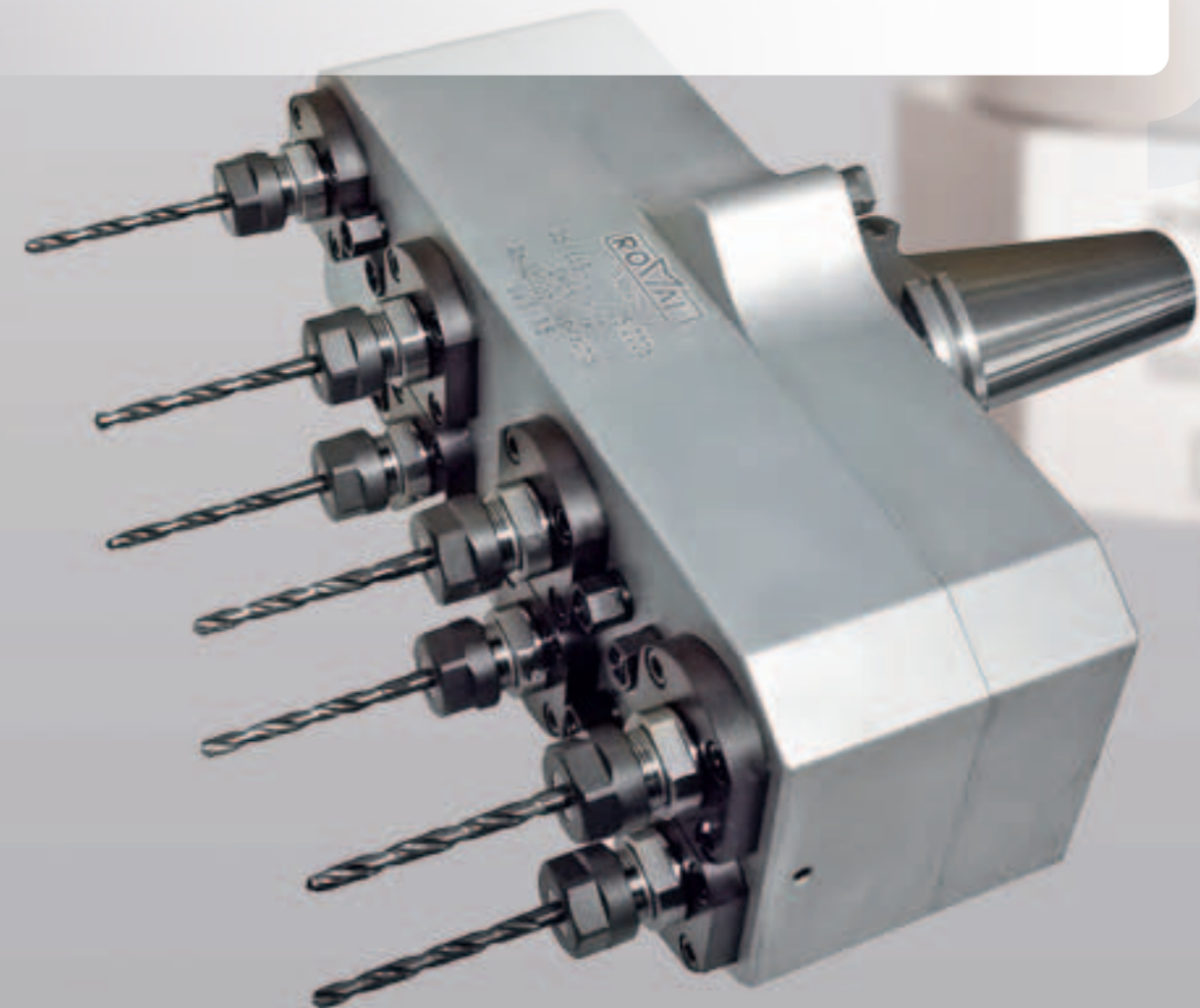
## Exchangeable Multi-Spindle Heads

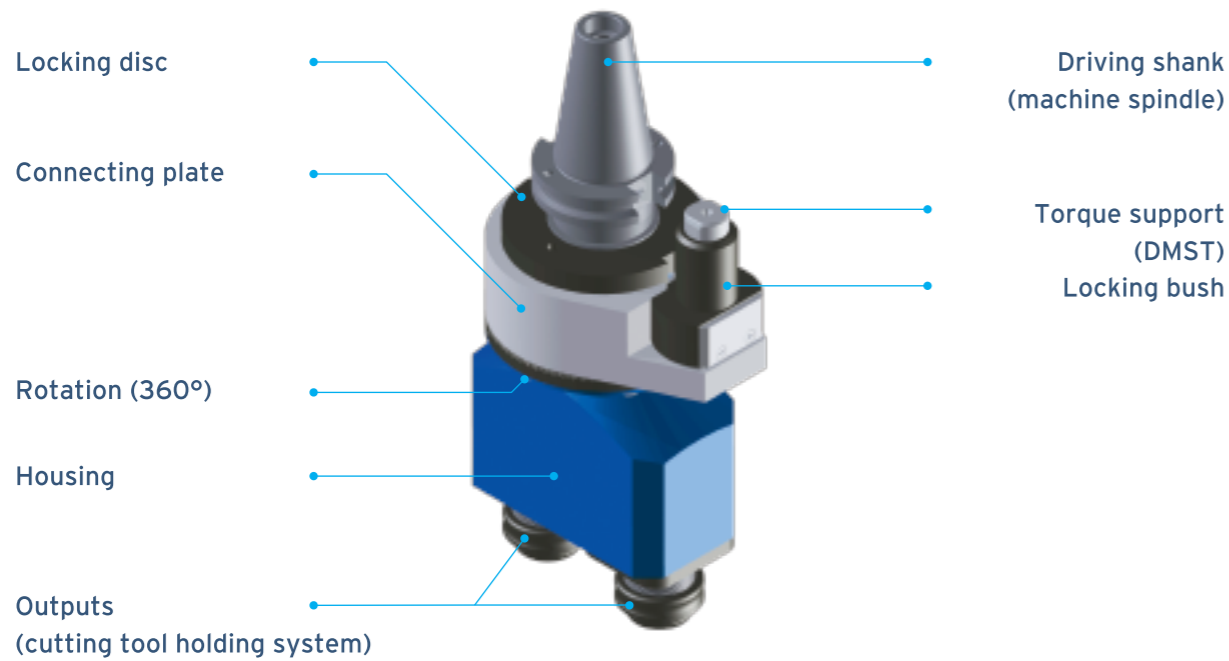


Exchangeable multi-spindle heads provide significant increase of productivity for machining centres and flexible production centres with automatic tool exchange. Your rationalisation potential is especially visible in medium-sized and large series.

### Optional features

- Adaptable on machines with all common machine interfaces, e.g. hollow shank taper (HSK), shank (SK), Capto, CAT, BT, KM ...
- Machine connection via torque support, alternatively with 3 or 4-point support, with additional clamping if necessary
- The spindles can be equipped with internal coolant supply on demand - central via the tension bar, the collar, via the torque support or alternatively with minimum quantity lubrication technology.
- Pick-up station
- And much more





**Locking disc / locking bush**

The multi-spindle head can be locked exactly for automatic tool exchange. Through this, an exact admission in the magazine and therefore process-reliability is guaranteed.

**Connecting plate**

Through support, this prevents the tilting of the multi-spindle head during processing.

**Rotation (360°)**

ROMAI multi-spindle heads can be contorted optionally by 360° with infinite variation. Fixed with clamp screws. With Hirth coupling on demand.

**Driving shank**

Admission of the multi-spindle head in the processing machine. All machine interfaces are possible, e.g. HSK, SK, Capto, MAS-BT.

**Torque support (DMST)**

Fixes the multi-spindle head to the machine spindle and secures it against contortion due to the occurring forces. Due to the multitude and differences in processing machines, the torque support is usually tailor-made for the machine and is adapted by us to the respective machine type.

**Outputs (cutting tool holding system)**

Admission of the machining tool. All tool holding systems are possible, e.g. collets, WFB, HSK, SK.

**Machine Connection Examples**



Torque support (DMST)



DMST + 4-point-support



DMST + 3-point-support

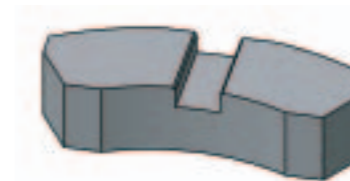
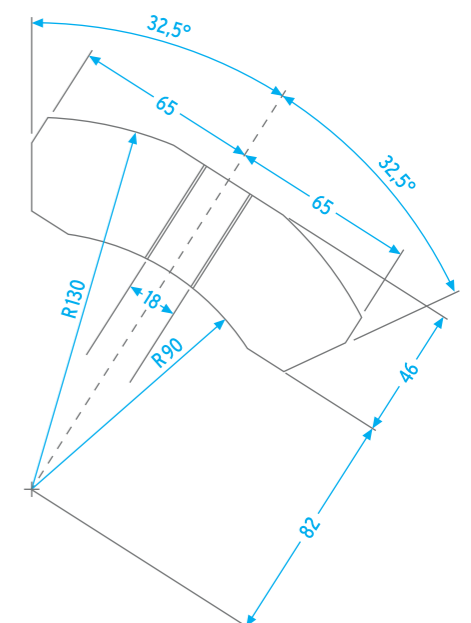
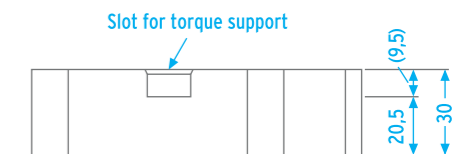


Mechanic / hydraulic clamping

**Connector Block (Stop-Block)**

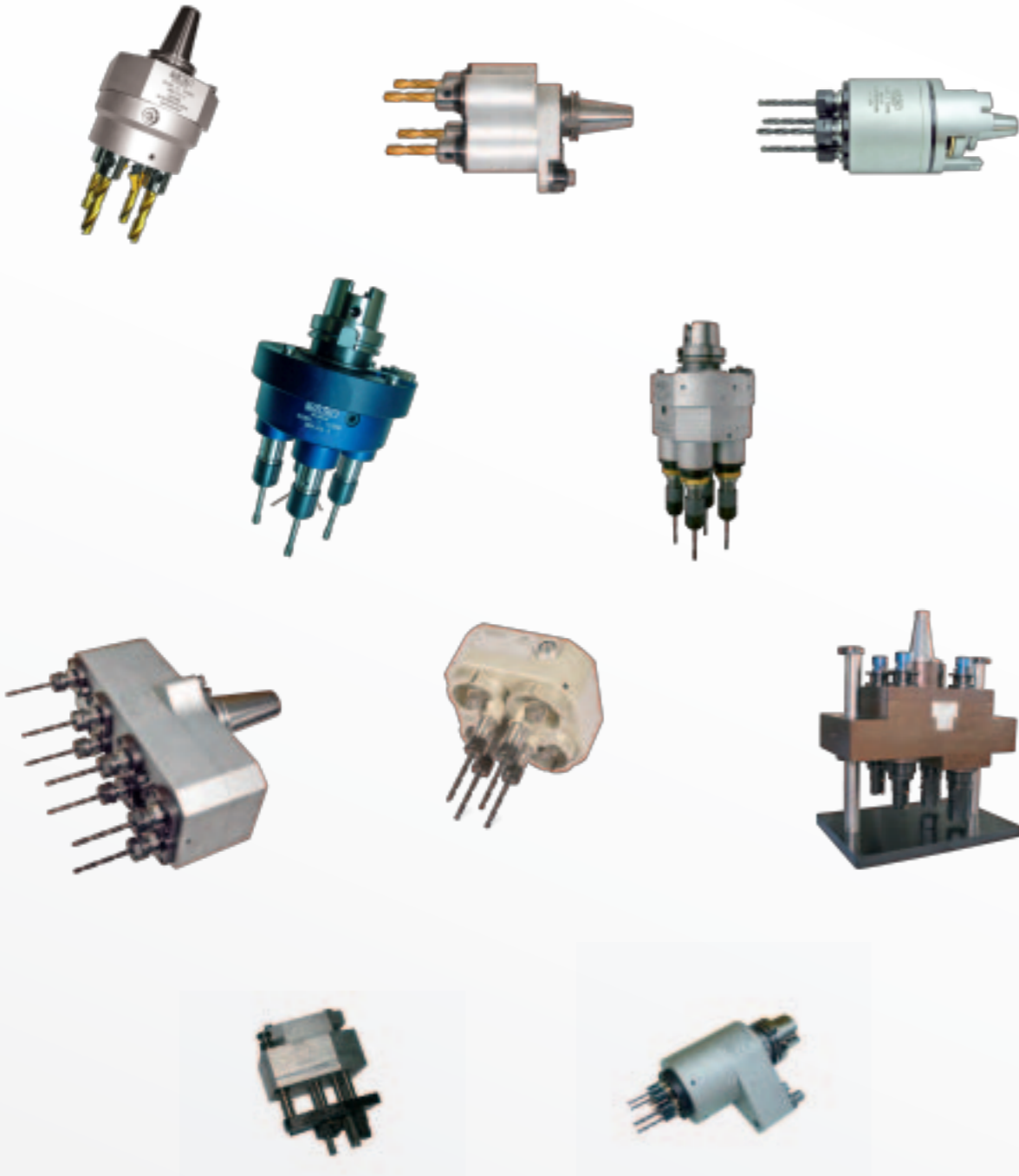
Machine connections from ROMAI are suitable for adapting to the machining center through the customer, and are standardized to ISO 9524 in their design. On request the connector block will be prepared by ROMAI. Otherwise the customer has the opportunity to place the pattern of drilling by himself.

Please also refer to the current version of the operation instruction manual on [www.romai.com](http://www.romai.com).



All measurements in [mm].

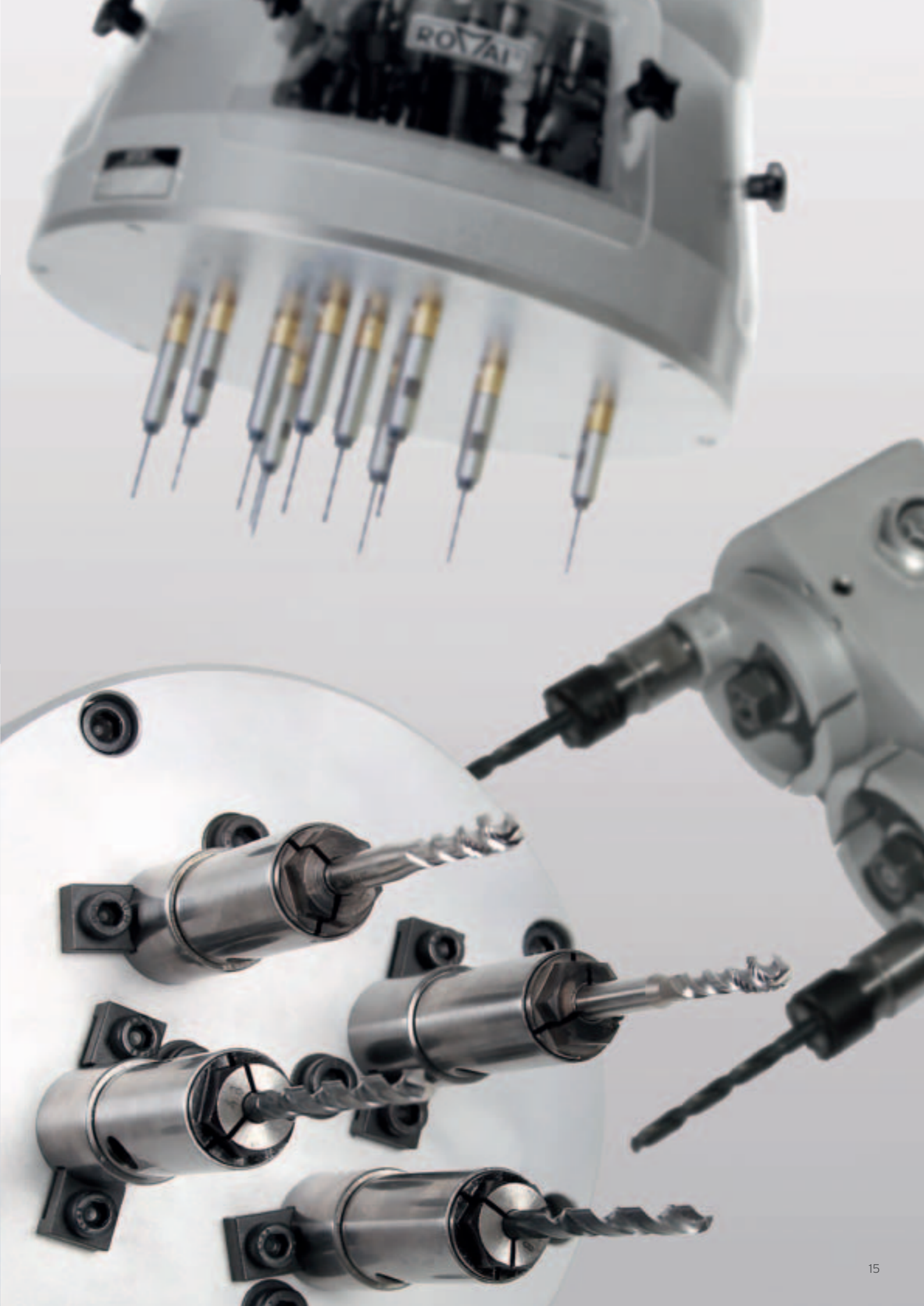
Examples of Exchangeable Multi-Spindle Heads



## Adjustable Multi-Spindle Heads

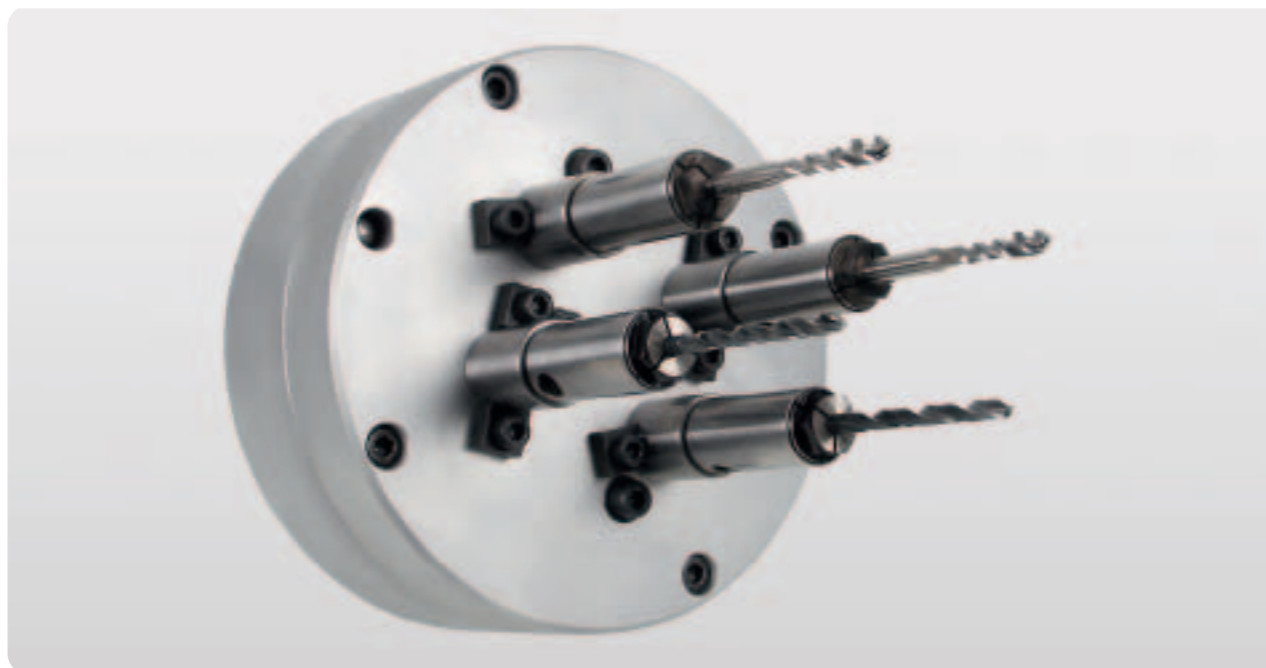
Different work pieces can be machined with only one multi-spindle head. These types are amongst the adjustable multi-spindle heads available:

- ASP
- KR (round head), KF (flat head)
- MBK-V (multi-spindle drill head - adjustable)





## Adjustable Multi-Spindle Heads



## Type ASP

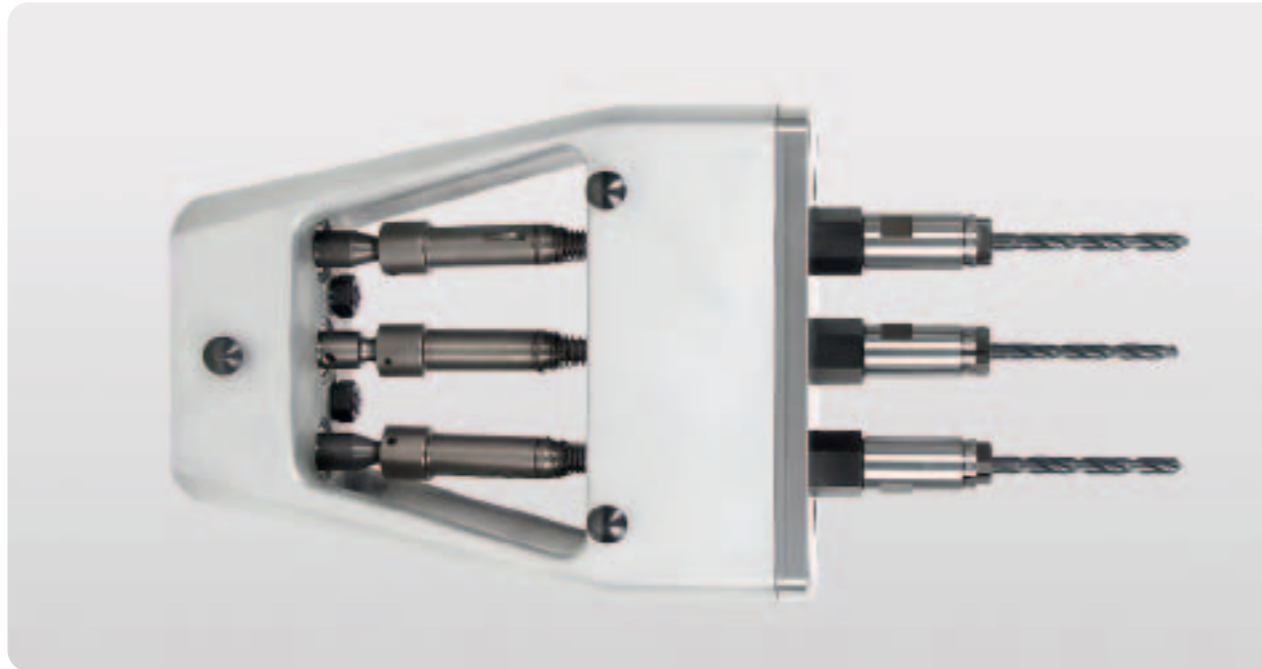
Exchangeable mounting plates with individual spindle distances and corresponding gear sets specify the drilling layout. ASP-type multi-spindle heads are especially suitable for application in feed/machining units, machining centres, production lines, transfer centres, as well as in special machines.



## Optional features

- Spindle distances of 13 mm to 380 mm possible
- Compact design in 24 standard sizes
- Drilling capacity of up to 32 mm in steel (E295)
- Speeds of up to 5,000 rpm
- Guided drilling optional
- And much more

## Adjustable Multi-Spindle Heads



## Types KR (round head), KF (flat head)

Articulated shafts allow the flexible set-up of spindle distances. Through exchangeable spindle mounting plates the tool positions are fixed. The plates can be produced by **ROMAI** or drilled by yourself.

KR and KF head types are mainly used in small and medium-sized serial production on drilling and machining units.



## Optional features

- Spindle distances of 8 mm to 500 mm possible
- Round or flat designs in 54 standard sizes
- Drilling capacity of up to 32 mm (E295)
- Speeds of up to 5,000 rpm
- Guided drilling optional
- And much more

## Adjustable Multi-Spindle Heads



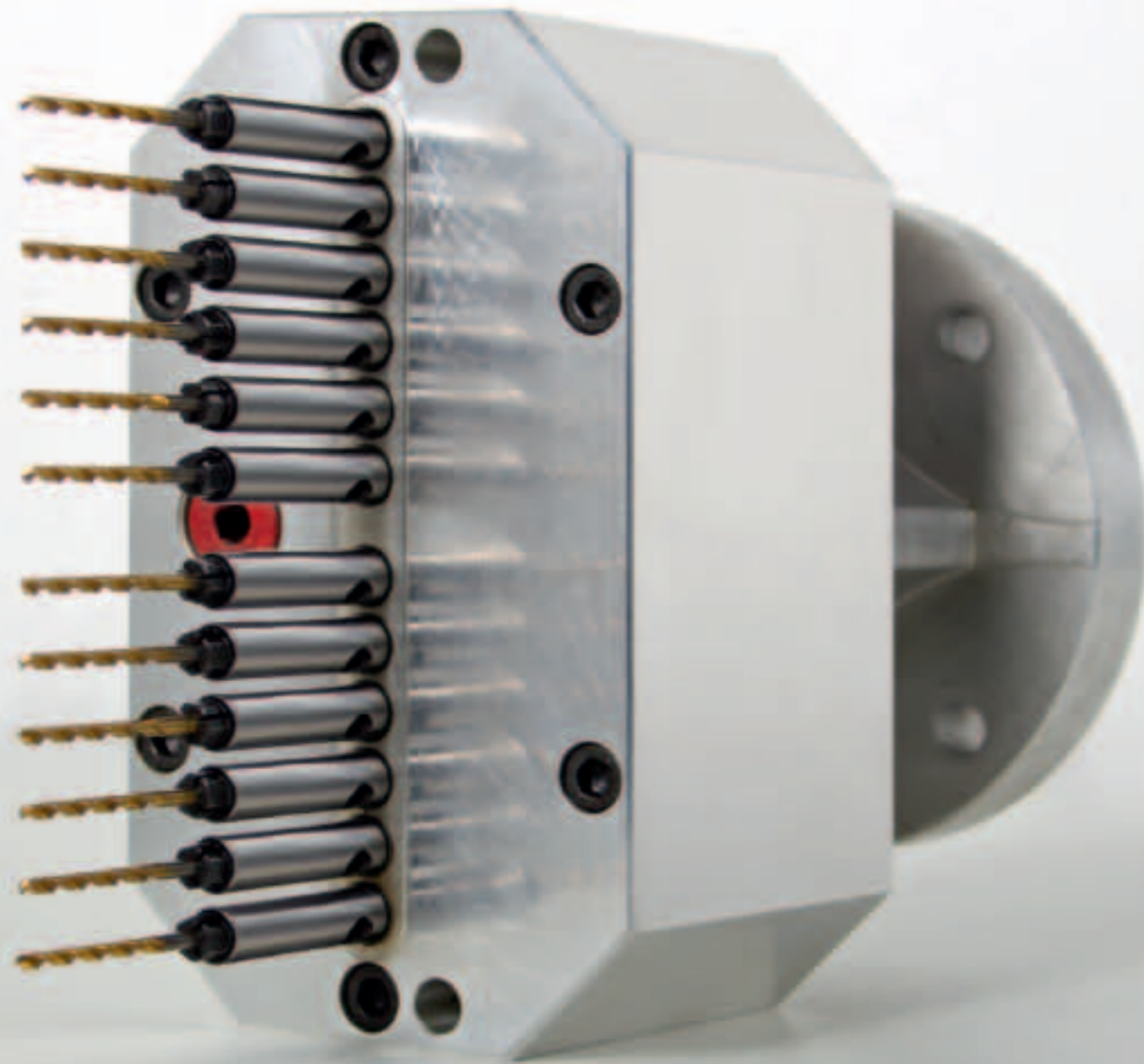
## Optional features

- Spindle distances of 11 mm to 270 mm possible
- Drilling capacity of up to 32 mm in steel (E295)
- Speeds of up to 5,000 rpm
- Simple adjustment via excentric disc with infinite variation
- And much more

## Type MBK-V (multi-spindle heads - adjustable)

Maximum flexibility through excentric adjustment with infinite variation. In 2, 3, or 4-spindle variation layouts in sequence or on a bolt circle can be realised. Area of application is mainly small and medium-sized serial production on drilling and machining units.





Couldn't find what you need?  
No problem.

„Only in some cases you will need a transmission gear which corresponds exactly to the standard dimensions. At ROMAI we design and produce according to customer specifications. An extensive module catalogue enables us to implement small variations to standard products as well as completely new developments quickly, affordably, and to a high level of quality.

Long years of experience, high technical know-how, and short delivery times make ROMAI one of the best transmission gear providers in all areas of machining - from the automotive to the aerospace industry to wind turbines.

We would be delighted to fulfill your wishes as well.“



# ESTABLISHED ROTATIONAL MECHANICS

Angular Heads



Multi-Spindle Heads



Driven Tools/Live Tools



High-Speed Spindles



Machine Components



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