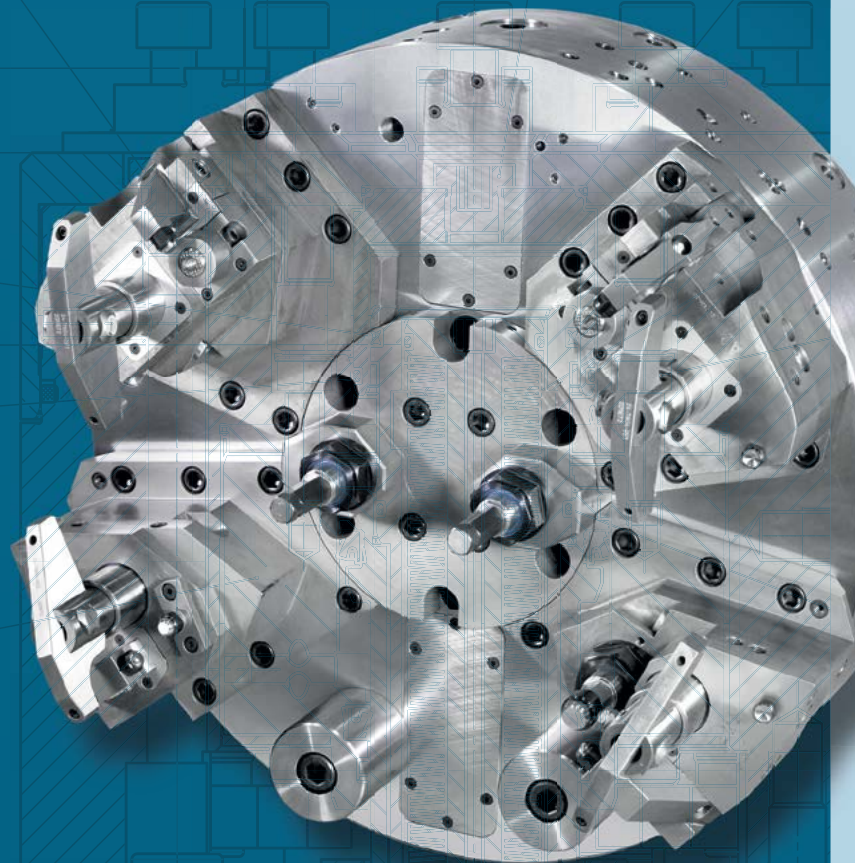


STIEFELMAYER

WE ARE EXPERTS IN **CLAMPING TECHNOLOGY.**

We craft tailored clamping solutions. For those who demand precise and secure component fixation during machining.

Bespoke solutions – from basic to complex.



stiefelmayer-clamping-tech.com

STIEFELMAYER CLAMPING

Clever Solutions for Difficult Cases



THE SUCCESS STORY

For STIEFELMAYER clamping it all started in 1994 with the acquisition and integration of a small company specialising in customised clamping tools.

Since then, this domain has consequently been expanded and supplemented by new, innovative products.

CLAMPING TECHNOLOGY TODAY

Today we are a well-respected partner of leading manufacturers of lathes and grinding machines as well as their customers. With advice, top-quality design, production and service from one source, STIEFELMAYER-Spanntechnik leaves the standard solutions far behind and provides the optimum clamping tool for every application.

With the result that set-up times are lowered, production times reduced and therefore costs are cut. More than 10,000 installations all over the world testify to the success of our solutions. The brochure on hand only provides a small insight into the manifold possibilities with STIEFELMAYER clamping.

IDEAS IN CLAMPING TECHNOLOGY

Spot-on Solutions

Clamping tools with integrated hydraulic compensation – Better results and reduced machining times



BOLT CHUCKS "SBF"

For sensitive workpieces in large series

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COLLET BAR CHUCKS "KAF"

Radial clamping for wide clamping ranges

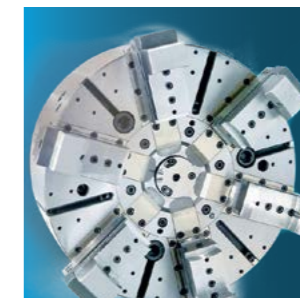
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CLAMPING MANDRELS "SDH"

Gentle clamping for small workpieces

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ANGLE LEVER CHUCKS "WHF"

Inside and outside turning operations with one chuck

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Clamping Tools – Perfekt for the Special Case



FINGER CHUCKS

Big axial clamping force, also for asymmetric workpieces

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COLLET BAR CHUCKS

For deep and safe clamping of long workpieces

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SEGMENT CLAMPING MANDRELS

For universal centring and clamping

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ECCENTRIC CHUCKS

Machining eccentric diameters in one clamping

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LEVER OPERATED CHUCKS

Large stroke with planar pull

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MECHANICAL BOLT CHUCKS

Transmission of high forces in a narrow space

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CYLINDERS AND CONNECTION PARTS

Providing the force at the clamping chuck

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DIAPHRAGM CHUCKS

For sensitive applications of very high centring accuracy

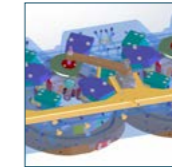
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INDEXING CHUCKS

Highly precise and extremely quick swivelling

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STATIONARY DEVICES

For highly complex requirements

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WEDGE CHUCKS

Versatile, economic and ideal for special tasks

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CLAMPING 4.0

Increased productivity thanks to innovative clamping technology

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COMBINATION CHUCKS

Combined clamping chucks and special devices

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HYDRAULIC CONTROLS

Control units for existing machine tools

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STIEFELMAYER SERVICE

Making Sure that Everything Runs Smoothly



Qualified advice in the run-up

The consulting of our customers is one of the few opportunities, when our clamping specialists are not thinking of time saving. In intensive advice discussions they recognise your specific requirements and suggest the optimum solution for your application.



Top-quality design

Clamping tools are designed inhouse by our experienced design staff. Since we know that our clamping tools must fulfill highest accuracy demands, further testing, for example with FEM (finite elements analyses) are an inherent part of our design process.



Machining tests at Stiefelmayer's

In order to provide you with the maximum safety in the run-up, we offer machining tests at our company. Hence accuracies are no longer only calculated theoretically, but proven by factual results.



Top-quality execution

Highly precise clamping tools need modern production and testing facilities and - above all - a motivated and skilled staff. Acceptance processes recorded in detail as well as extensive test runs for every clamping chucks are a must and a matter of course for us.

Punctual delivery

We set great store by excellent quality and punctual delivery of our products. Because we want to keep your trust in us. That is why we will not give you any promises for unrealistic delivery dates. But instead we will be reliable in keeping our promises.

We would be glad to advise you in all questions around special rotatory clamping.

Please contact us: spanntechnik@stiefelmayer.de

STIEFELMAYER SERVICE

Today and Tomorrow for Your Highest Efficiency

Continuous maintenance

If you wish regular maintenance and support for your clamping chucks (of all manufacturers) we will be there for you at any time, making sure that your clamping tools are always flawlessly operating for you.

Repairs by specialists

Our range of services also includes the repair of clamping chucks (of all manufacturers). Our experienced team carries out repairs thoroughly, flexibly and fast. Of course with a cost estimate ensuring that the costs remain transparent for you.



- Disassembly
- Replacement of worn components
- Function test and optimisation

Spare parts fast re-produced

Thanks to our flexible production organisation, spare parts e.g. special jaws, are also available from us at short notice.

Every clamping tool is thoroughly tested before delivery. This is done on specifically developed test facilities.



We produce our clamping products on up-to-date machine tools. Pictured here: 5 axes milling centre.

**What can we do for you?
You would like to have your clamping chucks maintained, but have a tight time frame?**

We would be pleased to organise transport and maintenance as a care-free package for you, taking into consideration your time schedule.

HYDRAULIC COMPENSATION CHUCKS

Better Results and Reduced Machining Times

With this line of clamping tools we offer high-quality products in the matter of highly precise workpiece clamping. Thanks to the integrated hydraulic compensation, extremely thin-walled workpieces can be clamped safely and free of deformation – even at high cutting rates.

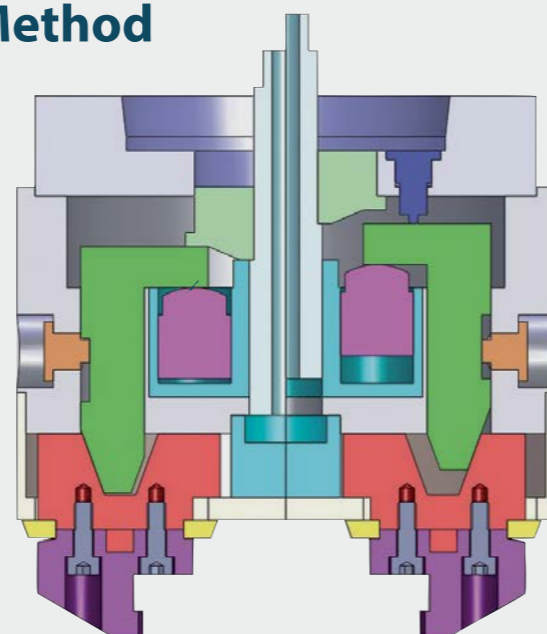
The result: Cost saving thanks to considerably better machining results and reduced machining times.

The Hydraulic Compensation Method

is based on separating the centring process from the actual clamping process. First of all, the inserted workpiece is sensitively centred without any deformation.

Important: The clamping chucks are each operated separately during this process. Only then, the required clamping force is applied by increasing the hydraulic pressure. The great advantage of this unique and patented compensation principle:

No round shape is forced on the workpieces by the clamping tools before machining – there is virtually no transfer of circularity errors from the outside to the inside (or – in the case of chucks that clamp on the inside – from the inside to the outside)



Collet bar chuck KAF with hydraulic compensation – open (left) – closed (right)

Optional Centrifugal Force Compensation

All our hydraulic compensation chucks can be fitted with centrifugal force compensation for tasks at high speeds.

Integrated Control

For our hydraulic compensation chucks we also offer a hydraulic control unit that is integrated in the chuck. (Type „G“). Thus, the clamping chuck can be operated with a standard cylinder. For special cases we can also offer a direct hydraulic control.

BOLT CHUCKS SBF

For Sensitive Workpieces in Large Series

The bolt chuck SBF is used for deformation sensitive workpieces that are to be clamped radially and with planar pull.

Technical Features:

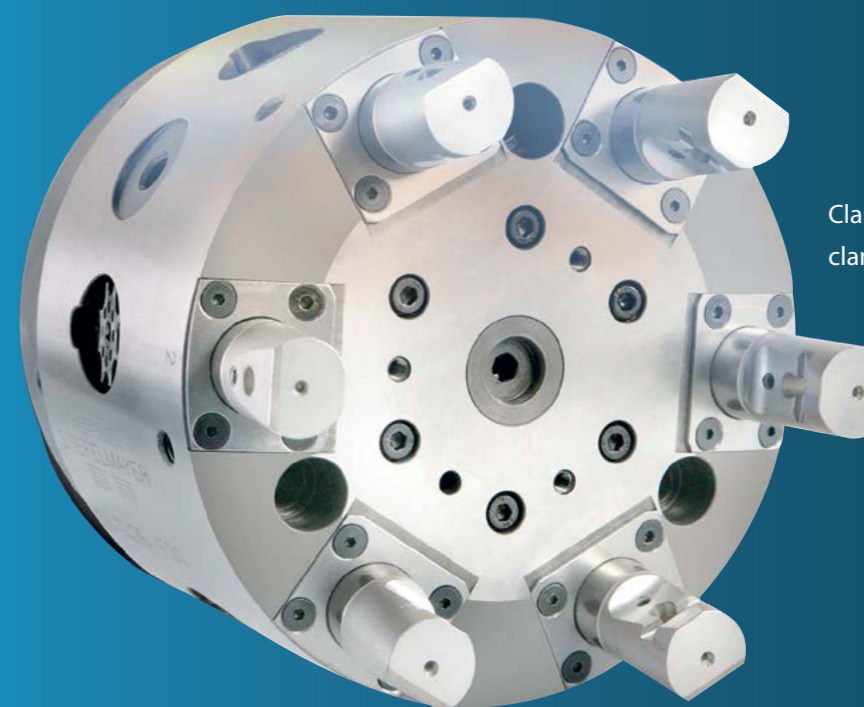
- radial clamping with planar pull
- high rate of revolutions due to low loss of centrifugal force
- no lifting of the workpiece from the workpiece support, even at high speeds
- high clamping stroke for loading and unloading operations
- available as inside clamping or outside clamping chuck
- chuck sizes from 170 mm to 600 mm
- air-abutting control (option)
- chuck sealing (option)

Typical Applications:

- brake disks
- brake drums
- flanges
- caps
- small bearing rings
- etc.



SBF, inside clamping with 5 clamping jaws. Due to their special technical layout the hydraulic compensation chucks can also be built with 5 and more clamping jaws.



Clamping chuck SBF, outside clamping, for thin-walled rings

COLLET BAR CHUCKS KAF

Radial Clamping for Large Clamping Ranges

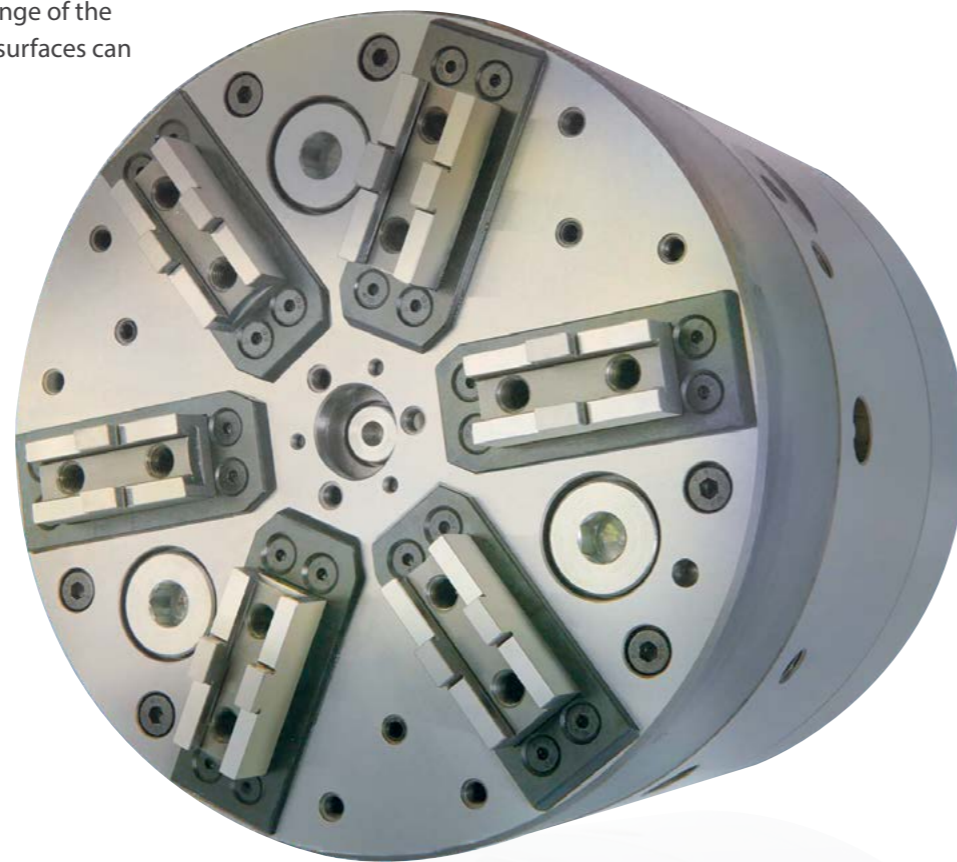
This chuck type allows the radial clamping of thinwalled workpieces. This leads to a wider clamping range of the KAF chuck. Workpieces with small clamping surfaces can be safely clamped due to the purely radial clamping movement.

Technical features:

- Radial clamping
- Mechanical centring
- Chuck size from approx. 200 to 400 mm
- Fast jaw change (option)
- Air-abutting control (option)
- Centrifugal force compensation (option)
- Available as inside or outside clamping chuck

Typical applications:

- flanges
- caps
- gear rings
- impellers
- bevel wheels etc.



Collet bar chucks KAF – with completely sealed jaw guidances.

ANGLE LEVER CHUCKS WHF

Inside and Outside Turning Operations with One Chuck

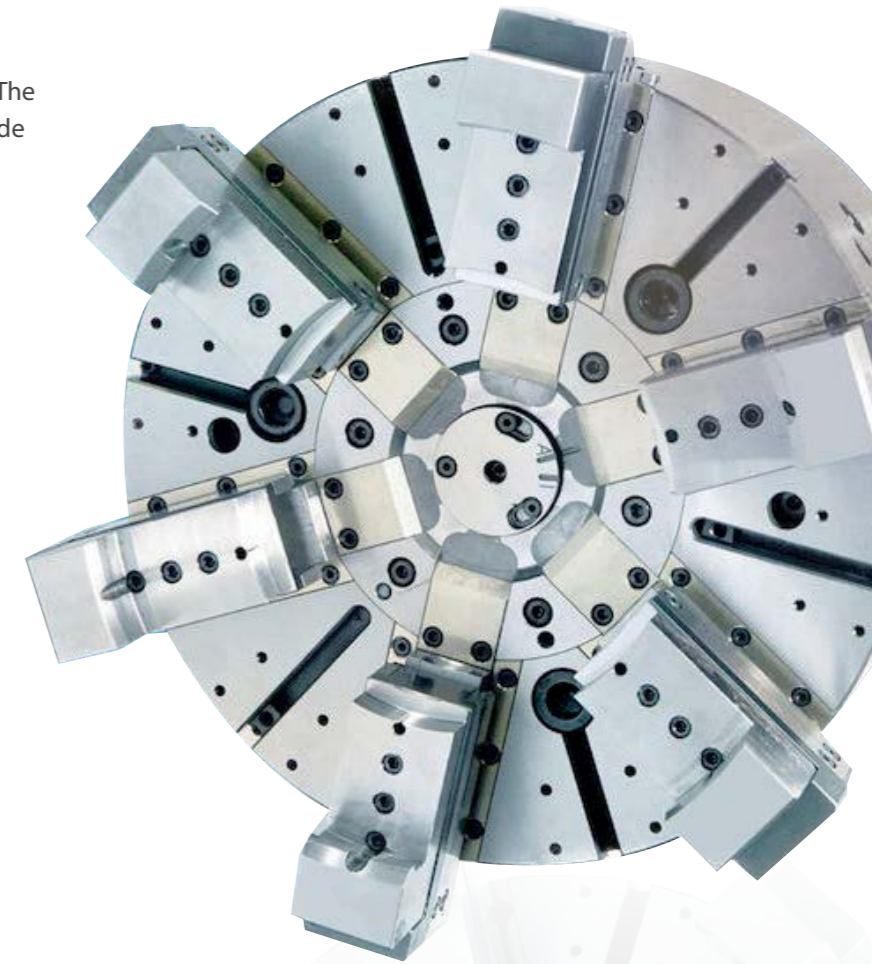
The angle lever chuck WHF is used for large components to be clamped with little distortion. The angle lever chuck allows variable inside and outside clamping in one clamping tool.

Technical features:

- Radial clamping
- Large jaw stroke
- Inside and outside clamping in one chuck
- Integrated centrifugal force compensation
- High re-run accuracy, also for large diameters
Chuck sizes from 250 to 2000 mm
(larger diameters upon request)
- multiple cross nuts with dirt covering (option)

Typical applications:

- Big bearing rings
- bevel wheels
- gear rims
- big thin-walled and out-of-round rings



Angle lever chuck WHF, diameter 1000 mm, version with fast jaw change

CLAMPING MANDRELS SDH

Gentle Clamping for Small Workpieces

Clamping mandrels SDH are the specialists for small workpiece diameters. The clamping mandrel SDH benefits from the unique feature of the STIEFELMAYER hydraulic compensation method: the gentle application of the centring force. As with the other hydraulic compensation chucks, the (segment) jaws of the SDH are controlled separately, thus minimising the deformation of the machined workpiece.



Clamping Mandrel SDH for long thin-walled sleeves

Technical features:

- Inside clamping
- Clamping diameter approx. 45 to 100 mm
- Excellent re-run accuracy

Typical applications:

- Small rings, for example bearings
- Thin-walled tubes and sleeves

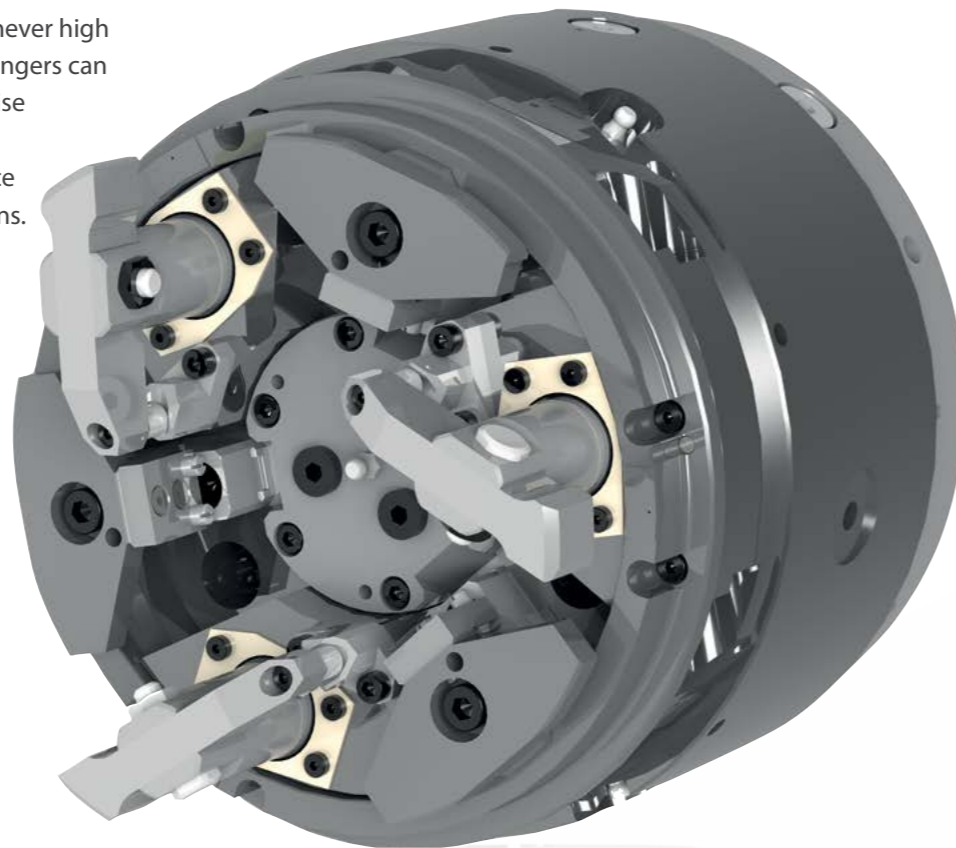
FINGER CHUCKS

Big Axial Clamping Force, also for Asymmetric Workpieces

This chuck type is used in many variations whenever high axial clamping force is required. The clamping fingers can be positioned at will, this ensures safe and precise clamping also of asymmetric workpieces. Swiveling clamping fingers allow easy workpiece loading, also in automated processing operations.

Technical Features:

- High variability: Workpiece centring with bores, pins, clamping mandrel, collet chuck or clamping jaws.
- For symmetric and asymmetric workpieces
- Large stroke with planar pull
- Nearly maintenance-free design possible
- Can be realised as centric or compensating clamping device
- Retractable jaws available



Example for the combination of clamping methods: Finger chuck with collet bar system and swivel jaws for centring

SEGMENT CLAMPING MANDRELS

For Universal Centring and Clamping

Segment clamping mandrels have a relatively large clamping stroke compared to other mandrel types. They can be used universally for centring or clamping. STIEFELMAYER mandrels can be realised with many extra options, for example several clamping rows, pneumatic stroke control etc.



Two-row segment clamping mandrel

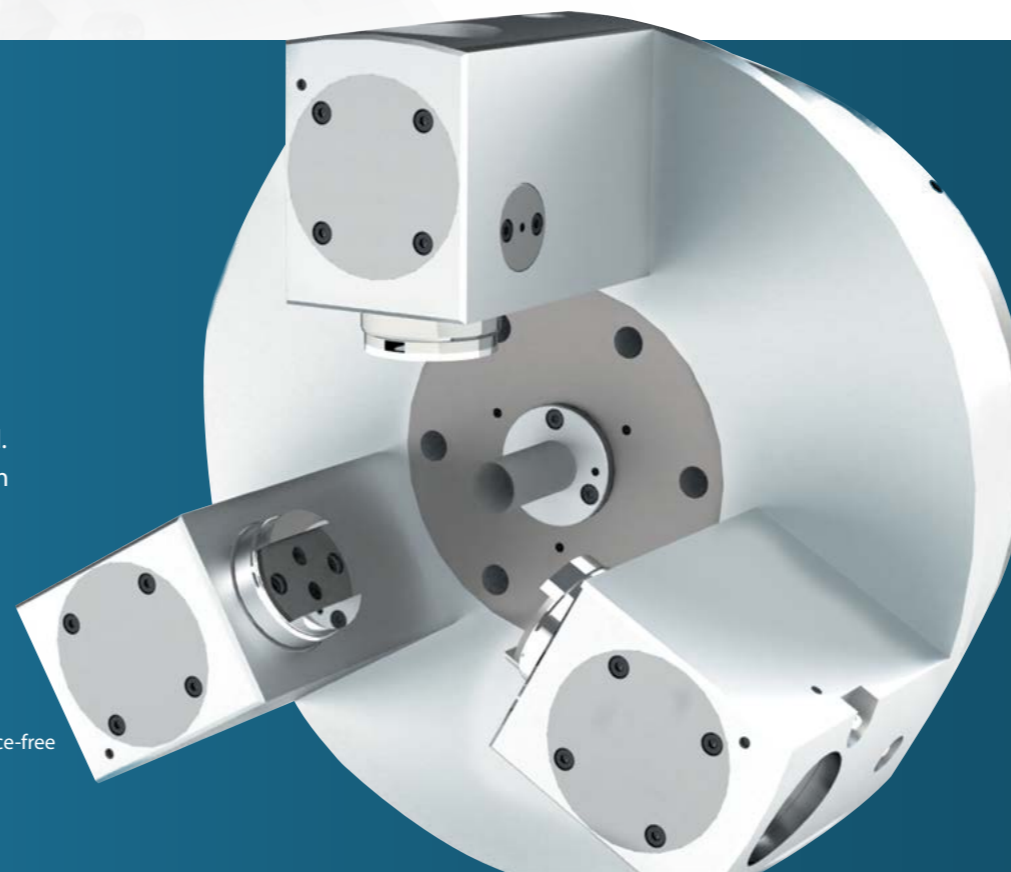
Technical Features:

- Relatively large stroke
- Flexible design - many options
 - several independent clamping rows
 - integrated centring and clamping function
 - integrated stroke control
 - retractable workpiece contacts
- and many more

COLLET BAR CHUCKS

Deep and Safe Clamping of Long Workpieces

Using the collet bars integrated in the chuck body the jaw guide is placed in the area of the clamping point. This allows a secure clamping of the workpiece, no higher top jaws are required. In addition, the collet bar chucks can also be fitted with a large passage. Thus the workpiece can also be loaded via the back of the chuck, in the case of complete hollow clamping.



Collet bar chuck, hermetically sealed, maintenance-free

Technical Features:

- High clamping forces
- Hollow clamping for tubular workpieces possible
- Fast jaw change (option)

Typical Applications:

- Long workpieces,
 - for example shafts, tubes, cylinder liners...

EXPANDING MANDRELS

Big Force in Confined Spaces

Expanding mandrels can not only transfer high clamping forces, but also realise various clamping diameters by using different clamp collets.

Expanding mandrels can be designed with or without axial pull depending on the application. A special type are the biconical collets. These are often used to centre relatively long workpieces on two levels and to clamp them safely.



Biconical mandrel for independent clamping on two levels

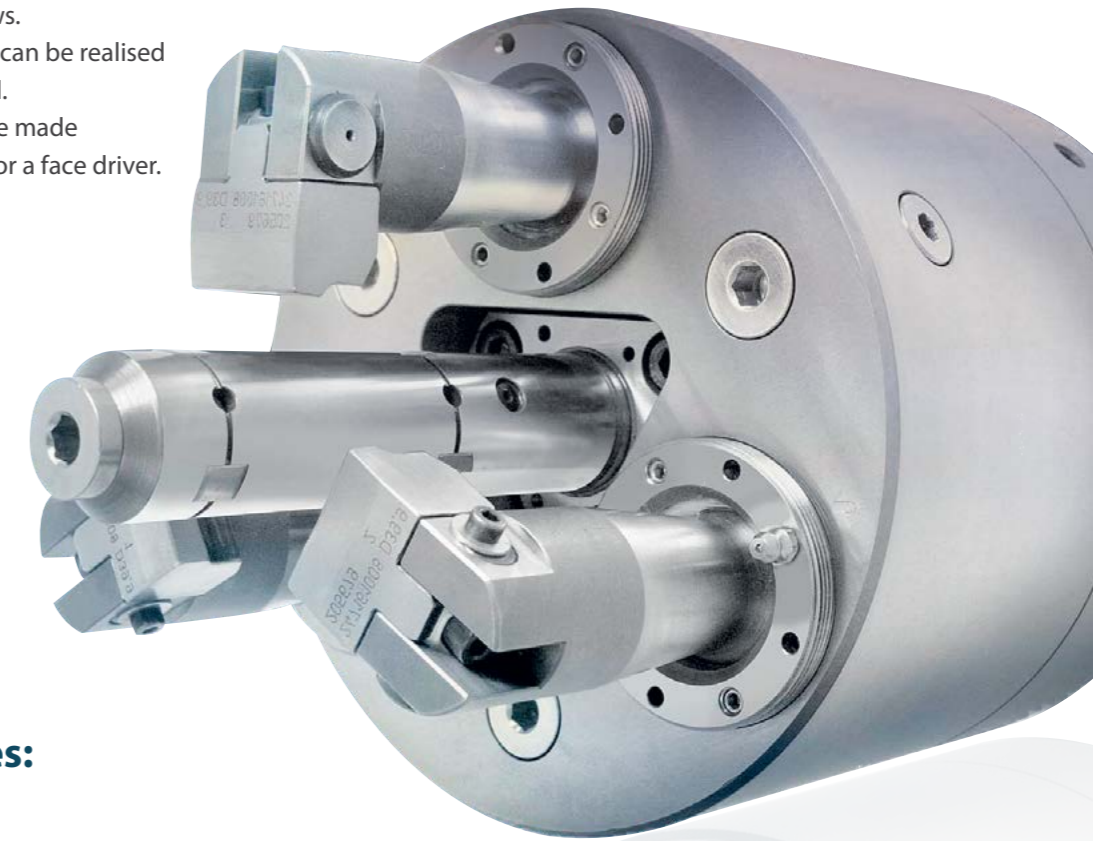
Technical Features:

- High clamping forces
- Options:
 - Biconical mandrels with independent clamping rows
 - several clamping diameters with changing parts

LEVER OPERATED CHUCKS

Large Stroke with Planar Pull

Lever operated chucks enable especially large overhang of the clamping jaws. This means that large strokes can be realised with simultaneous planar pull. The clamping jaws can also be made retractable, if used with a tip or a face driver.



Lever operated chuck - with integrated two-row segment clamping mandrel for centring of the workpiece

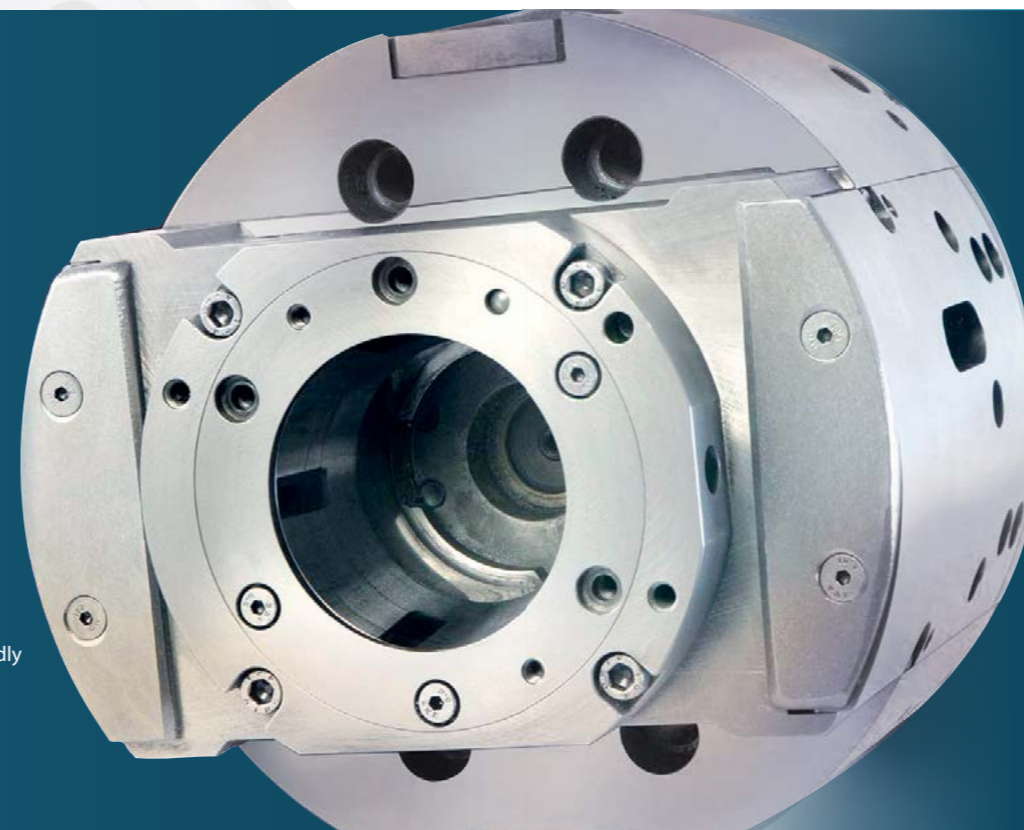
Technical Features:

- Large jaw stroke
- Planar Pull
- Optional design as centric or compensating chuck
- Can be combined with other centring elements

ECCENTRIC CHUCKS

Machining Eccentric Diameters in One Clamping

Eccentric positions of up to 6 mm can be infinitely set with this chuck type. The operator can switch backwards and forwards between centric and eccentric machining without having to stop the spindle - an advantage that leads to reduced machining times for the workpiece.



Eccentric chuck, diameter 200 mm. The eccentric position is adjusted precisely under rotation to 0.01 mm.

Technical Features:

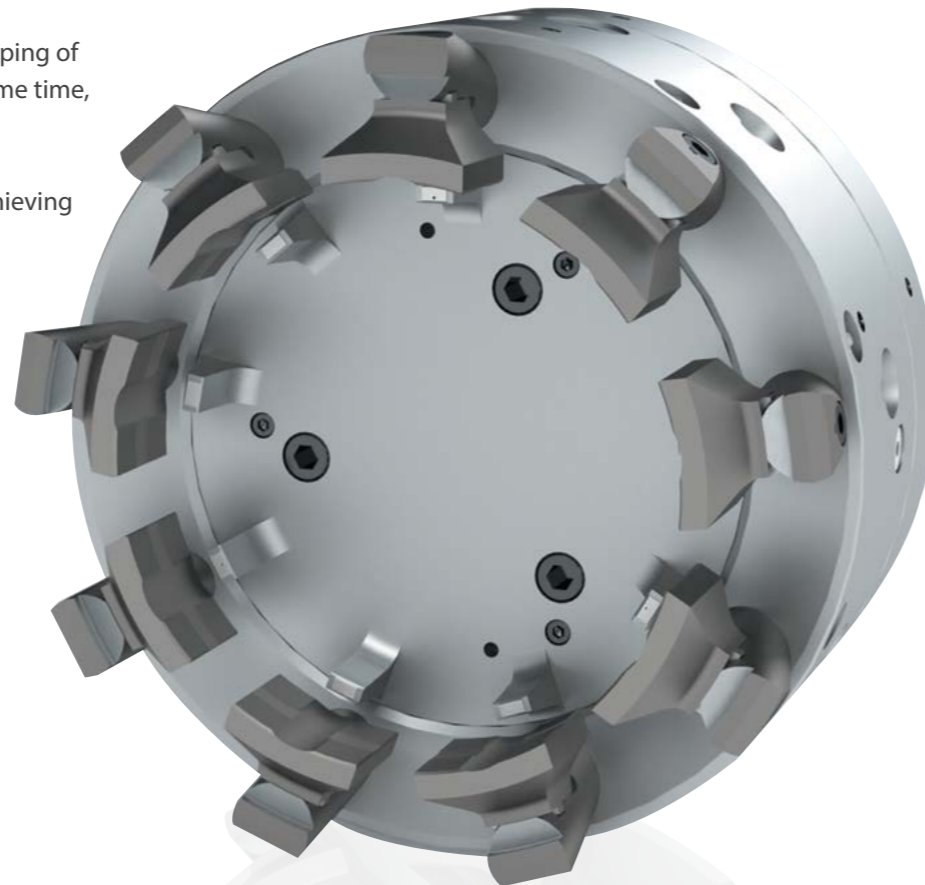
- "On the fly" offsetting: centric - eccentric - centric
- Up to 6 mm eccentricity, fully adjustable
- Mechanical lock, hydraulically adjustable
- Speed up to 3000 RPM
- Automatic out of round compensation
- For clamping diameters up to 40 mm

MECHANICAL BOLT CHUCKS

Transmission of High Forces in a Narrow Space

This chuck type can be used for an enclosing clamping of the workpiece (similar to a collet chuck). At the same time, it allows the chips to flow off freely.

Mechanical bolt chucks have the advantage of achieving high speeds without centrifugal force compensation.



Mechanical bolt chuck for clamping of gear wheels

Technical Features:

- Radial clamping with planar pull
- Transfer of high forces in limited space
- Low centrifugal loss even at high speeds
- Option: 100% centrifugal force compensation
- Low-maintenance design possible

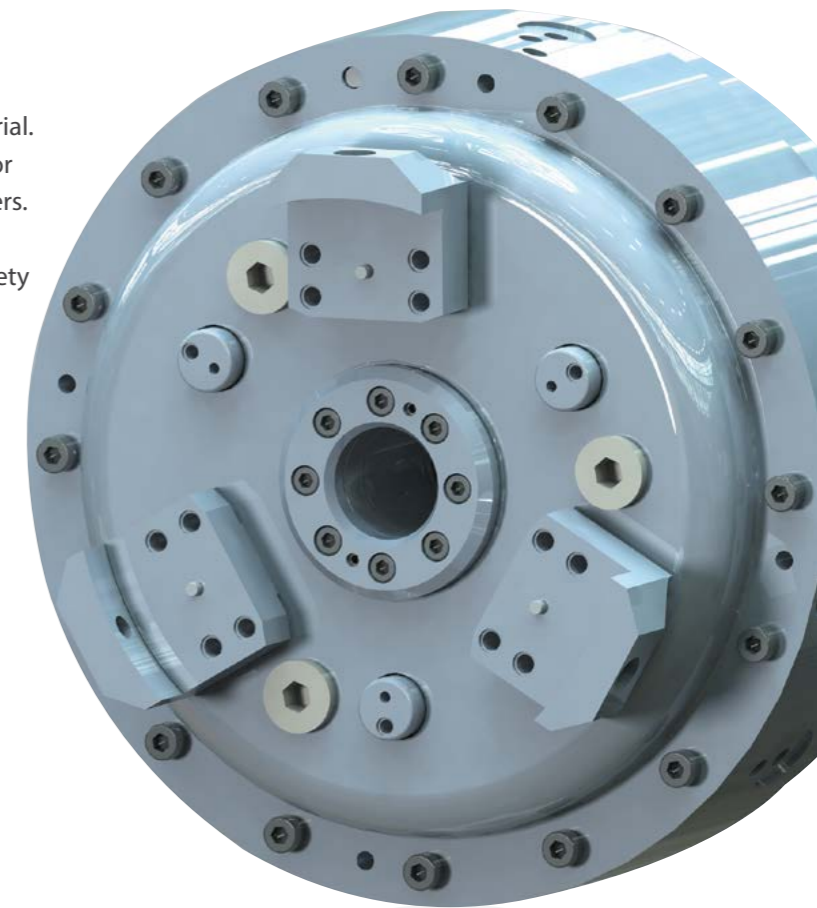
DIAPHRAGM CHUCKS

For Sensitive Applications and Very High Centring Accuracy

Diaphragm chucks are notable for their high re-run centring accuracy (< 0,005 mm).

The membranes move in the elastic range of the material. The release is carried out either through the machine or by means of integrated pneumatic or hydraulic cylinders.

We are proud that we have already realised a high variety of different diaphragm chucks for many applications and different sizes.



Perfect clamping, for example of toothed components

Technical Features:

- Excellent re-run centring accuracy
- Easy handling
- No lifting of the workpiece during the rotation

CLAMPING CYLINDERS AND CONNECTION PARTS

Provide the Force at the Clamping Chuck

As a specialist for clamping technology we provide you with the comprehensive solution for your clamping task. This also includes connection parts between the clamping chuck and the clamping cylinder, as well as a choice of various hydraulic clamping cylinders.

At a glance:

- Connection parts with or without oil sealing
- Hydraulic cylinders, specifically also for hydraulic compensation chucks (SBF, KAF...)
- Double cylinders, triple cylinders
- Multiple oil distributors, special design depending on individual requirement

Top: special cylinder with 6-fold oil distributor
Bottom: Special drawbar with oil sealing

INDEXING CHUCKS

Highly Precise and Extremely Quick Swivelling

STIEFELMAYER indexing chucks have a technical feature that has a direct positive result on the machining time: Thanks to activation with tandem cylinders, an extremely quick swivelling process is possible in all positions (90°, 180°, 270°). Due to the precise alignment of the pins to one another, the chuck has such a high accuracy that it is also suitable for grinding operations.



Combined indexing and eccentric chuck - for clamping of shafts with multiple machining

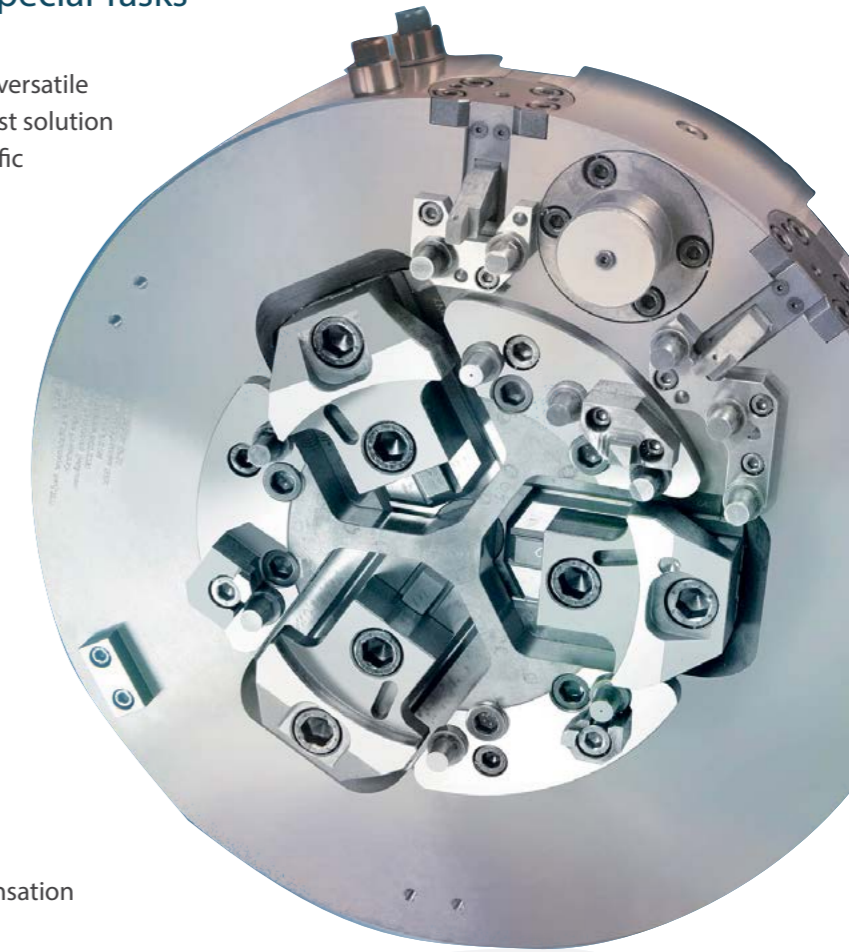
Technical Features:

- Extremely high swivelling speed (0.4 sec.)
- Equal swivelling time in all positions
- High re-run accuracy due to sturdy mechanics and hydraulic control
- Mechanical check of swivelling position
- Centric or one-sided clamping variant

WEDGE CHUCKS

Versatile, Economic and Ideal for Special Tasks

STIEFELMAYER wedge chucks are very popular and versatile chuck types. For our customers, we work out the best solution in terms of design and size, depending on the specific clamping task. We use extreme care in the manufacturing process. The result is a chuck with very high precision and most reliable performance.



Combined wedge type chuck, for thin aluminium parts: with centrifugal force compensation, detachable supports and many other functional elements.

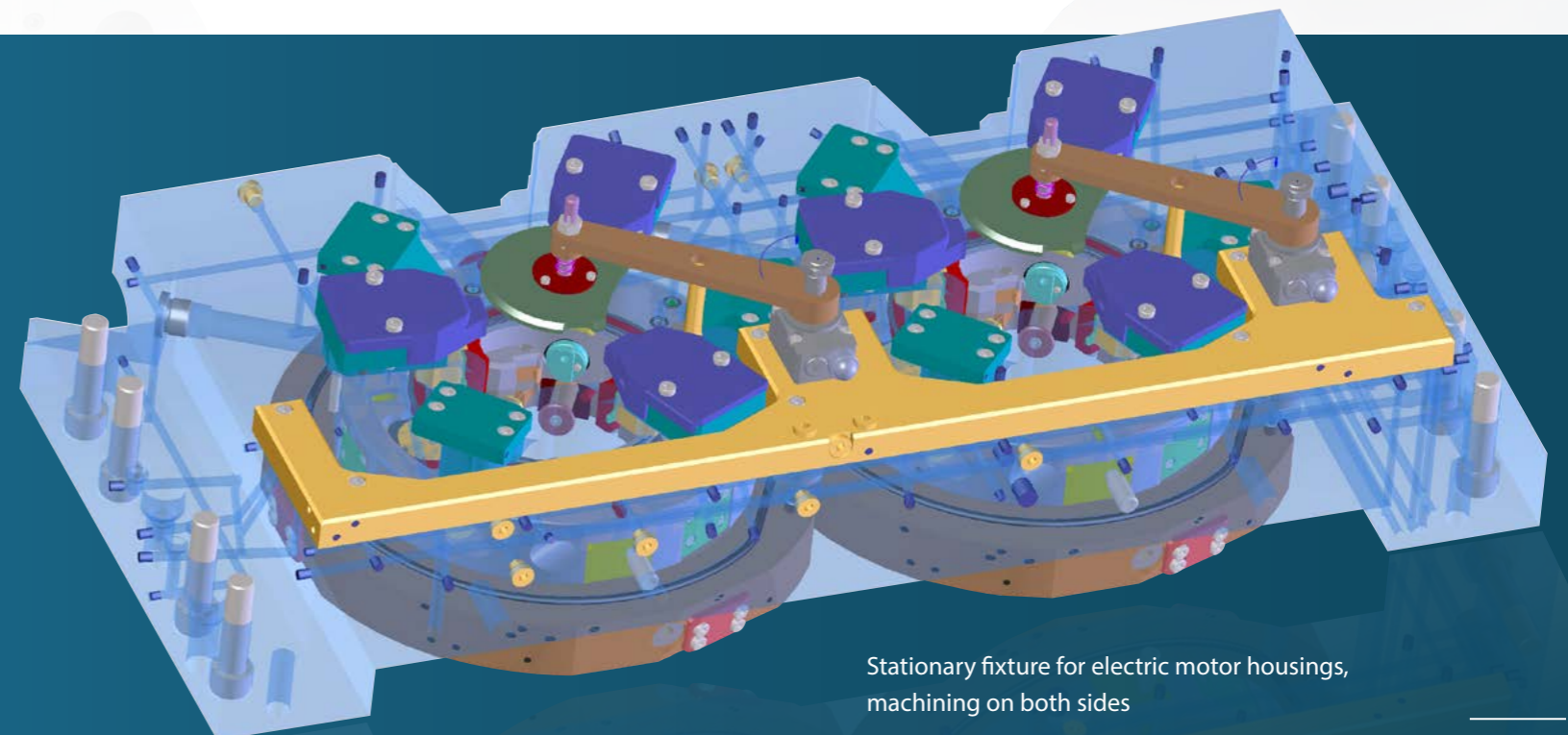
Technical Features:

- Versatile for many different clamping tasks
- Freely scalable chuck sizes
- Design with and without centrifugal force compensation
- Suitable for high cutting forces

STATIONARY DEVICES

For Highly Complex Requirements

Our special fixtures are primarily deployed for small installation spaces or very high accuracies. In many cases, the solution comprises a combination of stationary fixture and special rotary clamping technology from our extensive portfolio.



Stationary fixture for electric motor housings, machining on both sides

INDUSTRY 4.0 – CLAMPING 4.0!

Industry 4.0 includes the flexible control of the production process. This also gives rise to new requirements for innovative clamping technology.

The Case:

Different variants of a component in electric motors are manufactured to order in small and large series. A highly flexible clamping solution is required, that can handle this wide range of variants within a controlled process.

The Solution:

STIEFELMAYER has realised a basic chuck with eight different integrated clamping functions. For the different workpieces the corresponding clamping attachment is interchanged and mounted by a robot. This enables our customer an order-related production of the various workpieces in any series size - from a minimum of 1 piece.

In this way, Stiefelmayer's special clamping technology makes a contribution towards increased productivity and flexibility in the manufacturing process.

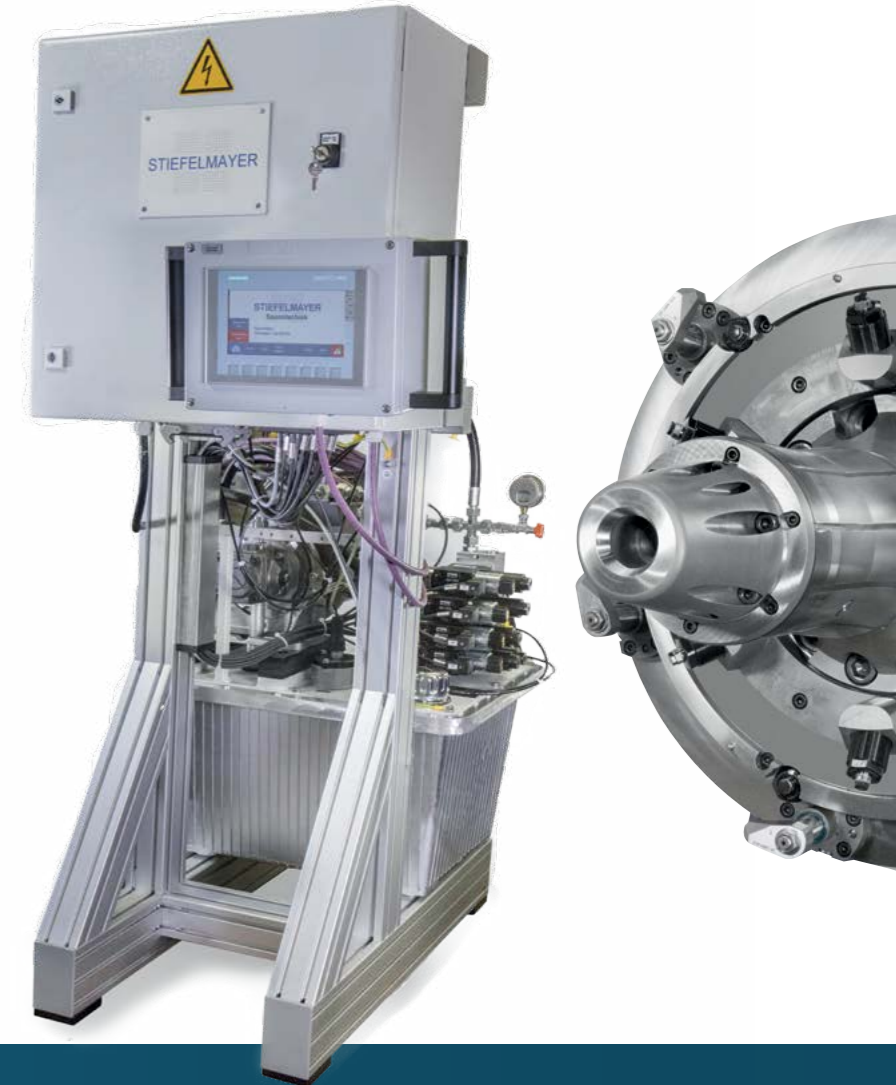


HYDRAULIC CONTROLS

Control Units for Existing Machine Tools

You would like to realise an innovative special clamping solution, but a conversion of your existing lathe is not possible or too costly?

For our special chucks we can offer pneumatic-hydraulic control units with several functions. This allows a simple retrofit of your machine without any intervention in the lathe's control unit.



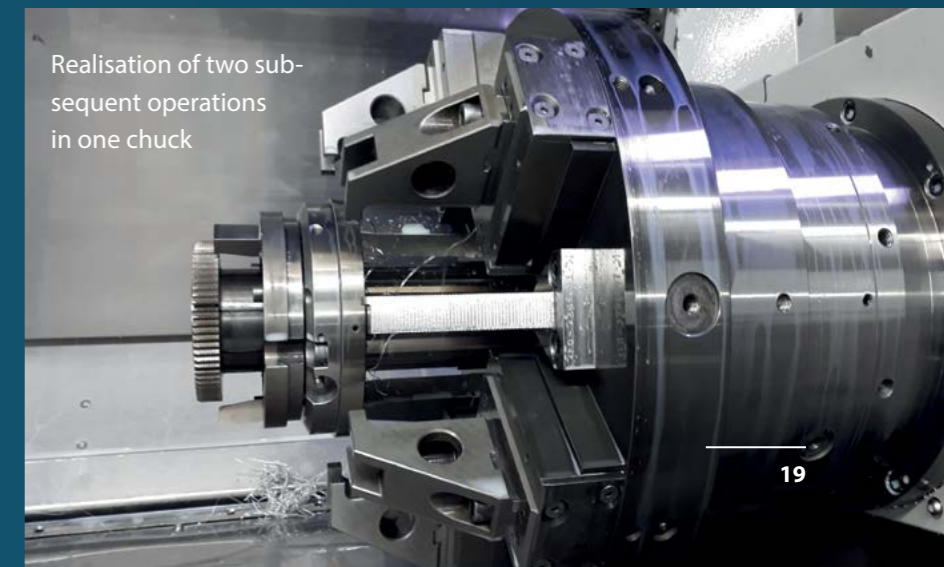
COMBINATION CHUCKS

Combined Clamping Chucks and Special Devices

Many special solutions involve several clamping principles at the same time. A common example is the combination of mandrels for centring and other chuck types for machining. You can rely on our extensive experience when it comes to developing the optimum solution.



Clamping mandrel, length 4000mm, with three clamping levels



Realisation of two subsequent operations in one chuck



CLAMPING SOLUTIONS

PRECISION FOR MORE THAN 30 YEARS.

As a well-respected partner of leading manufacturers of lathes and grinding machines and their customers, we offer advice, top-quality design, production and service for clamping tasks, leaving the standard solutions far behind.

Consulting

Design + Manufacturing

Service

STIEFELMAYER

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