SCHUNK

SCHUNK Engineering

Customized clamping solutions with precision

For individual tool and workpiece clamping

Hand in hand for tomorrow

Customized clamping solutions with precision
For individual tool and workpiece clamping

More than **85,000** customized clamping solutions

SCHUNK precision clamping solutions

Workpiece and tool clamping in the micron range

For more than 40 years, SCHUNK has been developing and manufacturing expansion toolholders and arbors for high-precision turning, milling, boring, gear cutting, grinding, inspection, assembly, and balancing. As an experienced partner, SCHUNK provides its expertise in hydraulic expansion, hybrid, and mechanical clamping technology, and develops tailored solutions together with you.

Tailor-made perfection

From the initial discussions through to integration of the finished clamping element in your processes, you benefit from our customer focus and development expertise. With our indivdualized engineering design, we ensure optimal adaptation of the clamping device to the workpiece and machine. More than 85,000 successful customized solutions for extreme requirements show: SCHUNK offers perfect made-to-measure precision clamping technology.

Your partner for precise clamping solutions

- Customized clamping solutions
- Optimal surface clamping for very high torques
- Multiple workpieces can be clamped
- Easiest handling
- Maximum run-out and repeat accuracy down to ≤ 0.003 mm
- Excellent vibration damping

It's time to use your machine's full potential! 100% solutions for clamping technology

With our clamping solutions, we want to make you sustainably competitve. It makes no difference to us whether you are striving for greater efficiency for your clamping task, or need to focus on innovative approaches to solutions in the search for feasibility.

Your direct contact to the specialist department
Special Hydraulic Expansion Technology
Tel. +49-7133-103-2555
Mail: sonderdehnspanntechnik@de.schunk.com

The SCHUNK Solution Guide

Solves 85% of all individual requirements

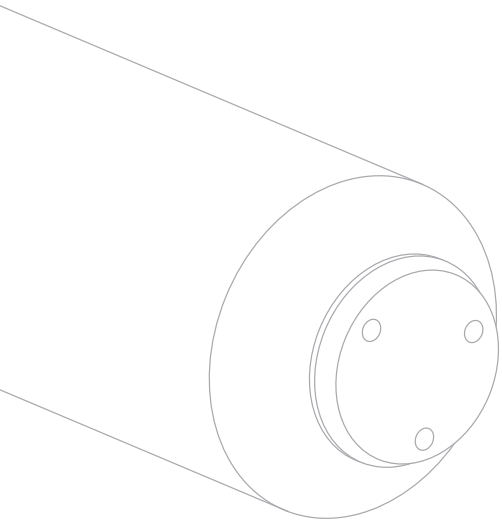
With the SCHUNK Solution Guide, we offer you one contact person for all clamping tasks. You receive maximum variance in the precision range with mimimum setup times. Due to the separation of functional components that are subject to wear, you can also achieve high cost efficiency.

Advantages:

- Suitable for I.D. and O.D. clamping
- Available versions: hydraulic, mechanical or hydro-mechanical
- Membrane chucks available

Customer benefits:

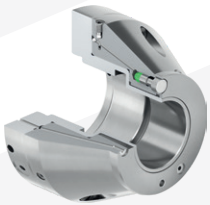
- Part-family production
- Variant production with similar geometries for small and medium series
- Just-in-time work orders with high cost efficiency



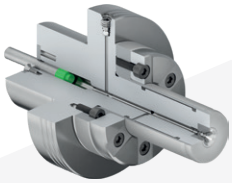
Your machine interface

Flange mounting with pressure intensifier

Flange mounting

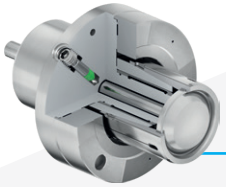


Base chuck



Hydraulic expansion arbor

Mechanical collet arbor



Hydromechanical expansion arbor

Expansion arbors for I.D. clamping

There are two variants of the Solution Guide:

Variant 1

Clamping tools adapted to machine interface with low part variety and no or few set-up operations

Advantages:

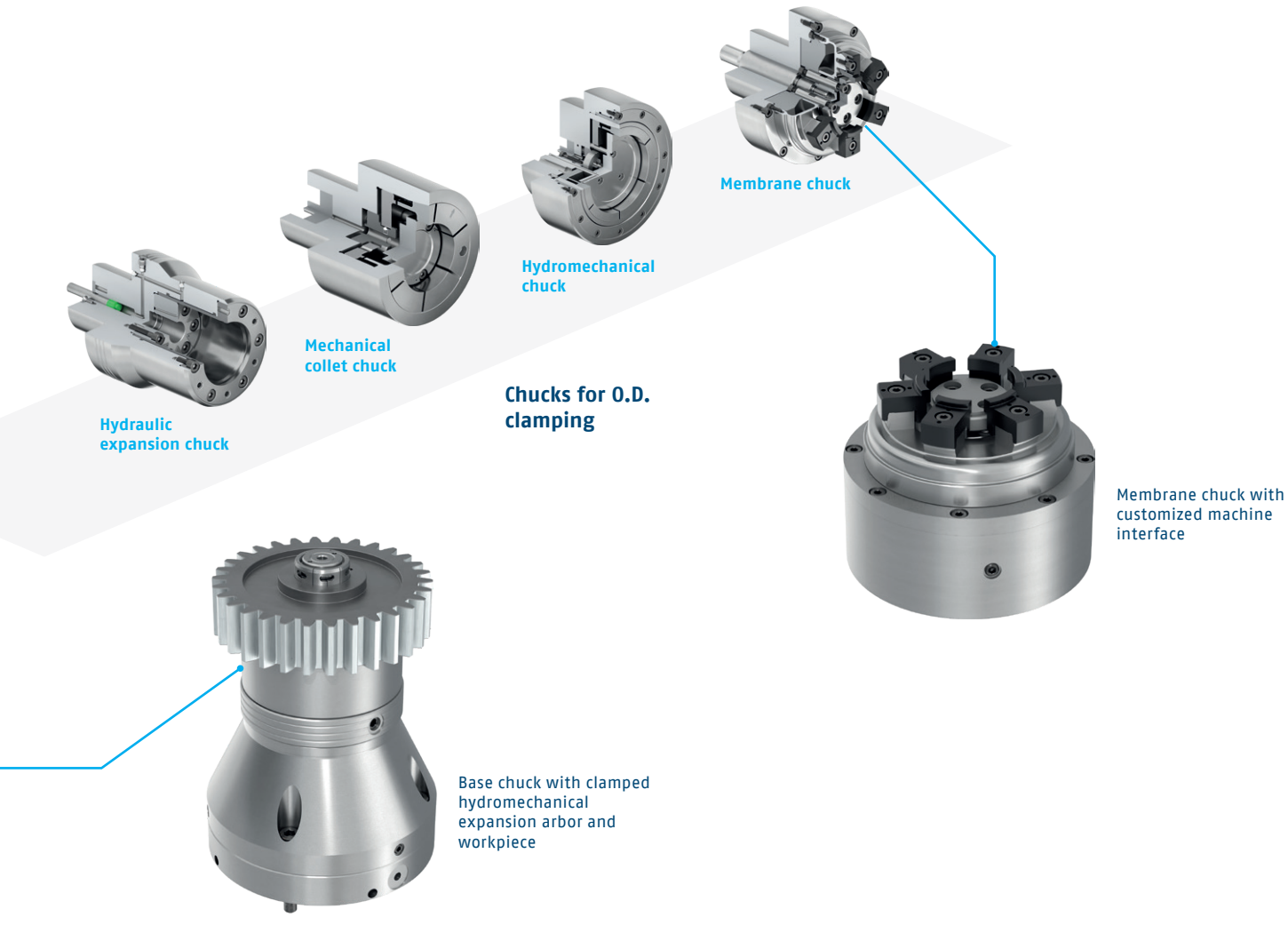
- Highest accuracy
- Only one interface to the machine

Variant 2

Clamping tools adapted to base chuck with high part variety and many set-up processes

Advantages:

- Base chuck adaptable to any machine interface
- Adaption of the respective model series
- Highest flexibility
- High accuracy due to base chuck with pullback effect
- Simple, standardized interface on the clamping tool

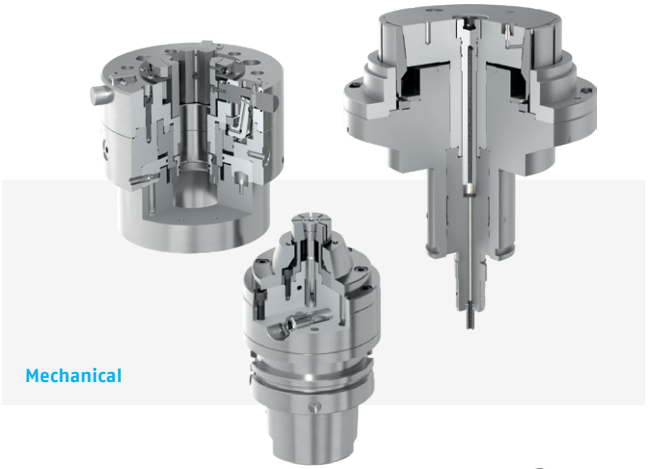


SCHUNK clamping technology – special solutions

For the remaining 15 % of all individual requirements

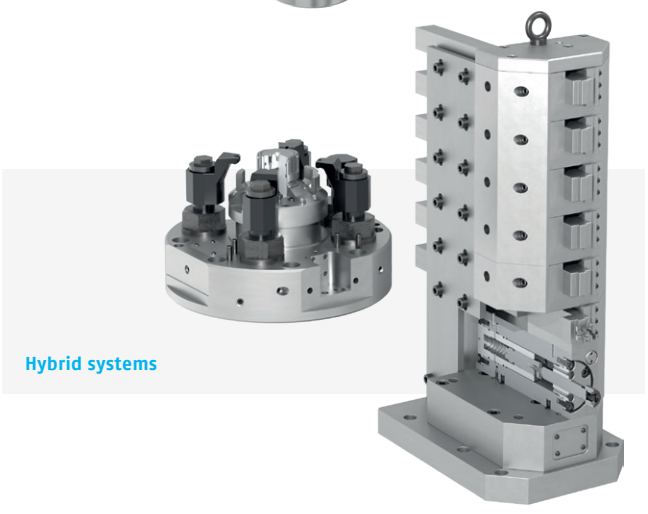
For your clamping tasks outside the Solution Guide, we can provide customized and on-point advice in accordance with your requirements based on our more than 40 years of experience. In terms of efficiency, variance, precision, and robustness of the clamping devices, we can offer you versatile basic modules to create a customized solution for you.

Via simulation, which we offer as an option, we create the suitable clamping device for you. It can be either mechanical, purely hydraulic or a hybrid solution.
For special solutions that require corresponding internal contours, we also manufacture clamping devices for you using additive manufacturing technology.

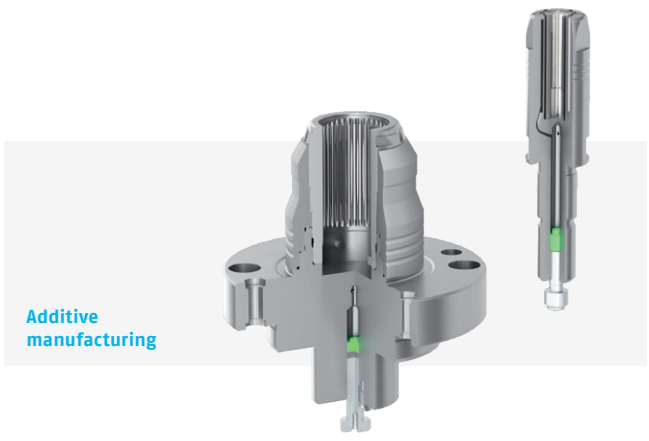


Mechanical

Hydraulic



Hybrid systems



Additive manufacturing

SCHUNK simulation services

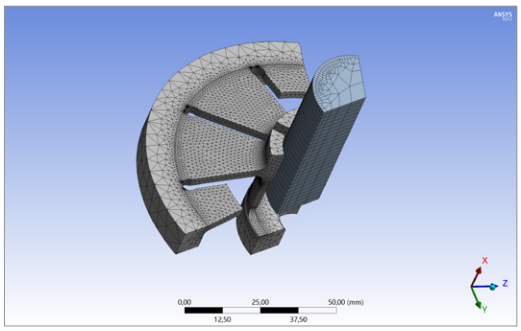
Perfection for your special cases

To optimize your machining processes, we simulate your tool and workpiece clamping process. We precisely design the clamping devices for your production processes. Other simulation options can be performed after clarification of all technical issues. We will be happy to provide you with a customized offer for this.

These are the advantages of simulations:

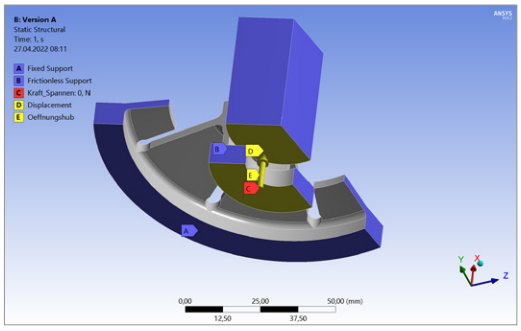
- Process reliability
- Precise design of the clamping device
- Longer service life of the clamping device
- Shorter time to market

This is how simulation works:



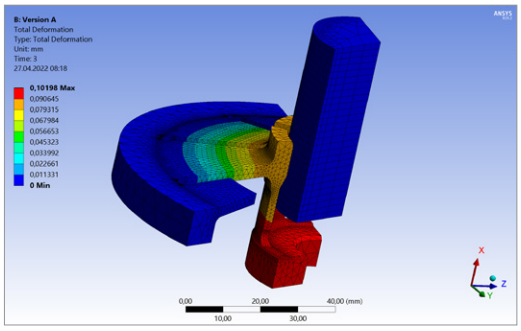
1. Analysis of the initial situation and joint definition of requirements

- Definition of requirements for accuracy, deformations and clamping forces
- Evaluation of the clamping situation, boundary conditions and loads



2. Simulation and evaluation

The results provide information on the clamping forces, deformations, stresses, and service life



3. Optimization potential

Upon customer request, further simulations can be created based on the obtained results

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