

Superior Clamping and Gripping



## **SCHUNK Clamping Technology**

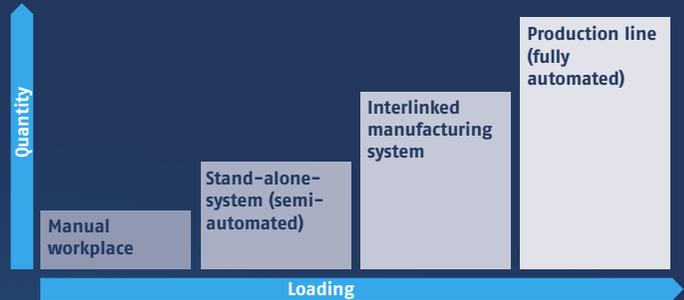
Solutions for Medical Technology



## SCHUNK Stationary Workholding

### The largest modular system for machinists

With SCHUNK's complete product line of stationary clamping devices you will benefit from the most comprehensive standard modular system for efficient workpiece clamping. More than 1,000 combinations of pneumatic, hydraulic, manually or magnetically actuated clamping solutions allow flexible, efficient clamping of various workpiece geometries.



VERO-S NSE mikro



VERO-S NSE mini



VERO-S NSE3



TANDEM KSP plus



KONTEC KSC

### VERO-S

#### Quick-change Pallet Systems

VERO-S is the basic interface and is located directly on the machine table. Due to its modular design, the quick-change pallet system reduces set-up costs up to 90%.

### TANDEM

#### Clamping Force Blocks

Clamping force blocks combine high clamping forces with long jaw strokes, regardless of actuation method.

### KONTEC

#### Manual Clamping Systems

Manual KONTEC clamping systems make your production even more efficient. When combined with VERO-S, long set-up times are a thing of the past.

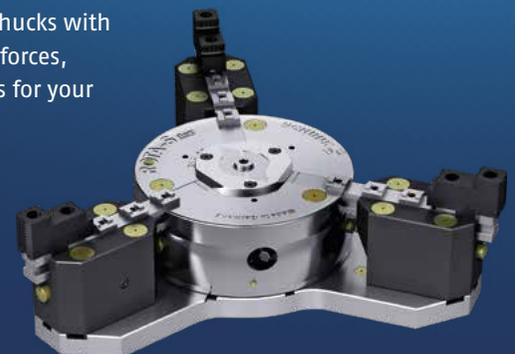


ROTA-S plus 2.0

## SCHUNK ROTA Lathe Chucks

### For demanding metal cutting jobs

From universal manual lathe chucks to lathe chucks with jaw quick-change system, and high clamping forces, SCHUNK offers the most adaptable lathe chucks for your application.



ROTA-S flex

## SCHUNK Clamping Technology Solutions for the Medical Technology

SCHUNK knows the requirements of the industry and is dedicated to supporting the medical technology industry by offering precise workpiece clamping devices. Customers receive innovative products made in Germany that are the best clamping devices for any component. Our broad product line comprises efficient solutions for large or small components, as well as single-item and mass production.

### Example ①: Production of Femoral Head Prosthesis with SCHUNK Lathe Chucks

ROTA THW plus 185 quick-change chuck with special jaws and ROTA-NCR 200 6-jaw chuck with optional jaw quick-change and special jaws

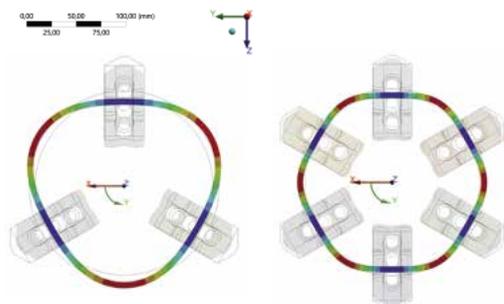
Deformation-sensitive workpieces require special attention. If the clamping forces are too low, it is difficult to achieve a safe hold. If clamping forces are too high, parts can deform, and the required precision cannot be met.

SCHUNK outlines the alternatives, how they differ, and how fast and efficient an optimum result can be achieved.



#### SCHUNK – Well prepared for Finite Element Calculation (FEM)

Workpiece deformation is precisely calculated via FEM, and the clamping solution is adjusted accordingly.



3-jaw clamping

6-jaw clamping

The easy way to compare and optimize options of clamping technology.



# SCHUNK Clamping Technology

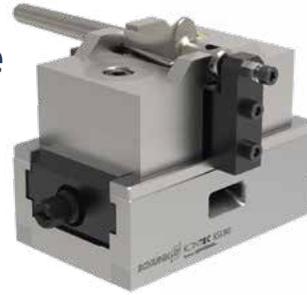
Solutions for the Medical Technology

## Example ②: Machining of Implants using the SCHUNK VERO-S Quick-change Pallet System combined with KONTEC KSC for Workpiece Clamping

Stationary workholding from SCHUNK offers optimum workpiece accessibility, especially in the field of 5-axis machining, and covers a broad range of workpieces.

### Benefits:

- Optimum clamping technology solutions
- Productivity booster
- Solutions do not depend on quantity and workpiece requirements
- No special clamping devices needed
- Full use of existing machines' performance



## Example ③: Production of Bone Nails with SCHUNK Tombstones

A SCHUNK tombstone plays a key role in finding the best solution for difficult machining tasks, and provides the foundation for achieving best machining results.

### Benefits:

- Optimum workpiece accessibility
- Consistently high clamping forces
- High packing density



## Example 4: Production of Knee Endoprosthesis (knee-TEP) with SCHUNK VERO-S SPM Quick-change Pallet System

Clamping in a fixture membrane.

### Benefits:

- Active jaw pull-down effect
- For multiple use
- Suitable for any workpiece geometry



Perfect for especially delicate and thin-walled workpieces with different geometries



Reduction of set-up time is "so simple"



Mill off the workpiece contour



Insert the workpiece



Machine the workpiece



## Example 5: Production of sled Prosthesis with SCHUNK KONTEC KSC

Set-up via centric clamping vise KONTEC KSC on a clamping pallet or pyramid.

**You will always find the best solution from the SCHUNK modular system!**

**Benefits:**

- Maximum precision
- Highest repeat accuracy on clamping station and workpiece
- Perfectly suited for automated machine tools

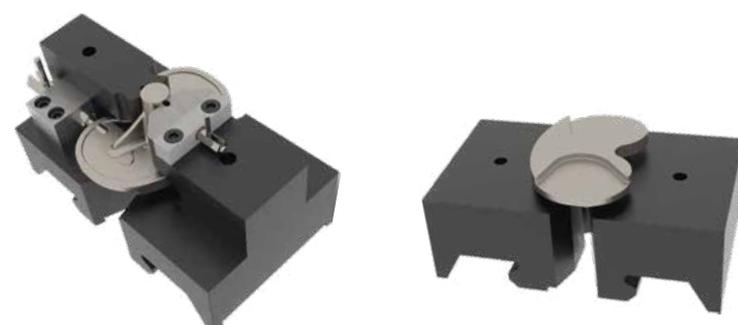


## Example 6: Production of Tibia Components (Material: Titanium) for Knee Implants Tombstone with TANDEM KSP plus 160-BWM

Clamping via tombstones with TANDEM KSP plus 160-BWM (jaw quick-change) for different sizes and types of tibia components.

**Benefits:**

- Twelve clamping units increase spindle efficiency
- Simple and fast loading and unloading via toggle switch
- Fast and simple set up by jaw quick-change feature
- Consistent clamping condition due to the use of pneumatic clamping blocks



## VERO-S and KONTEC for manufacturing Micro Scissors.

The specialists for surgical instruments, in particular for micro scissors used for delicate surgeries, such as heart, vein, brain, oral, and maxillofacial or eye surgery.

### Benefits:

- Very flexible. Reduces set-up times for several machines
- Highly cost-efficient when used for small batches since the complete clamping system is exchanged instead of the chuck jaws

