Clamping tasks in manufacturing technology are versatile and numerous; the elements and systems supplied will gain ever greater importance in the future (due to the requirements placed on short setup and manufacturing times). When selecting suitable clamping equipment, reliability, cost effectiveness, user friendliness and the technical details are the most important factors. Additional aspects are increasing quality, flexibility, and ergonomics in the work area. The mechanical clamping elements from JAKOB with multiple patented power amplification systems and hydromechanical clamping systems meet the high requirements of the user.

**Characteristics:**
- highest clamping forces
- low actuation torques
- large operation path
- high operational safety
- clamping force control
- easy installation
- economical clamping technology
- more humane workplace
- reduced risk of accidents
- simple, manual operation or automatic mode
- versatile application through compact and flexible design

**Clamping elements with power amplification:**

This clamping element group includes mechanical power clamping screws, power clamping nuts, eccentric block type clamps and sectional rail couplings. They are designed for manual operation with simple handling but at the same time allow very high clamping forces. The manual actuation torque is used for clamping force monitoring. Various clamping mechanisms such as key systems, planet gears, eccentric principles and pressure distributors are used for power amplification. The sturdy design, the self-locking feature and a very high overload capacity ensure maximum reliability and long time life in this clamping element.

**Hydromechanical spring tension systems**

The hydromechanical spring tension system is characterized especially by high reliability and low operating costs. The clamping force is actuated leakproof by a disk spring packet while the hydraulic pressure is only required for the release process. This results in highly compact, sturdy and reliable clamping elements, such as spring clamping cylinders, spring pressure cylinders, spring clamping blocks and spring clamping nuts.

**Clamping hydraulics - multi-piston system**

The multi-piston system is a true innovation in the hydraulic clamping sector. Several small pistons, which are interconnected using hydraulics, can be arranged concentrically or in any other geometric formation. The highest possible clamping forces can be generated thanks to a sealing, guaranteed to be leakproof up to 1500 bar. Other important benefits worth mentioning are the spring reset in the piston and the oil return during the release process.