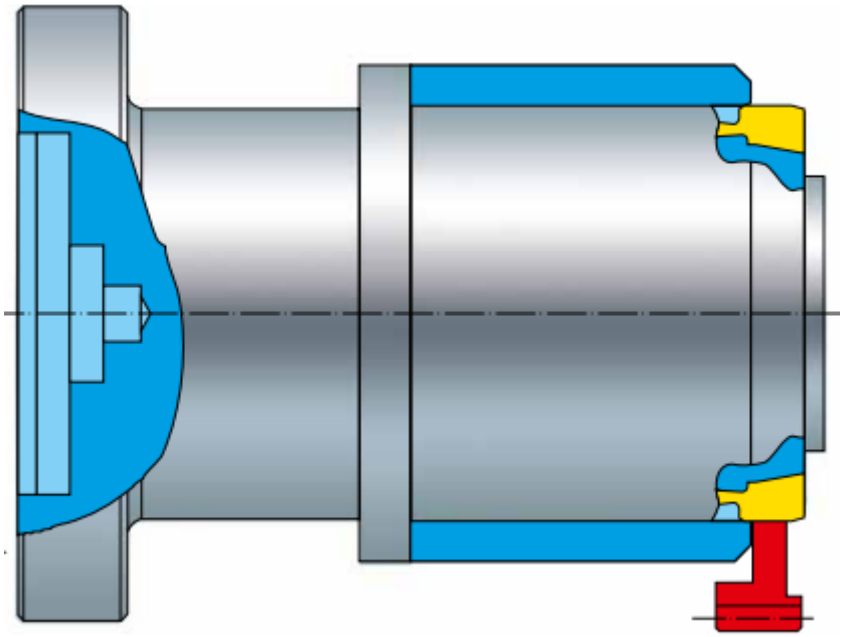


KÖNIG-MTM – SINGLE TAPER CLAMPING SYSTEM

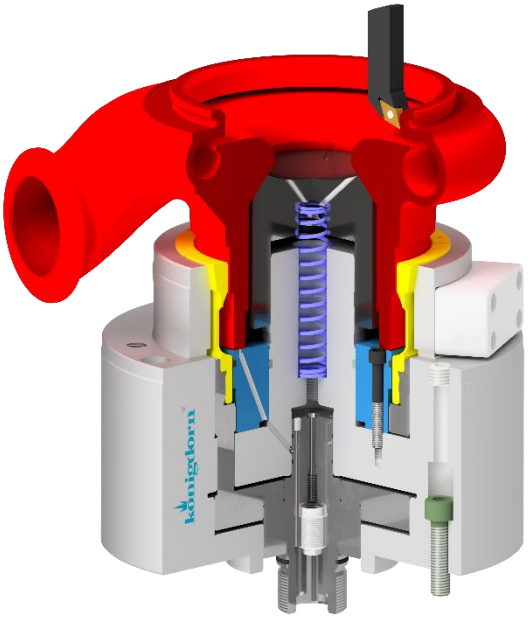
Resulting from substantial experience in clamping technology, König-mtm is developing tailor-made mechanical clamping tools, that cover a wide range of workpiece geometries by means of high loading clearance. This high workpiece flexibility leads to reduced tooling expenses and higher productivity, meeting the basic requirement of more efficient machining operations. This is an important condition for a very economic production. The mechanical clamping tools from König-mtm include the single taper clamping mandrel, which is described in this article.

Application area

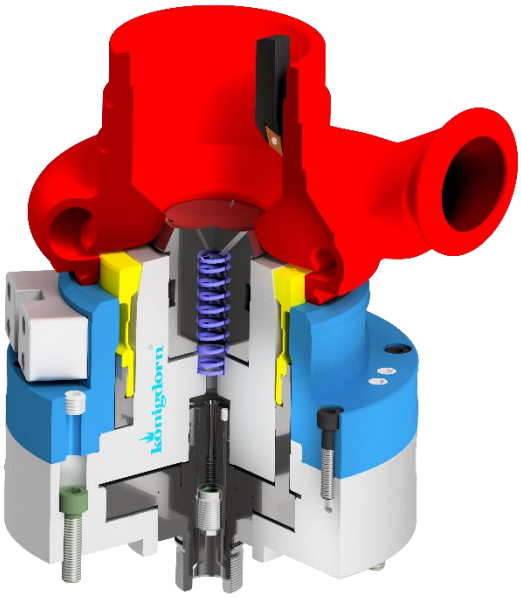
The single taper clamping system from König-mtm is especially suitable for very short clamping lengths, large workpiece diameters and accordingly large tolerances. The axial movement of the slotted collet via the single taper leads to radial expansion of the clamping area. And not only that - the workpiece is thereby centered, clamped and generates at the same time an axial pull-down. The actuation takes place by hydraulic machine pressure, via the pulling or pushing force of the machine or via the tailstock side.

Product benefits

- High loading clearances
- Reduced tooling set-up expense, high productivity
- Short clamping lengths
- High workpiece tolerances possible
- Run-out accuracies up to 0,003 mm achievable
- High lateral rigidity due to flat-face contact of the workpiece
- High torque transmission
- Symmetrical expansion of clamping collet



Example 1: Clamping chuck for the 1st machining step



Example 2: Clamping chuck for the 2nd machining step

Case study

The two clamping devices for turning a turbocharger housing are examples of the application of a single taper clamping system from König-mtm. The workpiece is clamped in the first machining step at the outer contour on a high precision clamping chuck and placed on a support ring. For machining the inner contour of the opposite side, the workpiece is clamped on the contour already turned in the first machining step by the Königdorn®. The additional pneumatic workpiece support control ensures a safe working process. To protect the clamping device and the machining process from chip accumulation, both clamping devices have a spring-loaded protective cover with holes for a flushing air. Furthermore, both clamping devices have cutouts on the outer contour in order to be able to blow out the dirt via the flushing air and to guarantee a smooth automated process. The significant imbalance of the workpiece is compensated by an additional balancing weight mounted on the balanced fixture, so the clamping devices are suitable for the high speeds of turning operations.

Our application engineers are available for you and will be happy to advise you.

Kempf, Jürgen
Head of Application Engineering and Sales
+49(0)9342876-290
kempf@koenig-mtm.de

Lutz, Alexander
Technical Application Engineer
+49(0)9342876-240
alexander.lutz@koenig-mtm.de

Breunig, Thomas
Technical Application Engineer
+49(0)9342876-185
breunig@koenig-mtm.de

Münch, Tobias
Technical Application Engineer
+49(0)9342876-164
muench@koenig-mtm.de