INNOVATIVE CLAMPING TECHNOLOGY FROM KÖNIG-MTM FOR HIGH-PRECISION HARD TURNING OPERATIONS

In order to meet current market requirements and the ever-increasing quality demands of hybrid and e-mobility, König-mtm has developed and manufactured innovative clamping solutions for the machining of turned parts used in the demanding, new, drive concepts.

For example, our high-precision collet mandrel for turning a ring gear, which is equipped with complementary equipment that enables process-reliable machining. The end user turns the front and rear sides, the bore of the welded-on sheet metal disc, as well as the face side and the outside diameter of the ring gear in one clamping. The workpiece is clamped on the tip circle diameter of the internal teeth and axially applied to the face side, directly adjacent to the toothing. The automatic clamping process is activated by the hydraulic power clamping cylinder of the machine spindle and is therefore ideally suited for loading by a robot.

The clamping device is equipped with part present control, so that the loading process is subject to monitoring, which prevents costly collisions and the resulting rejects. A special rinsing insert can be used to produce a high-quality surface when back-turning the difficult-to-reach rear side. A spring-loaded clamping system is also integrated in the flushing unit, which stabilizes the welded-on sheet metal blank and counteracts vibrations during processing.

IDEAL FOR AUTOMATED LOADING OF THE KÖNIGDORN®

The weld seam is also ground over with a grinding wheel integrated into the machine concept in order to level out the transition of the joint.

König-mtm also guarantees a concentricity of 0,008 mm in this size segment in order to be able to produce the components in a highly accurate and repeatable quality. This clamping solution has been developed as a modular system and can therefore be converted very quickly to other workpiece sizes, and for other operations. This increases productivity, minimizes set-up times and reduces storage costs for necessary spare clamping devices.

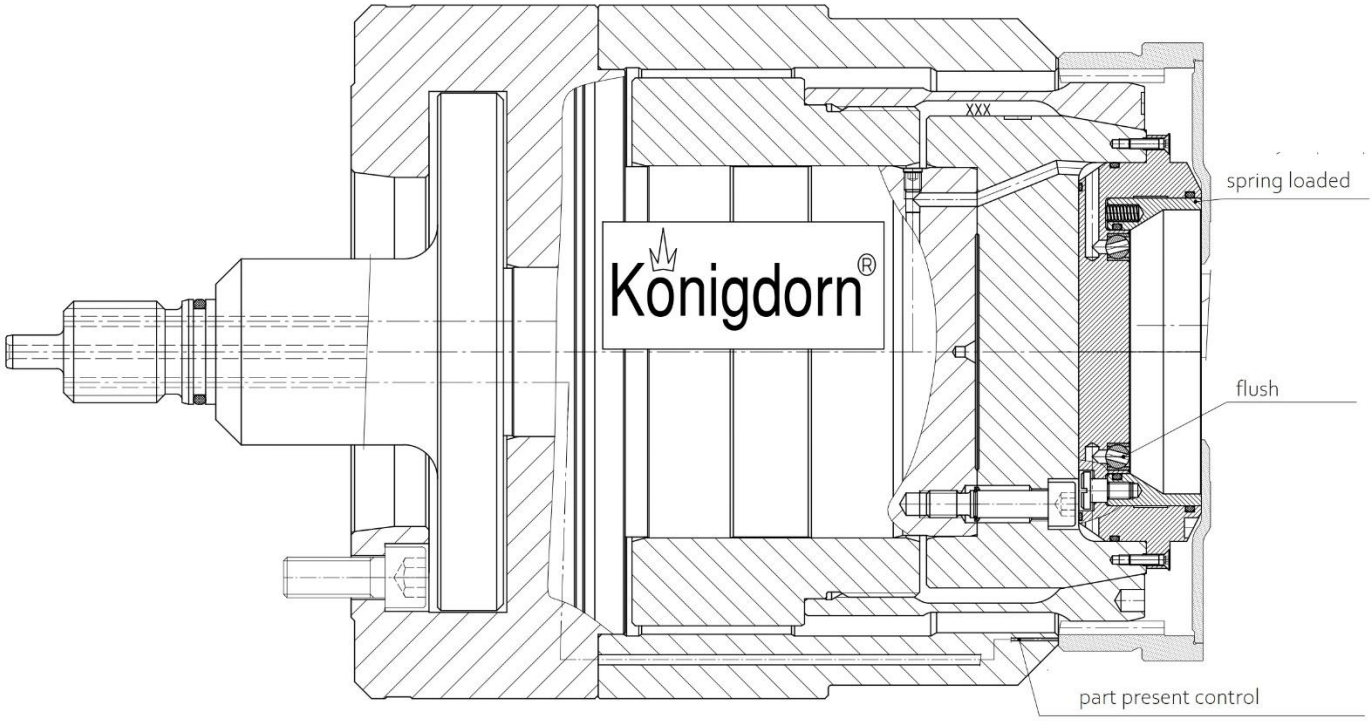

Illustration 1: Clamping device for high precision hard turning operation

Our Application Engineers are available for you and will be happy to advise you.

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