

Press release no.: 2017-09-29

Date: 29.09.2017

New side lock chucks for cylindrical shanks with HB clamping surface

Strong clamping, simple handling, improved run-out

In many production facilities, Weldon tool holders are used as the standard chuck for solid carbide milling cutters. However, the design of this type of chuck limits its application. Indeed, the tolerances of the fit for the tool adapter are high (at a clamping diameter of 20 mm, the maximum clearance is already 22 µm). This results in a large run-out error that causes imbalance, as well as wear on one side of the tool, creating adverse effects on machining quality. The tolerance of the tool's clamping surface is not precise enough to be used for axial fixing, which means there isn't always a secure connection between the clamping screw and clamping surface. This can hinder process reliability. Reliably clamping a tool in a standardized Weldon tool holder also requires a high clamping force, which can only be achieved by using a torque wrench.

In contrast, the new side lock chuck from MAPAL impresses with its strong clamping, simple handling and greatly improved run-out. The locating bore is accurate down to the single-digit µm range, meaning that it is manufactured with far greater precision compared to previous versions. This reduces the radial clearance of the clamped tool and greatly improves the run-out. In addition, in order to compensate for the large tolerance on the lateral clamping surface, MAPAL has used a patented spring element in the tool holder, which makes it possible to achieve a well-defined form fit between chuck and tool. Also, cooling ducts in the clamping area, parallel to the axis, ensure better coolant distribution.

A two-piece clamping element is used to make handling much easier. This allows the tightening torque to be reduced, while maintaining the same level of clamping force. As a result, the tool can reliably be clamped by hand, without using a torque wrench.

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New side lock chucks for cylindrical shanks are available with clamping diameters of 12 to 32 mm for HSK-A100 and HSK-A63.

Captions:

The new side lock chuck from MAPAL impresses with its strong clamping, simple handling and greatly improved run-out

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Words:	327
Characters:	1,667
Characters with spaces:	1,991

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Short profile MAPAL Dr. Kress KG

MAPAL – tooling the customer's success

MAPAL Präzisionswerkzeuge Dr. Kress KG is one of the leading international suppliers of precision tools for the machining of practically all materials. The company founded in 1950 supplies leading customers from the automotive and aerospace industries and from machine and plant engineering. With its innovations the family-owned company sets trends and standards in production and machining technology. MAPAL sees itself as a technology partner, supporting its customers with the development of efficient and resource-conserving machining processes using individual tool concepts. The company is represented with production facilities, sales subsidiaries and representatives in 44 countries worldwide. In 2016 the MAPAL Group had 5,000 employees, generating sales of EUR 575 million.