



MANUFACTURER OF
 HONING TOOLS | GRINDING TOOLS | POLISHING TOOLS

**THE PRECISION TOOL
 MANUFACTURER HJB SA BECOMES
 MU-TOOLS SA**

Mu-Tools are working to ensure a seamless transfer from the previous honing tool manufacturer, which has been based in the canton of Neuchâtel in Switzerland for over 55 years, to MU-TOOLS SA, the achievements of the past decades are being continued with the innovative drive to improve. With the experience of more than half a century of research, development and production of honing tools, manual honing devices and honing machines, a wide range of solutions are developed to meet even the most complex requirements of the market.

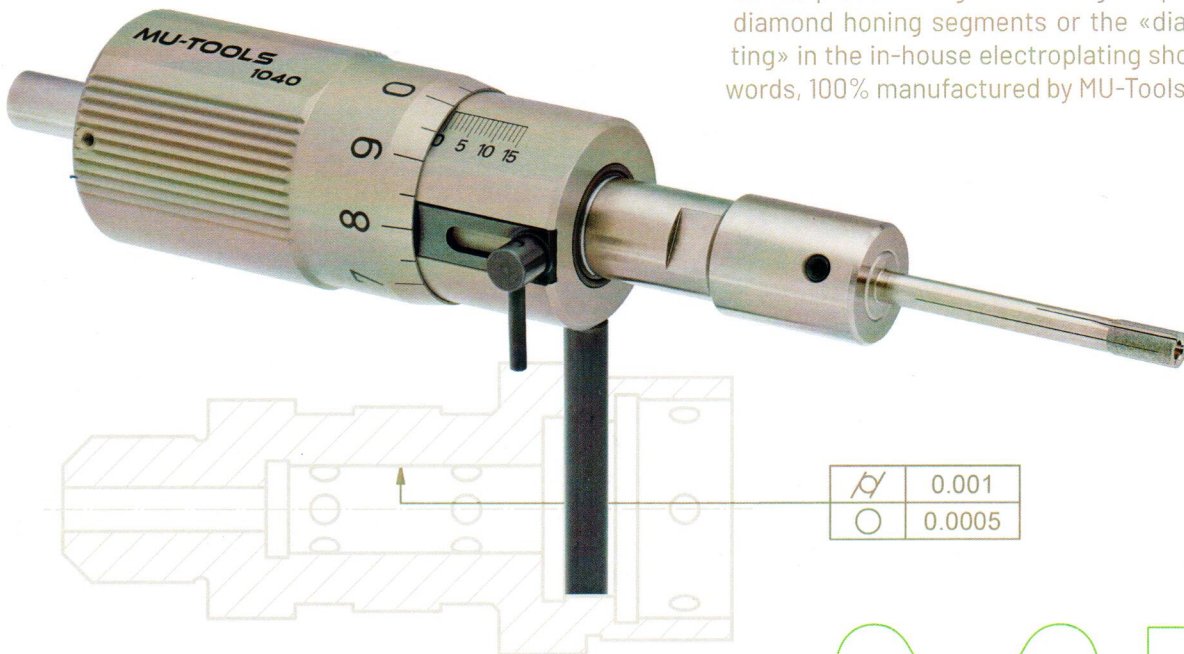
These include:

MU-Tools produces the smallest expandable diamond honing tools in the world with \varnothing 0.6 mm and \varnothing 0.7 mm.

MU-Tools has specialised in the production of blind bore honing tools from a bore diameter of «only» \varnothing 1.5 mm. Even parallel expansion down to the bottom of the blind bore - even without an undercut - is possible.

MU-Tools also specialise in the development of honing tools for bores of different sizes on the same axis, for bores with interrupted cut or for bores with large transverse bores.

And everything is guaranteed to be 100% Swiss made! Mu-Tools has total control of the manufacturing process from the supply of material through all the process stages including the plating of the diamond honing segments or the «diamond coating» in the in-house electroplating shop. In other words, 100% manufactured by MU-Tools!



«KNOW-HOW»
 HONING DIMENSIONAL ACCURACY
 SURFACES SHAPE/LAYER GEOMETRIES





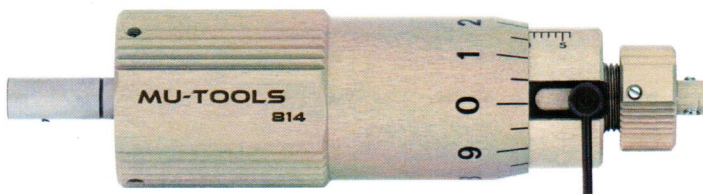
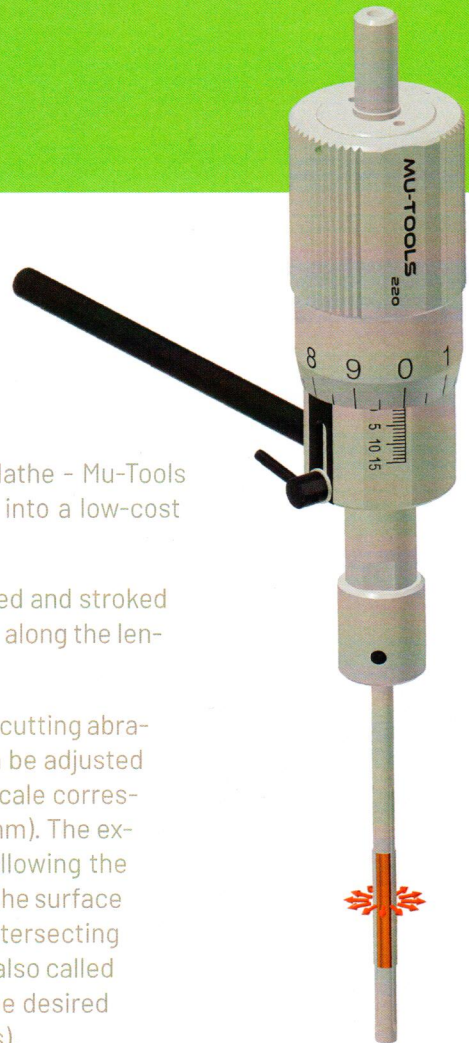
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MANUAL HONING APPARATUS

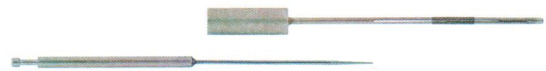
Mounting on an existing machine – like a drilling machine or a lathe – Mu-Tools offers a range of hand honing devices which can be converted into a low-cost honing machine, depending on the bore size to be honed.

The adjustable honing tool is inserted into the bore to be machined and stroked by the combined motion of rotation and oscillation (back and forth along the length of the part).

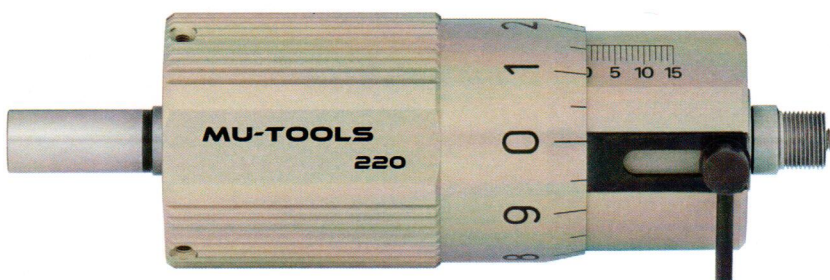
The cutting edges of the CBN or diamond grits, which are used as a cutting abrasives, are pressed into the bore, whereby the pressure (infeed) can be adjusted with the aid of a micrometric drum. Each graduation mark on the scale corresponds to an expansion of the tool diameter by 1 micrometre (0.001 mm). The expansion of the honing tool, which is done precisely by hand, thus allowing the cutting pressure of the Diamond / Borazon to be adjusted. This gives the surface of the inner wall of the cylinder its characteristic appearance, with intersecting grooves running diagonally in the cylinder (usually at an acute angle), also called cross-hatching. This gives the cylinder defined surface finish with the desired residual adhesion for the lubricant used (e.g. hydraulic oils, engine oils).



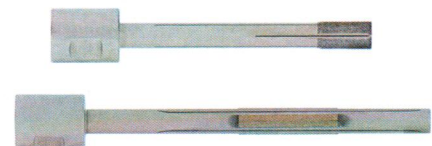
Hand honing apparatus **MU-TOOLS 814** for \varnothing 0,6 to 1,4 mm



Honing tool **MU-TOOLS 844** for through bores
 Expansion pin **MU-TOOLS 814** for honing tools 844



Hand honing apparatus **MU-TOOLS 220** for \varnothing 1,5 to 20 mm



Honing tool **MU-TOOLS 1004** for blind bores
 Honing tool **MU-TOOLS 506** for through bores