

Pewetools
Limited

PWWT™

QUICK CHANGE TOOLPOST

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Constructional and other special features of our quick change systems

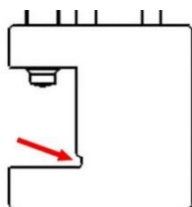
If someone looks at the market of these quick change systems realizes very quickly that since the patent application 1943 by the Swiss J.F. Minder there were no substantial innovations. Many copied, but you do not really see new or improved products. Someone could almost believe that the market and the users think, that the highest level of perfection has already been reached.

We do not think so! And that's why we've already implemented many ideas. Our products are constantly being developed and we always incorporate changes into ongoing production. It may be that one of our ideas may already be copied, but the entirety is unique. All constructive changes or differences to many other manufacturers and dealers are ultimately to the benefit of the buyer and thus significantly increase the value of what you get for your money.

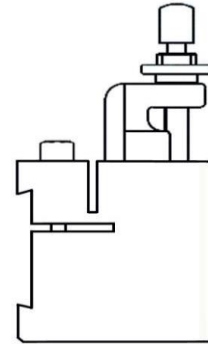
The decision for the right system is so important because with good care it can be an investment for generations. Cheap and even cheaper (actually means bad and even worse), this is not a big deal, everyone can do that. With 9 system sizes and currently 95 holder variants, we have the biggest offer, almost twice as large as all other manufacturers worldwide combined. So do not only decide prematurely on the price, it is not unimportant, but only to decide afterwards is simply wrong.

The list of our specialties is meanwhile quite long:

- 1) We use special material for the holders. Cheap products are made out of C45 (1.0503 / SAE1045) which is a universal steel, not bad but not great. Our holders are made out of 41Cr4 (1.7035 / SAE5140) which has for example about 40% better tenacity than C45 (you can control this in the official data sheets) and this material has less problems with rust.
- 2) Further, the material for the tool post is even better! It is 20MnCrTi (1.7147 / SAE5120) instead of C45 which also has up to 40% better tenacity and this material has less problems with rust.
- 3) The hardness of the tool holders are like the original Multifix product, 42-46HRC. This means less wear.
- 4) The hardness of the quick change tool post is like the original, 55-60HRC. This means less wear.
- 5) Individualized hardness certifications, made by us in Germany, are supplied with each tool holder and the center post of a set.
- 6) The teeth of the tool holders and posts are cut by wire-EDM to finished dimension in order to achieve high quality dimensional accuracy.
- 7) The undercut in tool holder type "D" improves the stable installation of cutting tools (this is not an "invention" of PWT, but not all providers include this feature.)

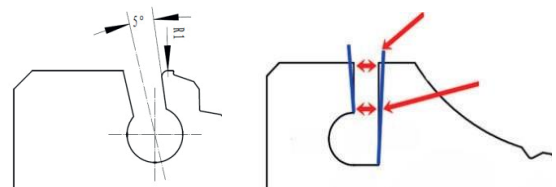


- 8) Unique tool holder construction for Aa, AS, A, E and B PWT quick change tool post system sizes utilizing HSS and carbide insert part-off and grooving tool blades.



- 9) Configuration changes were made to the tool holder guide/clamping slot design to facilitate tool holder installation on the post.

- 10) The center of the tool post has 40 teeth

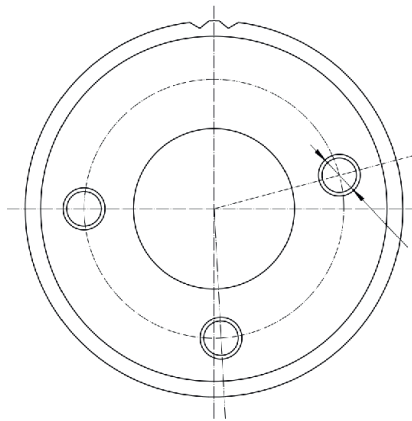


and so when you unload the holder you can turn the post shell to find a new position. The chore is quickly finding the position where the holder and post mate. To make this easier, our tool post will "click" into each of the 40 positions and stay there to make.

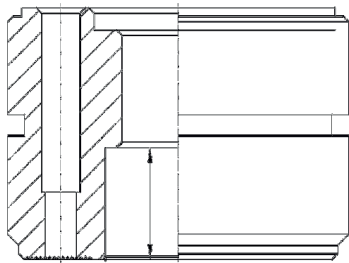
- 11) The tool post clam-shell clamp incorporates two spring-loaded pins as well as internal fixed guide pins that engage a groove around the post (for all sizes from AS onwards) to hold the clamping shells tightly and securely around the tool post body thus maintaining the selection of 40 possible positions.



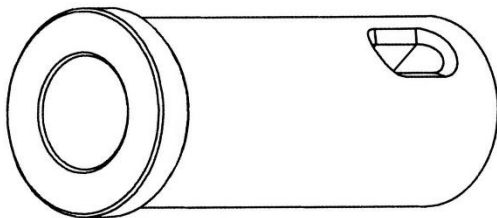
- 12) Three staggered dowel pin holes (pin is included tool post kit, dowel pin is inserted into the lathe compound top slide) located in the tool post bottom surface increases the 40 possible adjustment positions to 120 by engagement of the various pin positions. The post must be removed, indexed to a new pin position and reinstalled to take advantage of this feature.



- 13) The bottom side of the tool post incorporates a large diameter deep recess to facilitate various mounting stud options. There is sufficient space for a large locking nut to fit up into this cavity.

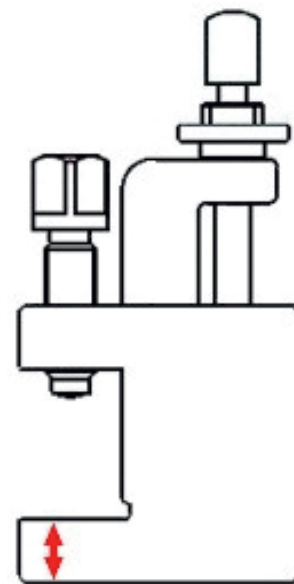


- 14) Special MK3-sleeves are available for tool post sizes AS, A and E (use with ASJ3070, AJ3080 and EJ30100 tool holder)

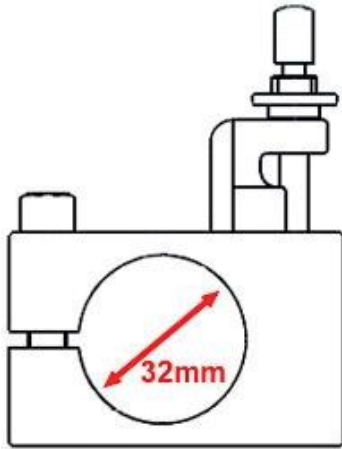


- 15) One of the biggest problems with producing holders and tool post of this QCTP type is, that most producers are not able to achieve and maintain original tolerances of the inventor. We guarantee that our holders and tool post match the original quality and to insure that we deliver on this promise, we check every single PWT tool holder with an original Multifix tool post of the inventor and we check every single PWT tool post with an original Multifix tool holder. PWT performs a 100% dimensional accuracy quality check.

- 16) There is a special modification in the holders AD1675 and AD1690. Sometimes you do not have sufficient distance between the surface of the top slide (compound rest) to the spindle centerline. When this happens the cutter shank size must be reduced to get the cutting edge on center. So if the tool holder of a QCTP is too tall, you are not able to use the optimum cutting tools. You might be forced to use 1/2" high tool instead of a better 5/8" shank size cutter. Exactly for this situation we modified our holders (this is not an invention of ours, but not all suppliers have this feature).



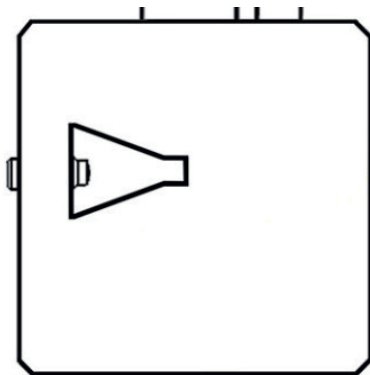
17) We offer a special holder "J" for system sizes AS, A and E that can hold a high speed grinding spindle. The diameter of this type of grinding spindle must be 32mm or smaller.



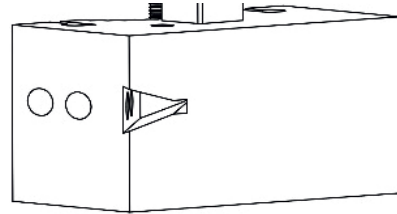
18) We offer the special holder AaJ. The standard holder is AaJ1550 and has a hole with a diameter of 15mm. In addition we offer a special holder with a 16mm diameter hole to hold round standard tools with a diameter of 16mm (AaJ1650)

19) Special holder in size Aa to hold tools with a MT1 shank

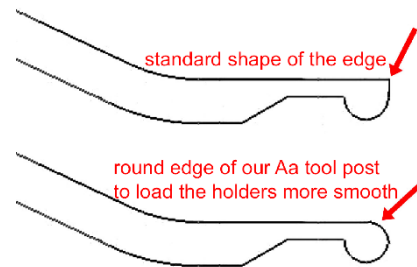
20) Special holder in size Aa (AaTR) is offered to hold a special tool of the German company Horn AG for grooving (internal), boring and facing of small diameters.



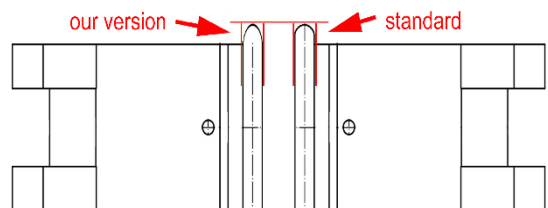
21) Special holder in size Aa (AaTR40) is offered to hold a special tool of the German company Horn AG at a 45° angle to the turning axis for grooving (internal), boring and facing.



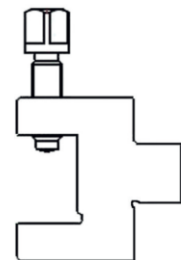
22) Optimization of the clamping shell of the body Aa for smoother operation.



23) Optimization / change of the radiusing on the engagement pin for easier installation of the holder. Here is a schematic representation of 2 half-shells contrasted for comparison



24) Three adapter sizes are offered to allow use of larger cutting tools than the tool post is designed to use. One model adapter allows the use of 16mm in the holder AaD1250 (regular limited to 12mm), 20mm cutting tools in a tool holder

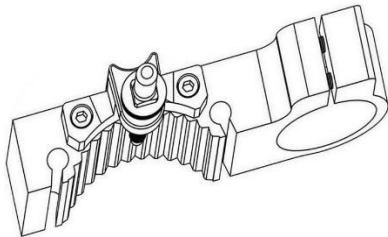


designed for 16mm size (AS and A) and for use of 25mm cutting tools in a tool holder designed for 20mm size (size AS and A). These adapters adjust the top of the oversized cutters to be on the centerline of the spindle.

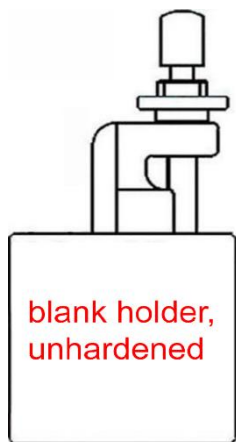
25) We developed a special small size Aaa for really small lathes (for watchmakers)

26) We developed the QCTP system size AS which is between Aa and A because for a lot of machines, Aa is too small and A is too big.

27) Special holders for tool posts AS, A, E and B are available to clamp onto air or electric driven tools close to the chuck (for example an air powered die grinder) having a diameter of 43mm. Nearly all hand machines in Europe have this and the name is "Eurohals".

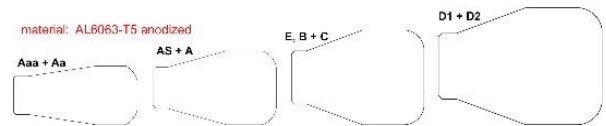


28) Solid unhardened steel tool holder blanks are available in the sizes Aa, AS, A, E and B for customer specific application.

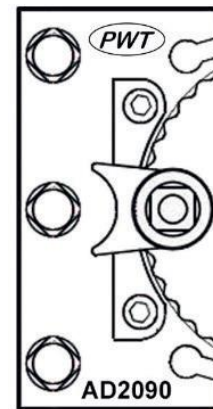


Customer machines the tool holder as needed.

29) PWT offers various tool post wrench replacement knobs made from aluminum. These are nice replacements for the standard round plastic knobs.



30) The tool holders have their model number laser etched on the upper side for easy reference. This is better than labeling down on the side where the cutting tool is inserted which is often used in the market.



31) Adapters are offered that allow for round shank cutting tools to be used in tool holders designed for square shank cutting tools (like other suppliers, of course we have also adapters to allow smaller round shank cutting tools to be used in tool holders designed for large diameter round cutting tools). The adapters are available for AS, A, E, B and C tool post systems.

