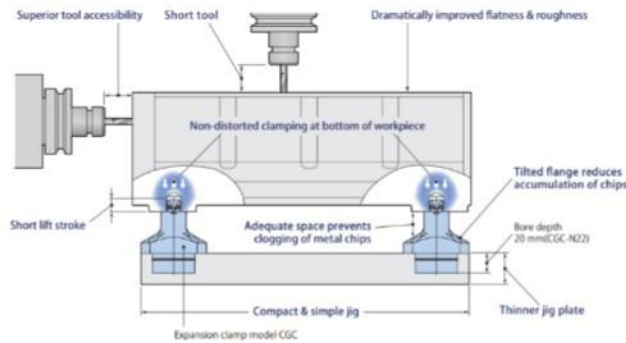




CGC Series
Expansion Clamp

BENEFITS OF USING A BOTTOM CLAMP

—When considering the reasons to use the Pascal Expansion Clamps for your next project, there are a number of benefits that can reduce your production time and project costs. Since our expansion clamp holds the workpiece from one side, the machining accessibility for multiple operations on multiple sides, is unparalleled. Now you can bring more operations into the same machine, or a smaller machine, while using standard cutting tools. The Pascal Expansion Clamp can hold a workpiece in place effectively, even with loads coming from a variety of directions. We even have examples of customers machining from the back side of the

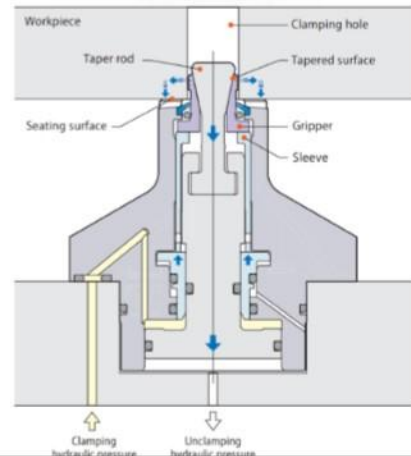


fixture. Talk about flexibility! As an example, let's consider one aspect of saving money with using standard tools versus custom ones. One can easily grasp the value of using standard tools in the manufacturing operation. Standard tools are obtained easier and more quickly. According to a tool maker in the Chicago area, there are challenges in making the custom tools. Sometimes it is more difficult to get the material, and then they have to change the production set up to make the custom tools. The same tool maker clarifies that using standard tools will save the user 20%-30%. This applies to both solid carbide and indexable tools. This is a significant long term return for using a more modern approach to workholding design—

PASCAL EXPANSION CLAMP FUNCTION

—Pascal expansion clamp has been developed over many years working closely with a major automotive manufacturer. This product is currently in use worldwide on demanding head and block machining lines. Pascal Expansion clamps are designed to work with cast holes; therefore, tolerance of the workpiece hole is not critical. This expansion clamp can accept up to 1mm of tolerance and accommodate up to 3 degrees of draft angle. The function is quite simple as can be seen in the cross section. A taper rod pulls against a set of serrated grippers forcing them out and allowing them to “bite” the workpiece. Depending on the size of the hole we are clamping on, clamping force varies between 2.24kn-7.5kn.

The expansion clamp is also equipped with an air blow port to keep the clamping and datum surfaces clean. Furthermore, this air purge can then be monitored using a simple air catch sensor to detect the clamp is in position. If the clamp piston rod travels too far in its stroke, another port will open to exhaust giving the signal that clamping was not successful. This can be tied to machine controls to stop the machine and alert the operator, eliminating costly crashes and downtime. Please visit our website for more information, or feel free to contact one of our knowledgeable staff for an in-depth explanation and demonstration.—



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Trade Show 2016
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