

New Shrink Fit Technology with TempControl

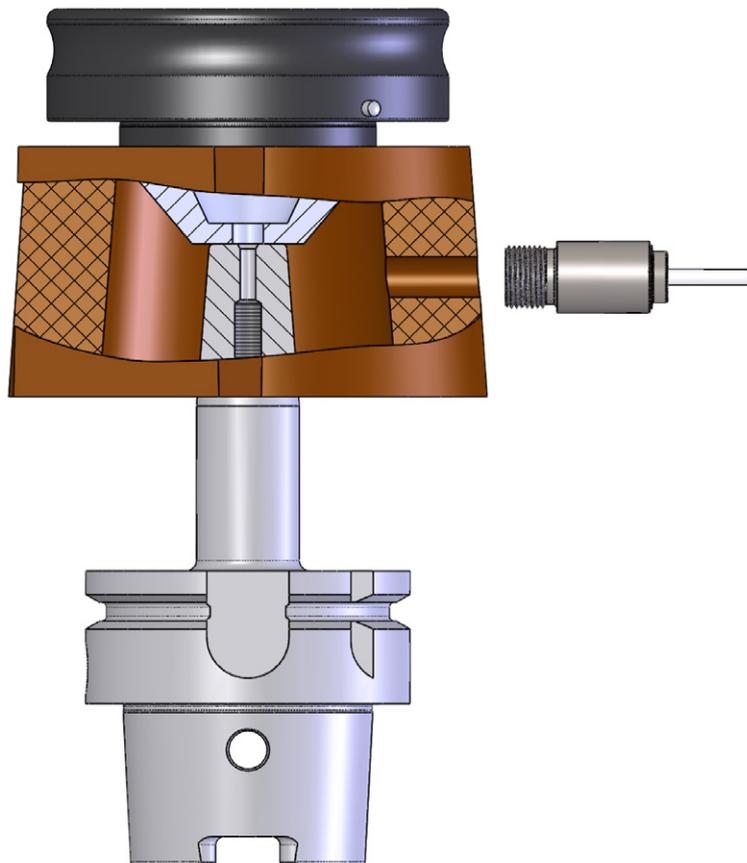


Diebold US 1100 series shrink devices leave nothing to be desired by users in terms of technology, user-friendliness and reliability.

Pyrometer technology with **TempControl** is our latest technology for automatic shrinking with direct temperature monitoring, a globally unique solution for reliable and particularly gentle shrinking of tools into tool holders. The right device for every user and every budget can be found among the various device variants. With this line of equipment we are the technological world market leader for Shrink Fit Technology.

90% of the buyers now opt for the pyrometer technology with **TempControl**. It confirms that the users were just waiting for such a solution.

Even with the basic version that comes without pyrometer technology, the units come with shrink parameters in the software for reliable shrinking. The user can also change these parameters where required if he has to shrink particularly large shafts where more energy or a longer exposure time is required.

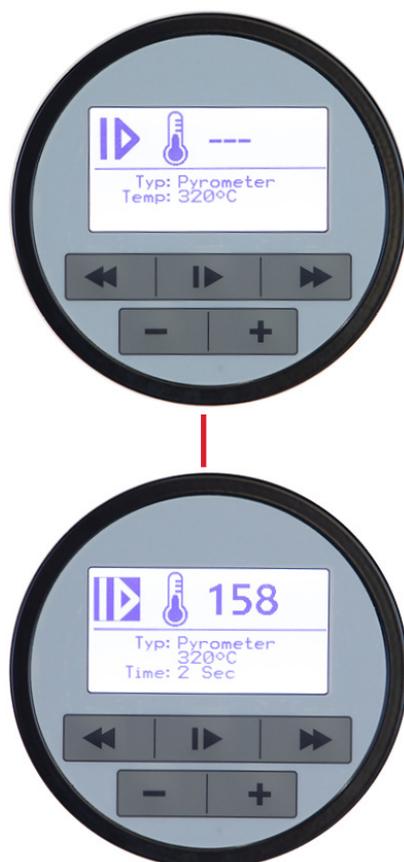


Pyrometer technology for easy handling

During the shrinking process, the temperature is measured through the induction coil directly at the surface of the tool holder and is regulated with the **TempControl** function developed by Diebold.

Only the temperature that is absolutely necessary for widening the bore is initiated and controlled by **TempControl**. The solution is controlled minimum temperature input, not “a lot helps a lot” in which the maximum energy is applied on the holder.

This ensures that shrink chucks cannot overheat and therefore they last for many thousands of shrink cycles without change of the clamping force or the concentricity. The nightmare that tools can no longer be shrunk out and have to be thrown away is a thing of the past. For particularly large tool holders or for special materials such as stainless steel, interchangeable coils with quick-change technology are available. Depending on what requirements the customer has, he can choose the right solution. The right pyrometer coil can be selected for each device. Tool shanks made of carbide or HSS can be shrunk with all devices.



Vertical or Horizontal Shrinking

Whether you choose a device for vertical or horizontal shrinking is no longer a philosophy. Only the practical use decides which of the devices is more suitable. Users who have to shrink many tools exactly to length are certainly better off with the horizontal solution. Also when shrink fit chucks are used that do not have a stop screw inside, the horizontal version is the better solution. Users who also shrink milling cutters into shrink collets are more likely to opt for the vertical solution. Our application engineers will be happy to advise you on what is the better solution.

We will come to your door with one of our three Demo Vans and demonstrate all the devices live. We only need 480 Volt power supply and in a few minutes we are ready for demonstrations and tests.



US 1100 horizontal



US 1100 vertical

video:
US 1100 horizontal in action



video:
US 1100 vertical in action



video:
TubeChiller® in action



US 1100 mit TubeChiller® for fully automatic process

For innovative shrinking with automatic cooling of the tool holders we offer the TubeChiller®. The TubeChiller®-Technology was developed to combine our series US 1100 Shrink Units with automated cooling. After the shrink process the unit automatically activates the cool down process without the risk that the operator will come into contact with hot tools.



TubeChiller® Function

After the shrinking process, the cooling tube moves up from the housing. At the same time the cooling liquid rises and flows around the tool in a ring-shape. During the movement of the tube, the induction coil is automatically pushed back to its starting position without the need for an additional drive. After finishing, the cooling tube then moves back into the housing and the cooling medium floats back into the tank. At the same time, the tool holder is dried with compressed air and can be removed dry and cooled.

Cool down of the tool holders is not trivial

If the tool holders are not evenly surrounded by coolant, there is a risk of distortion. Only a few μm , but that is by no means wanted and with mini tools it is deadly for a successful machining process. The TubeChiller® has the similar function as our patented liquid cooler FKS 04 where the cooling medium is pressed upwards out of the tank by compressed air and flows around the previously heated tool in a ring-shape.

This ring-shaped and symmetrical flow around the tool holder prevents the tool from bending. Once all the coolant has reached the tower, air flows through the liquid,

cooling it back to room temperature. This principle has also been implemented in the TubeChiller®, but the cooling process is automated here.

Another advantage of the liquid cooler FKS 04 is that several tool holders can be placed in the liquid cooler at the same time, which have been shrunk one after the other. And the good thing is, no additional cooling unit is necessary. A video on our website or on our YouTube channel shows the cooling process.



Cooling of extended Shrink Fit Holders



video:
FKS 04 S in action



In high-speed machining, micro-machining or in mold making, users work with very small milling cutters that have diameters of only 0.04 mm to 0.01. These cutters are very sensitive and may not come into contact with parts such as cooling sleeves so that they are not destroyed. To avoid this, we have developed the FKS 04 liquid cooler.



Thermo-ER Shrink Collets



DMS Diebold Modular System

Diebold Shrink Fit Chucks

Diebold Shrink Technology is used in Aerospace Industry, Mold making, in Medical Industry, in Micro-Machining and of course in General Machining.

The range of shrink fit chucks includes chucks with a standard DIN contour, TSF Slim Fit holders and TUS Ultra Slim holders, with TSF and TUS chucks being coated. The coating is important for machining of graphite materials so that the graphite chips or dust do not stick to the chuck and cause unwanted imbalance. With the Pyroquart® brand, Diebold offers shrink fit chucks for heavy-duty machining.



Pyroquart® Chucks, TSF, TUS Chucks, JetSleeve®, Thermo-ER Shrink Collets



DMS Diebold Modular System

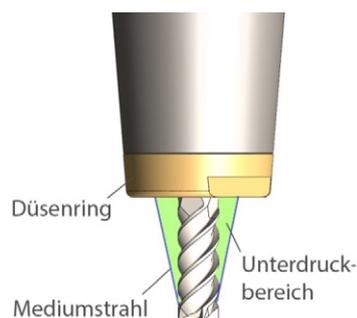
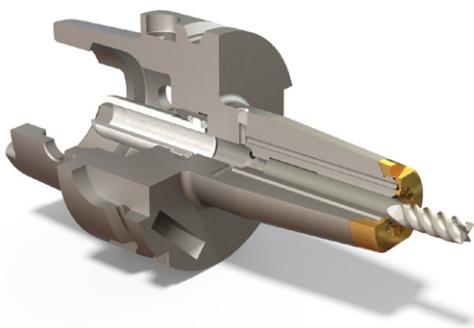


Shrink Fit Chucks World-Innovation JetSleeve® 2.0

2.0 stands for the second revolution in milling technology. JetSleeve® 2.0 are shrink fit chucks where the patented nozzle system is a „Goldring“ on the face of the chuck.



JetSleeve® 2.0 works with all cooling media, whether coolant, air only, or air/oil mixture, ideally ADS (ADS = Aerosol Dry Lubrication) is used. As a result, the tool life increases by 100 % to 300 % because of good cooling and the blowing away of the chips. Lubrication and cooling works perfectly because the cooling medium is always in contact with the cutter. The cooling function when using aerosol is guaranteed even at very high speeds.



In summary, the arguments in favor of Diebold shrink technology:

1. Pyrometer control for automatic temperature detection
2. TubeChiller® for automatic shrinking and cooling
3. Various horizontal and vertical shrink systems that cover every application
4. Gentle shrinking, no overheating of the shrink chuck, for a long service life of your shrink chuck

Demo-Vans

Our engineers come to your door with one of our three Demo-Vans. They have all devices on board and will support your specialists in analyzing and checking your milling processes. They also bring measuring equipment to inspect your tool holder tapers and machine spindles. Are you interested? Then please contact us at service@hsk.com or simply give us a call. Our sales and service specialists are at your disposal at any time

For more information please see our website at:
<https://www.hsk.com/en-us/service/>



Demo-Van



Diebold "The climate neutral factory"



DMS Service-Set

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