



RAS Reinhardt Maschinenbau GmbH
Richard-Wagner-Str. 4-10
71065 Sindelfingen · Germany
Tel. +49-7031-863-0 · Fax +49-7031-863-185
www.RAS-online.de · Info@RAS-online.de

Die nächste Generation



It has been some years since a single expression has been enough to make the heart of a fabrication specialist swell: **RAS MULTIBEND-CENTER**. With their 2160 mm or 2560 mm working lengths on 2 mm mild steel and 203 mm box height capacity, the RAS folding centers still ranks as a milestone in flexible sheet metal production. Again, RAS as a folding technology specialist provides another surge of adrenaline. New top performance has a name: the **RAS 79.22-2 and 79.26-2 MULTIBEND-CENTERS**. The next generation of fully automated folding centers.

Using new highly dynamic servo-motors, an ultra fast tool changer, innovative material flow components and all-new folding beam tools, the most versatile folding center, the RAS MULTIBEND-CENTER, continues to be the key player and trend setter within automated folding technology.



When RAS Reinhardt Maschinenbau GmbH introduced the first generation of electric driven folding centers in 1996, the Sindelfingen based

experts received a tremendous amount of applause. Excellent bend results, high production output, flexible product design capabilities, reliable system components and a well designed machine layout have been just some of the acclaim for the folding center newcomer. Speed and quality have

been always the terms sheet metal specialists used to describe the MULTIBEND-CENTER.

So why the need for a next generation? Because the RAS development team believes that good is never good enough. Fast can also never be fast enough, once you are familiar with a certain speed level.



Therefore, underneath the well-designed machine covers you will find a brand new generation of extremely rigid and backlash free servo-gear motors, which give unbelievable dynamics to the RAS MULTIBEND-CENTERS. The net result is a 30% faster folding speed and superlative accuracies. Included with the all new drive concept, RAS has integrated proven elements like the very clever kinematics of the upper beam drive and the deflection free direct folding beam drive. These components assure reliability and lifetime precision, as well as the lightning fast dynamic, due to the fact that this system operates without any hydraulic in the main drive axes.

Speed is not just a requirement when the folding sequence begins, but also during the automatic tool setup. The changeover time is less important when running batch production but it becomes much more important in a kit production scenario. This means that all blanks that belong to a finished product will be run one after the other in one batch size. One workpiece therefore can be totally different than the next. A quick setup is also important if a tool change is required within a folding cycle. This becomes relevant on parts where the long side will be bent before the short sides, or on non-rectangular parts.



Separate servo drives for the left and right side of the tool changer are responsible for top speed and dynamic. The tool weight has been reduced to half, without losing any tool strength. Both actions result in a characteristic, where the automatic tool changer moves along the front side of the working area with breathtaking speed and the setup is completed before the next blank reaches the bend line. Each tool gripper arm can operate independent from the other. Should only one tab need to be bent on one side of a part, only one gripper moves into the working area. Less mass in motion means higher accelerations and shorter cycle times: the formula for speed and dynamics is that simple.



But the new tool changer is not only fast it is also very flexible. It will set each tool segment exactly into position. If blanks show pre-fabricated louvers and/or embosses, the MULTIBEND-CENTER may use special tool segments with machined sections in the tool foot. The tool changer places these special tools precisely on top of the louvers or embosses so that they will not get damaged when the upper beam clamps the part. The advantage to this is only certain tool segments need special modification. All the other tools use the standard geometry, which will be required to close hems, fold thicker materials and for closed profiles. RAS has extended the tool magazine on the right and left sides of the upper beam for additional space for these special tools.



RAS has given special consideration to futuristic functions to expand a company's horizons. This is a very important feature of folding beam tool flexibility. Having the capability to change tools on the folding beam, is an added value and is important to all existing MULTIBEND-CENTER users. For internal bends or protruding flanges on non-square parts RAS can create a space between the folding beam tool segments, or can use special folding beam tools. Different than our previous model, the segmented folding beam tools do not need to be manually secured to the beam any more. An automatic tool clamping system will automatically lock the tools in position. This reduces the setup time by minutes, should a folding beam tool changeover be required. With the additional flexibility product designers will generate new ideas for future sheet metal designs. Parts can be de-signed with oblique shapes, flanges inside the blank or offset bends. Characteristics that make the finished products more versatile, unique and cost efficient.

Seeing the existing MULTIBEND-CENTER, one would view with amazement its capability to bend offset flanges. A "magic wand" kicked the "elbow-tool" out of the way so that the folding beam tools could reach inside the part. It is unbelievable but RAS has been able to improve this unique tool to perfection. The new UpDown Tools cannot only disappear below the work surface to bend offset flanges to the inside. They can also come up above the other folding beam tools to bend welding tabs which should be one times material thickness inside a box. Imagination has been created to bring functionality and technology together. The result is a premiere class high-tech state-of-the-art innovation. A very clever mechanism lifts and lowers the UpDown-Tools in a matter of seconds within the folding cycle and brings them back to their original position as if it was magic. Should a part have a tab on one side only, then only this tool comes up. If the part design uses several of these functions the cycle times can come down by as much as 20% using the new UpDown-Tools.

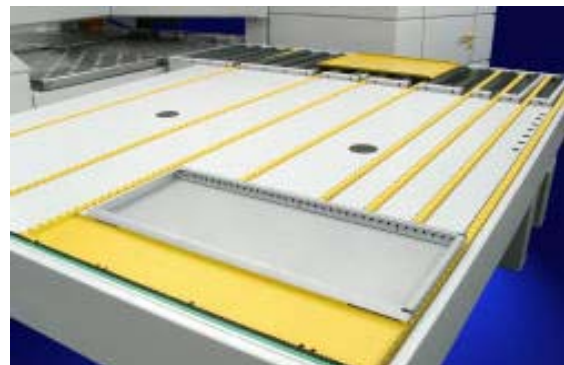


The existing RAS folding center offered a rather complete configuration package. With more machines installed the number of configurations increased. Some customers started with manual loading, some wanted to run batches, others connected the machine to an automatic material handling system or operated the ma-

chine in a kit environment. Similar is the situation with the finished parts. Sometimes it is more convenient to return the finished parts back to the operator, some other companies wanted the workpieces to show up at the opposite side, or even to connect the MULTIBEND-CENTER with a welding or assembly line. The market sets the standards and therefore the new RAS folding center can be equipped with a large number of proven loading concepts. The finished workpieces can be transported and exited to either side of the machine. A new brush roller table can transfer the finished parts directly to a downstream assembly station, or can hand it over to an attached unloading table. From there the parts can be removed or directed into a multiple part buffer station.



The MULTIBEND-CENTER is not only brilliant with its great innovations, but also because of the smart details. One such detail is that the work surface can automatically lower for a moment when the next blank is brought into the main manipulator area. This makes the folding center more acceptable for less level blanks, which run the risk that they could get caught in the travel area of the main manipulator.



The RAS MULTIBEND-CENTER is the answer to the request on a highly flexible and super fast folding center - on a machine excelling great part design flexibility, a perfect dynamic concept, a very stylish design and a commanding powerful development. With the new MULTIBEND-CENTER RAS emphasizes its

leading role as a trend setter within the automatic folding center market, offering a system that matches with the high demands and requests of modern day fabricators. In a word:

The RAS MULTIBEND-CENTER is a work-horse and a thoroughbred all rolled into one, which conquers even the most extreme folding requirements safely and confidently.

