

KRB Machinery Co., Wrightsville, PA 17368, USA

Rebar shop crane issues? – No problem with the compact rebar shop

KRB Machinery has been building Shearlines and bending machines for your rebar shop since the company's inception in 1986. The owner and founder of KRB, Ken Kauffman has been building shearlines and working in the rebar shop auto-

mation industry since 1967. KRB is now combining their tried and true rebar shearing machines with several new products for your complete rebar processing needs.

KRB has developed the "Compact Rebar Shop". A Compact Rebar Shop is a system that has been designed specifically for the customer's needs to process fabricated rebar from start to finish with minimal Touch Time. Touch Time is the act of moving material through your shop utilizing manual labor with lifting devices such as overhead cranes or forklifts. Each time a material handling person or a machine operator touches the rebar, your Touch Time cost goes up. Touch Time costs are non-value added costs that you will never recover when you invoice for a load of steel.

The business of fabricating rebar can be a very volatile business based on unstable material costs and endless labor problems. Labor is really what you are selling. Therefore, if you maximize your pro-

would like to learn more about these ideas, contact KRB and they will be glad to educate you.

In general a rebar fabricator's challenges start when the raw material rebar lands at the fab shop's receiving door. An overhead crane must be used to off load the 40 foot or 60 foot stock lengths of rebar from either a flat bed truck or a railcar that comes from the steel mill. From there the rebar typically gets stacked into a storage bin. When that bundle of steel is required, again it is picked up by a crane and loaded onto the rebar processing equipment. The overhead crane is the most efficient way to handle these bundles of steel to this point of the process. It is very difficult to reduce this Touch Time other than by using the highest level of technology in lifting devices and crane controls.

Typically the way rebar shops have operated for the last few decades, the crane would have been used for every facet of the material handling process. There was no better way until KRB's Compact Rebar Shop. With the Compact Rebar Shop, the crane is used only for unloading the stock into the bins, loading the processing machines and loading the fabricated rebar back onto the truck for shipment to the jobsite. All the material handling between the cutting and bending processes are being handled with the Compact Rebar Shop.

The Compact Rebar Shop process is started with KRB's AutoShakeout machine. This machine strips the appropriate quantity of bars from the bundle for each shear run, taking the place of one or two men separating the bars manually. A single

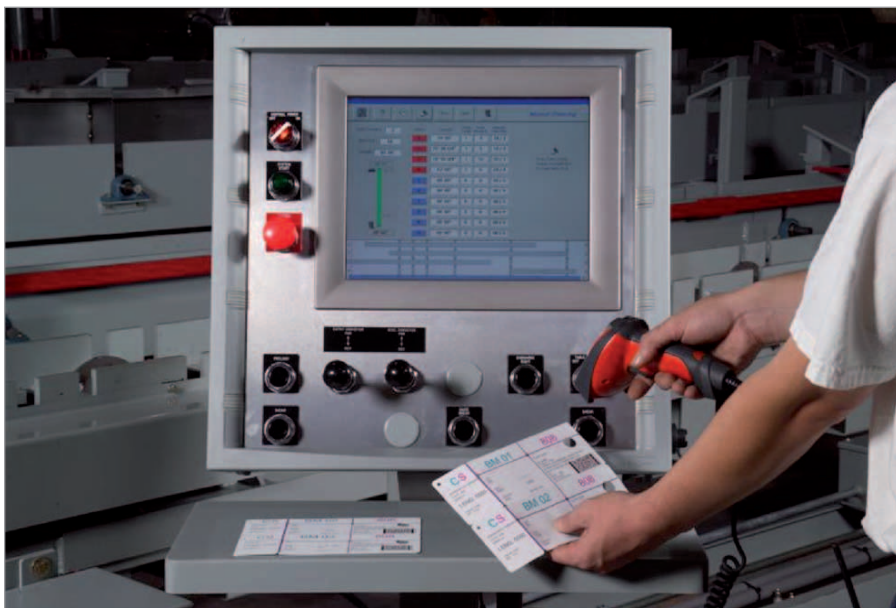


The KRB Rebar Shop

fits by minimizing the amount of labor that goes into your fabrication process, your competitors will wonder how you are able to sell your steel for your price and continue to stay in business. If you are experienced with rebar, most of these ideas will make sense to you. If you are not and

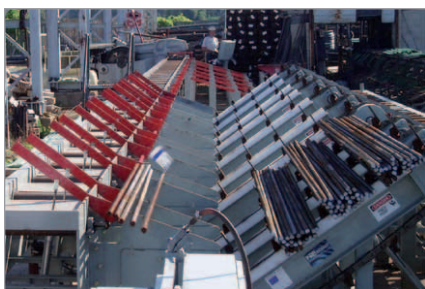


KRB's AutoShakeout Machine



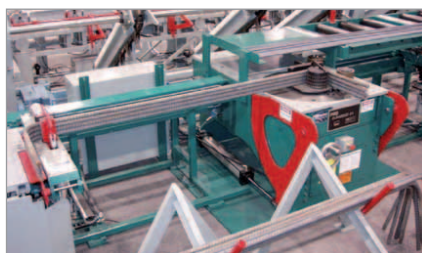
KRB's Touch Screen Shearline Controller

operator can load the bars and operate the shearline cutting system from the operator's station. The AutoShakeout eliminates fatigue on the men that once had to shakeout the bars manually. Also, repetitive motion injuries are a thing of the past with the AutoShakeout machine. Once the steel is loaded onto the conveyor table, the operator continues through the cutting process. He or she manages the cut bars from the operators' station which also has the capability of optimizing cutting runs to eliminate scrap or remnants. The computer no longer needs to be networked to the office computer in order to develop an optimized list. The KRB Shearline Controller does this as the operator scans the cut tags into the computer. The remnants that are generated can be logged and fed back into the Shearline Controller in order to create an optimized list using the rems as stock on order to greatly reduce your steel inventory.



KRB's Chain Drag Loading System

Once the steel is cut, the shearline discharges the bars into a series of walking bins. These bins are used to stage the bars while complete bundles are being built using the shear optimizer. Once the bundles are cut complete, the walking bins, or chain drag conveyor, indexes the bars onto another series of conveyors that feeds the automatic bending machines. Up to this point in the process, one man is all that is required to cut up to 50 tons of rebar per shift depending on the bar size mix.



KRB's DuraBend 211 Automatic Bender

As stated earlier, completed bundles are indexed and conveyed onto bending machines for the final process. The bars are conveyed either to an automatic double headed bender called the MagnaBend or the DuraBend which is a single headed double bender. The MagnaBend double headed bender is

most efficient when handling long bars that are too heavy for one man to lift. The MagnaBend is operated with one man instead of the antiquated manual benders that would need an operator and one, two, and sometimes three material handling helpers. The MagnaBend can easily bend 25-40 tons of steel per shift.

Another Bending machine that is speeding up the bending in a rebar fabrication shop is the DuraBend. The DuraBend is an automatic bender that can handle from #3 bar through #11 bar. The machine has been developed to aid in material handling and has improved accuracy of bending over table benders in manual operations. The machine uses two robotic grippers to position the bars for proper bending. Also the machine has material handling arms for unloading the bender.



KRB's ServoForm 1020ST

Integrated into a Compact Rebar Shop, the DuraBend can be fed automatically and run by one operator. This machine will also reduce laborious table bending and minimize the Touch Time of bending rebar. The machine comes standard with a user-friendly, conversational computer control which draws the shape as it is being entered into the machine parameters or as it is scanned from the tag. This eliminates the extended time required by normal table bender operators to set up and bend by trial and error. The DuraBend is a very flexible machine that will bend just about any shape you throw at it.

The shapes that are not easily bent on the DuraBend or MagnaBend may be handled by any one of the many different Automatic Stirrup Benders that KRB manu-

factures. KRB's newest and most technologically advanced machine for bending stirrups and ties is the ServoForm. This powerful machine will process up to one #6 (20mm) bar from straight stock or two #5 (16mm) bars from either coil or straight stock. The ServoForm, as its name implies, is completely driven by electro-mechanical servo motors and pneumatic cylinders. This machine is robust, simple to operate, and is the latest in servo technology.

By putting all the application driven machines together into an integrated Compact Rebar Shop, three to four men can operate a complete factory. Many companies are moving towards a system

for processing rebar rather than a piece meal approach with lots of Touch Time involved in moving the material through the shop.

Further information:

The logo for KRB Machinery Co. features the letters 'KRB' in a bold, black, sans-serif font. The letters are closely spaced and have a slightly stylized, blocky appearance.

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