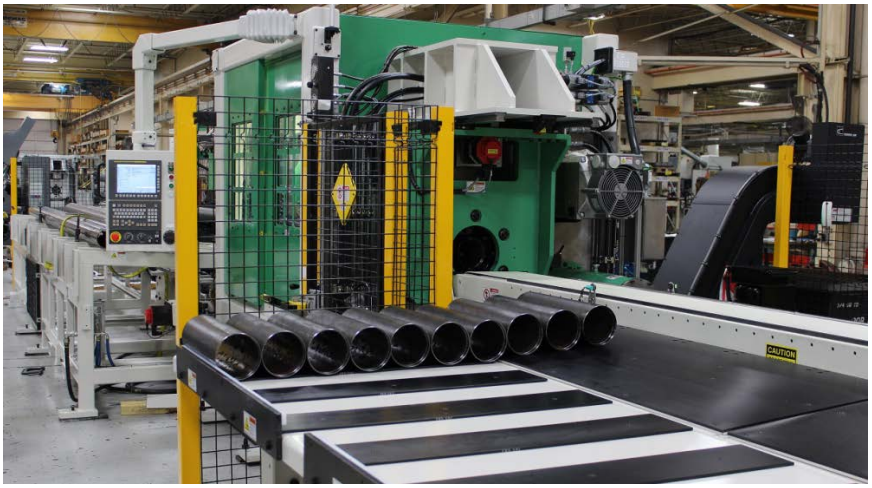
Moving the Conveyor Process Along:
Bardons & Oliver, Inc., makes the tools that make your conveyor manufacturing easier

In today's mining industry, the product isn't moving unless the rollers are turning. Conveyor manufacturers rely on machine tools to turn out idlers (roller bodies) rapidly and within tolerance. Reducing overall run-out increases the field life of the roller. Bardons & Oliver a machine tool manufacturer from Solon, Ohio, produces the RH-Series Tube Cutoff machine for that very purpose.

Vern Fabry, project manager for the Rotating Head (RH) line of machines, has placed machines in locations from the USA to South America and Australia, has seen the machines at work in plants producing conveyor parts. He says: "In today's market, producing a quality roller efficiently is the goal of every conveyor manufacturer. The rotating head cutoff provides a segue way to that goal."

Bardons & Oliver installed its first conveyor idler manufacturing system in January, 2010. This PLC-controlled, servo-based machine produced immediate results: increased quality, reduced setup times, and the elimination of sub-processes such as sawing and subsequent transfer of the material to the next operation. With the RH-Series cutoff, it's raw material in and finished parts out, one machine, one operation.



The RH-900: From loading table to finished parts


Parts cut on RH Series Machines, showing chamfering, counterboring and grooves

Just One Step

When you use a Bardons & Oliver RH Series tube cutoff machines to create your conveyor components, you're not just using a machine, you're utilizing a system. From the loading table, which provides

staging room for additional raw materials and adjusts size instantly, to the table where finished product is stored (with the option of robotic assistance for moving parts), you have the entire manufacturing solution on your factory floor.

These aren't pieces we purchase elsewhere and then assemble – your machine is designed by our engineers as one unit and completely built in our factory.

Why a Rotating Head?

Not every application starts from perfectly round or straight raw materials. Traditional cut-off machines, which have stationary tooling and materials that rotate, have a hard time dealing with unusually-shaped raw materials. This limits their uses.

Bardons & Oliver's rotating head machines hold the material stationary and rotate the tools. The RH-900 can accommodate hot rolled or irregular tubes and bars more efficiently than traditional lathes.

When appearance counts, Bardons & Oliver's machines eliminate the need for marking the OD surface, providing a cleaner finished product.

Additional advantages:

- Reduced cycle times: Machine tool and labor elimination. Reduction of required floor space for the production process. Reduction of lead time.
- Reduced mechanical setup: All material handling, including:
    - The incoming table height adjustment;
    - Feed vise & chuck;
    - The head chuck; and,
    - the unloader,

  can be programmed to the incoming tube size. Full range coverage means no jaw change.

- Increased precision: Servo-controlled units provide the accuracy and precision expected by our users, including a higher degree of precision and accuracy when it comes to the length and parallelism of part faces.
- Full lean manufacturing: (see discussion below)
- Decreased wear on tools: Our machines cut only the tube wall, unlike saws, which have to cut through debris such as hardened chips and shavings that wind up in the tube's ID.
- One machine, one process: Should you require end finishing operations (OD and/or ID chamfering, trepanning, counter bores, grooves, or "completing the 4^{th} corner"), our RH series machines can do that without the need for expensive secondary equipment.
- Reduced maintenance: Because the tube no longer rotates, there is a substantial reduction is maintenance costs produced by the rotation of an imperfect raw material.

Leaning toward lean

Part of the advantage Bardons & Oliver's RH machines provide is the ability to produce the parts you need as you need them. There's no need to maintain an expensive inventory of finished parts. With a part program capable of storing as many as 200 part numbers, you have your product line available on short order – in a matter of hours, instead of weeks or days.

Whether your need is for single part production, parts cut in sequence for a kit, or an 'on-the-fly' combination of parts, our RH-900 machine can handle that. Further, we reduce waste by allowing your operator to create a sequence of long parts, with the remnants then turned into short parts rather than going into a recycle bin.

What's new?

Bardons & Oliver has upgraded to the 35iB CNC control (*below*) to provide ultimate flexibility to its RH Series lathe. Where chamfers were the function of tooling geometry, the RH can produce a chamfer or radius through interpolation. The use of a CNC control allows the user to make product changes with the control rather than with the purchase of new tooling.

The Fanuc 35iB CNC operator control panel

How can the RH-900 help you?

Whether you're an established conveyor manufacturer or a relatively new maker of components, you've got high hopes for your company. In today's economic environment, you know that shorter lead times, increased efficiency and outstanding quality are not only good business practice, but are required to meet your customers' needs.

Bardons & Oliver's RH-900 machines (and the other RH Series machines) can help provide you with the tools you need. If you want to grow, you need to be able to deliver product when it's required. Let us work with you to create a solution to your individual specifications.