HAUTAU

# Rotating-Head Cutoff Lathes

## Tube Loading & Endfinishing Systems

- Rugged high-speed cutting, grooving, turning and chamfering
- More parts per hour, closer tolerances, reduced labor
- Fastest changeover
- OD/ID chamfers in a single chucking, both ends
- Models for round tubing up to 9" diameter, barstock to 3"

# Our History and Our Commitment to You ...

**Hautau is our family name. It is on every machine we build. That's why we'll stand behind you on every one 24/7.**

Hautau makes world-class tube cutoff machines and systems. They are designed, engineered and built by American craftsmen in the fields of southeast Indiana.

Charles F. Hautau Sr, company founder, was a gifted inventor who held over 60 patents including rotary-head cutoff and CNC tube bending.

Charles Jr. and Fred have carried on the tradition, building a wide range of innovative machinery for over forty years.

Among our early machines was one to trim the ends of mufflers. Because the muffler could not spin, our design featured a rotating head.

After twenty years of building tube cutting and processing machines and other custom automation, we decided to apply the rotating head concept to cutting thick wall steel tubing. This would form the basis for our standard product line.

Traditional tube cutoff lathes have a headstock with a through hole up to two feet deep, so tube feeding methods are limited. The tube can be machined on just one end. Short cuts can fly out and long cuts need outboard support rollers. There was need for improvement.

With the rotating head design, the headstock is about five inches deep. The tube is supported on both ends—with both ends being machined—a corn on the cob approach to tube cutting.

This design provides you with the ability to support each end rigidly immediately adjacent to cut line and maintain control after the cut. In one seamless operation, you can face and chamfer both ends of the tube, ID and OD, eliminating the need for endfinishing in most cases.

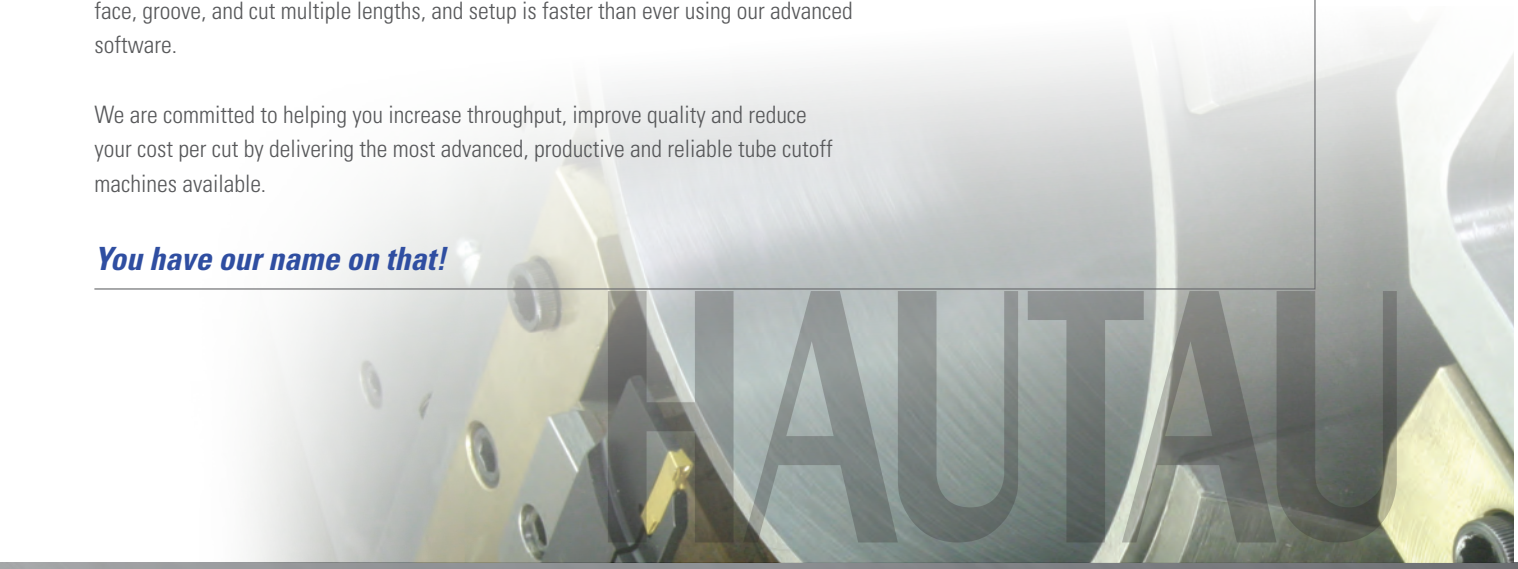
Over the years, our product line has expanded, and improved. Now you can chamfer, face, groove, and cut multiple lengths, and setup is faster than ever using our advanced software.

We are committed to helping you increase throughput, improve quality and reduce your cost per cut by delivering the most advanced, productive and reliable tube cutoff machines available.

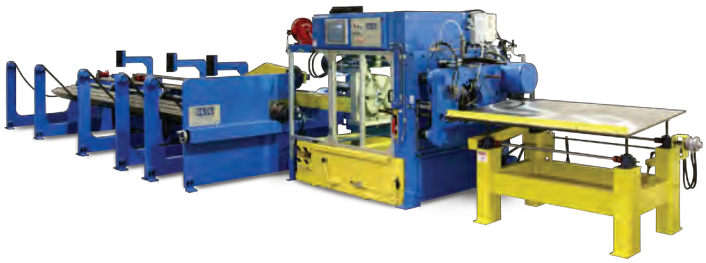
***You have our name on that!***


Charlie Hautau


Fred Hautau



# Rotary Head Cutoff Lathes ...



**The unique headstock design supports each end of the tube rigidly for a more precise, concentric cut (face, ID and OD chamfer) on cutoff lengths from 0.50 inch up to 40 feet.**

### RC15 Rotary Cutoff

The RC15 rotary-head tube cutoff is smallest of the RC line, with the highest headstock speed and best production rates. Here's the ideal machine for fast, efficient cutting and chamfering of tube or barstock up to 1.5" diameter, without whipping and scratching of the tube. Tooling options include cartridge-type cutoff and chamfer or wheel-type cutoff.

### RC30 Rotary Cutoff

The RC30 is our intermediate rotating-head machine, a proven performer cutting and chamfering up to 3" tube and bar. We use quick-change Kennametal® KM-25™ tooling cartridges for faster setups and consistent chamfer depths. Plus you get custom programs for grooving, turning and special chamfers.

### RC50 Rotary Cutoff

The RC50 cutoff is your best choice for cutting tube and bar from 7/8" to 5" diameter. This machine features a special set of tube chucks plus a different tool slide configuration to allow fast facing, cutting and chamfering of both small and large tubes.

### RC60 Rotary Cutoff

The RC60 rotary-head tube cutoff lathes are the mid-size rotating-head models, with the widest diameter range of all our RC pipe cut-off machines. These machines can cut, face, chamfer and groove tubes quickly and efficiently, eliminating secondary operations and reducing labor.

### RC80 Rotary Cutoff

The RC80 is the largest of the RC line, cutting and chamfering tubes up to 9" diameter. This proven machine is fastest way to cut heavy-wall bearing blanks, thin-wall irrigation tubes or anything in between. Use up to four cutoff tools, or cut, chamfer and groove parts from ranging from 1/2" to 60' long. Hautau rotating-head cutoff lathes offer the most advanced alternative to conventional lathe and saw cut-off systems.

# Method & Benefits ...

**Cutoff, face, chamfer, radius cut and groove any tube segment, under precise servo control—improve quality and reduce scrap.**

## Advanced Rotary Cutoff Method…

The Hautau RC rotary-head lathe cutoff is one of the most advanced tube cutoff systems available.

By holding the tube rigidly at the cutoff point with both the feeding chuck and the cut chuck, we can move the tube ends precisely under servo control after cutoff.

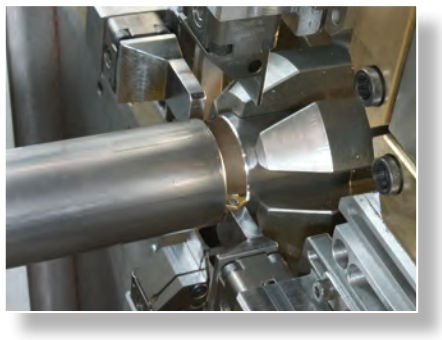
You can produce fully endfinished parts without secondary operations.

- Cut OD and ID chamfers or radius.
- Machine both ends of the tube at once.
- Vary chamfer depths on leading/trailing ends.
- Cut or form grooves at any position.
- Do OD "peeling" of short parts.
- Form tools cut radius on OD and ID

## Benefits of Hautau Rotary-Head Cutoff Machine

- The tube is held rigidly and does not spin during cutting.
- Cuts OD and ID chamfers on both ends.
- Dual hydraulic chucks hold the tube on both sides of the cut.
- Requires no collet or jaw changes!
- Chucks automatically adjust for tube size.
- Fast, pushbutton changeover for diameter and length.
- Cutoff piece is held and does not "break loose".
- Cut long lengths without "steady rests".
- Bowed or dented tubes do not "whip".

RC60 cut/chamfer tooling



RC30 cut/chamfer tooling

Cutoff & grooving setup

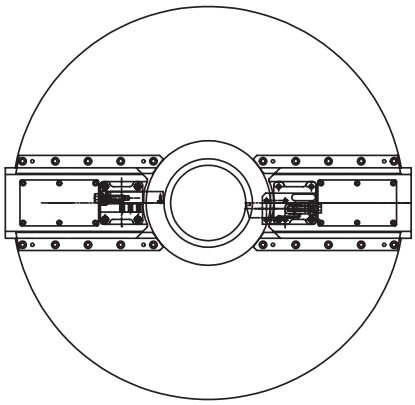
Long slide length. Maximum contact area.
Proven bronze-on-tool steel construction.

# Chucking & Slides ...

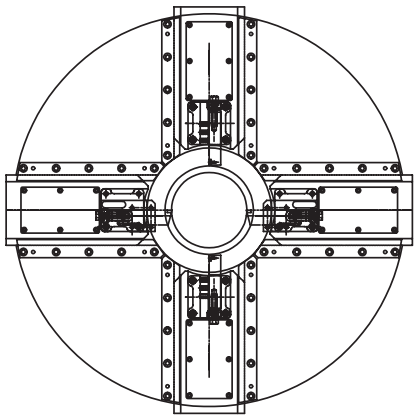
**Rapid tube feeding and powered chucks that accommodate a wide range of tube diameters with no collet changes maximize flexibility and productivity.**

## Positive and Accurate Tube Feeding & Chucking

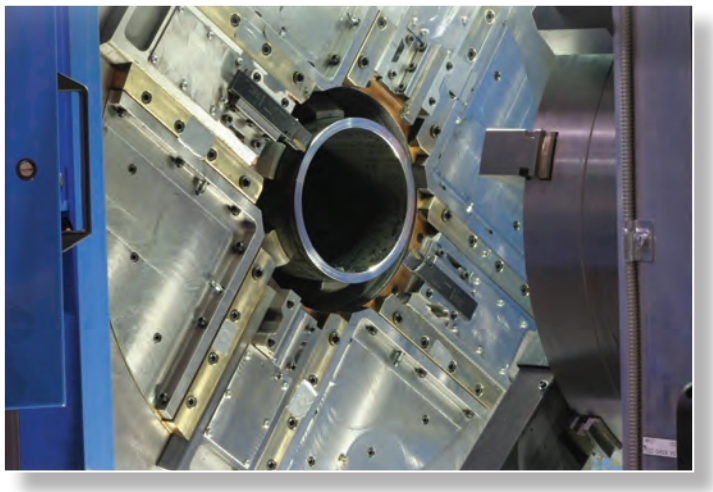
- Tube is precisely positioned by an electro-hydraulic feeder.
- Leading end of tube is laser-located.
- Facing feature eliminates trim cuts, chamfers all corners.
- No target stops or pinch rolls are used.
- Multiple cut lengths. In one fast setup.
- Feed and cut chucks automatically adjust. No collet changes.
- 30" hitchfeeder stroke standard, 60" optional.
- Multiple feeds for cut lengths up to 40'.
- Tube advance rate up to 50" per second.
- Remnant length as short as 3/4".



**Two-Slide Headstock** (Standard)



**Four-Slide Headstock** (Optional)



## **Two-Slide Headstock** (Standard)

Choose the standard two cutoff slide arrangement for the following tool setups:

- Two cut-off wheels
- Two lathe cut-off tools
- One lathe cut-off plus one chamfer tool

## **Four-Slide Headstock** (Optional)

Adding two more tool slides allows these additional tool setups:

- Four lathe cut-offs (fastest cutting)
- Two lathe cut-offs plus chamfering
- Two lathe cut-offs plus OD turning
- Two wheel cut-offs plus 2 grooving wheels
- Two wheel cutoffs plus id sizing

## **ID Chamfer Chuck Slide** (Optional)

A massive slide plate is added to allow the "cut chuck" to be moved precisely in and out, positioning the cut tube end for ID chamfering.

- Positive hydraulic motion for accurate positioning of heavy tubes.
- Rugged four-pin guidance system.
- "Rolling press-fit" bearings provide maximum rigidity.
- Opens to service position for fast access to chuck jaws.

# Controls & Setup ...

**PLC programming is specifically written to maximize uptime—the operator is presented only with set up options needed to cut and chamfer tubing—all other functions operate in the background.**

## Allen-Bradley© ControlLogix® PLC

- Integrated. high-speed processing of coordinated servo motion.
- Industry-standard Ethernet/IP communications.
- Removable "flash" memory card for easy backups and software upgrades.
- Modem communication option for remote access by our service technicians.


## Diameter Setup

Programming diameters and lengths is fast and easy using the color touchscreen. Just key-in …

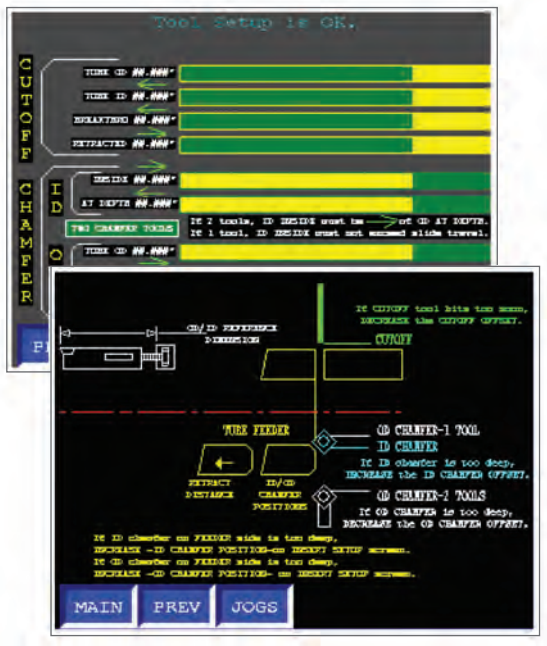
- Tube diameter,
- Wall thickness,
- Chamfer depths and
- Headstock RPM.

Store and recall custom setups for quicker changeover.

## Length Setup

Cut up to three different lengths from each tube, with consistent ID and OD chamfers on all lengths.

The overall length of each tube is measured, so the best cut combinations and minimum scrap is assured, even when cutting from random mill lengths.




## Operator Aids

- Help screens with color diagrams.
- Store and reload programs for quicker setup.
- Diagnostics increase uptime.
- Use tool life counters for scheduling tool changes.
- Tool Change Assist software moves the hitchfeeder out and clear for faster insert changes.
- Password protection prevents unauthorized access to setup screens.

# Tooling Systems ...

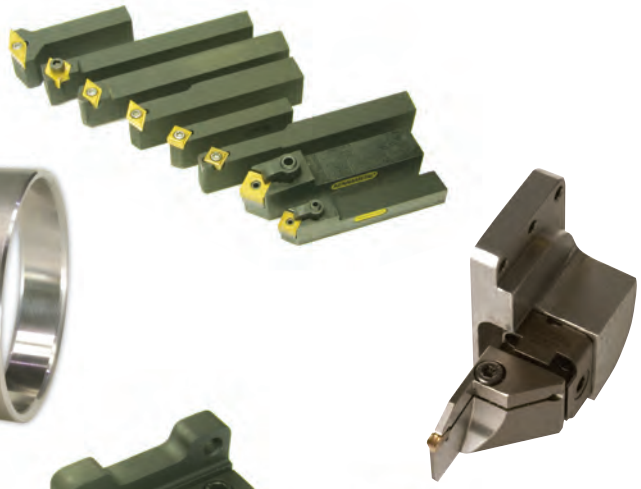
## Cutoff, Chamfer, Turning & Grooving Tools

Hautau Rotary Head Cutoff machines can be configured with lathe tooling for thick walled tubing, or cutoff wheels for thin wall processing. Hautau RC cutoff machines utilize popular standard tools—readily available and cost effective.

### Cutoff Tooling

Our tool blocks accept inserted carbide or brazed-tip cutoff tools from most major manufacturers, including:

- Sandvik®
- Kennametal®
- Manchester®
- Iscar®
- Mitsubishi®
- Belcar®
- Stellram®
- Newcomer®



### Chamfer Tooling

Choose from our standard ISO tooling, or we'll work with you to design any custom tools you need.

- Standard chamfer angles: 45°, 40°, 27.5°, 17.5°
- Special inserts for other angles or radiusing

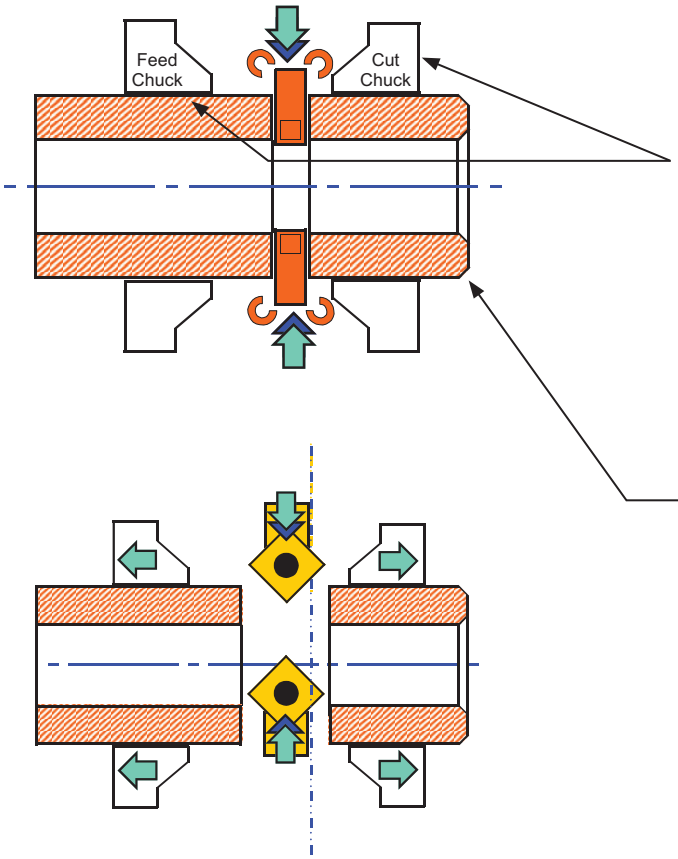
### Tool Blocks

- Minimum overhang for superior tool support.
- Industry-standard wedge-type tool clamp
- Custom-designed blocks for special applications
- Precision locating for fast, repeatable setups.
- Low-profile keeps cutting forces in-line with drive.
- Quick-change Kennametal® KM tool mount.
- Micrometer-adjust rear stops for using "length-qualified" cutoff blades.

### Wheel-Type Cutoff & Groove Tooling

- Produces no shavings or chips.
- No material loss.
- No coolant is required.
- Excellent tooling life.
- Wheels are supported on large roller bearings.
- ID roll-out tool re-sizes the tube bore.
- Form multiple grooves anywhere.

# Process Overview ...




## Cut & Chamfer both ends at once—here's how …

1. **The tube is clamped rigidly by two 6-jaw hydraulic chucks.**

   This centers the tube and maintains precise control of both tube ends after cutoff.

2. **The cutoff tools (up to two) advance and part the tube.**

   Servo-controlled tool feed optimizes tool life and cycle time.

   The leading end of new tubes can be faced and chamfered in many cases. This can eliminate trim cuts and reduce material waste.

3. **Both chucks pull back.**

   Complete cuts are verified as the tube is pulled apart.

4. **The ID chamfer tool advances inside the tube.**

   The position automatically changes according to tube ID

5. **Both chucks move in. The ID chamfer tool retracts to cut the ID chamfer on both tube ends.**

   ID chamfer depths can be different on each tube end.

6. **The OD chamfer tool advances and chamfers both tube ends OD's.**

   OD chamfer depths can be different on each tube end.

7. **The chucks both pull out and the tools retract.**

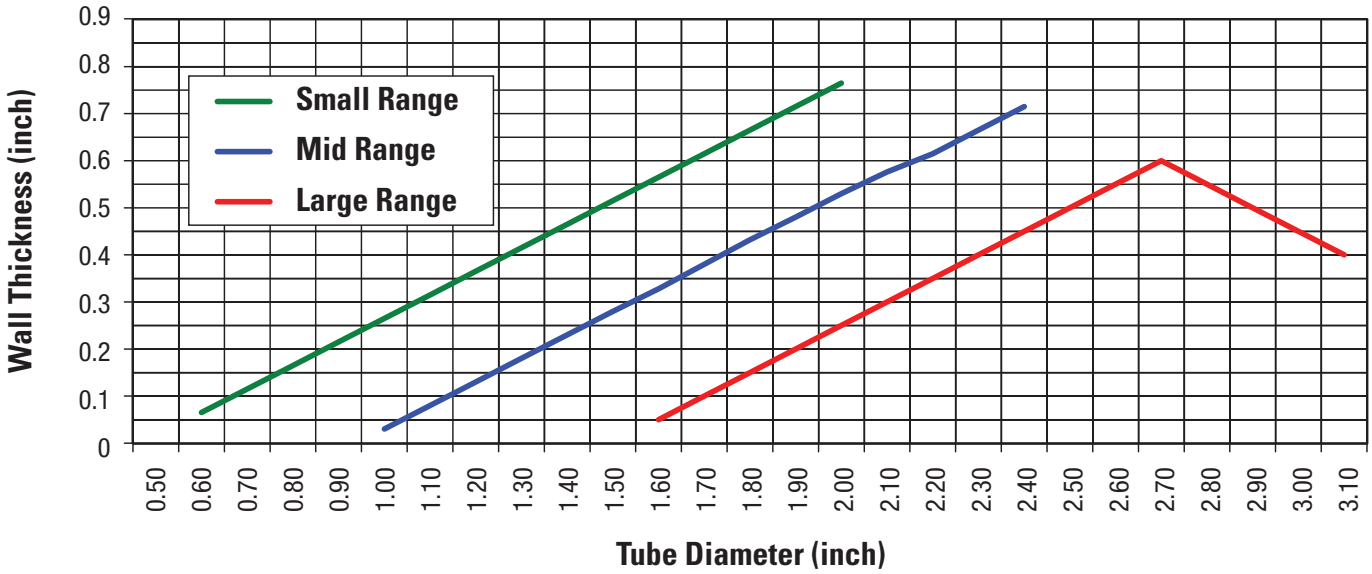
## Advanced methods of tube processing are simple, fast and precise.

- Chamfers are consistent on short, long or mixed length cutting.
- No secondary operations required.

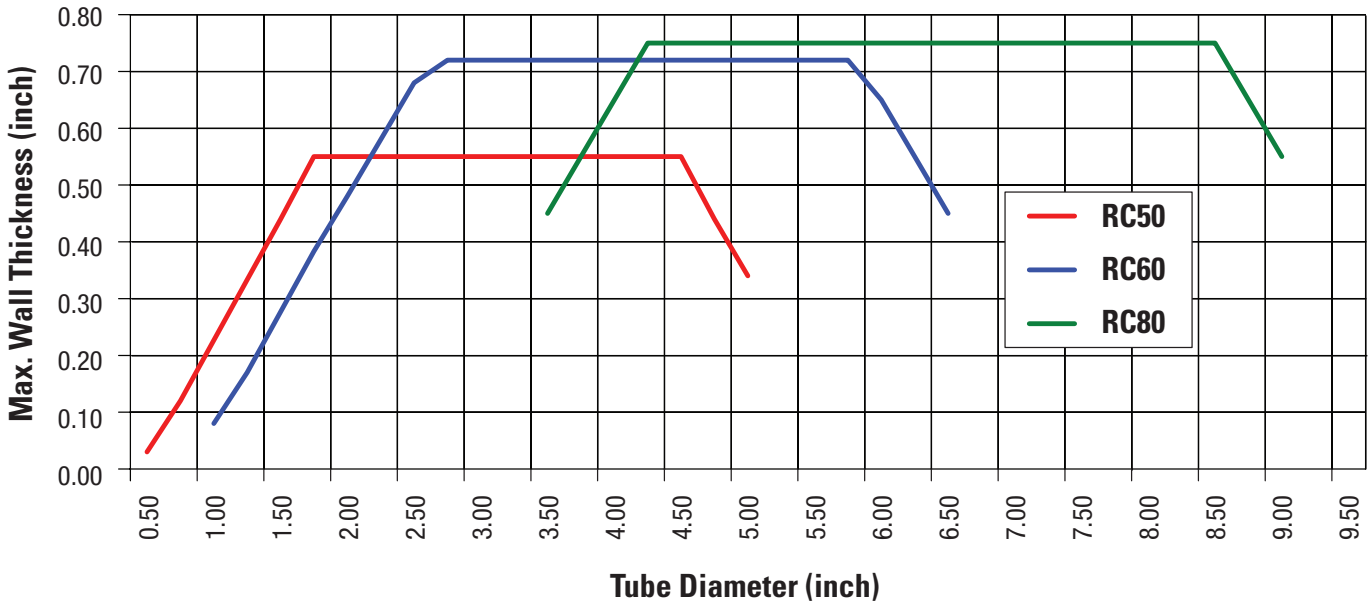
# Thickness & Diameter Specs ...

Charts below show maximum tube wall thickness relative to tube diameter when machining both inside and outside chamfers. Without inside chamfer, wall thickness up to 1.00" can be cut, also solid bar stock up to 2".

**RC30 with ID Chamfer**
Diameter & Wall Thickness Ranges



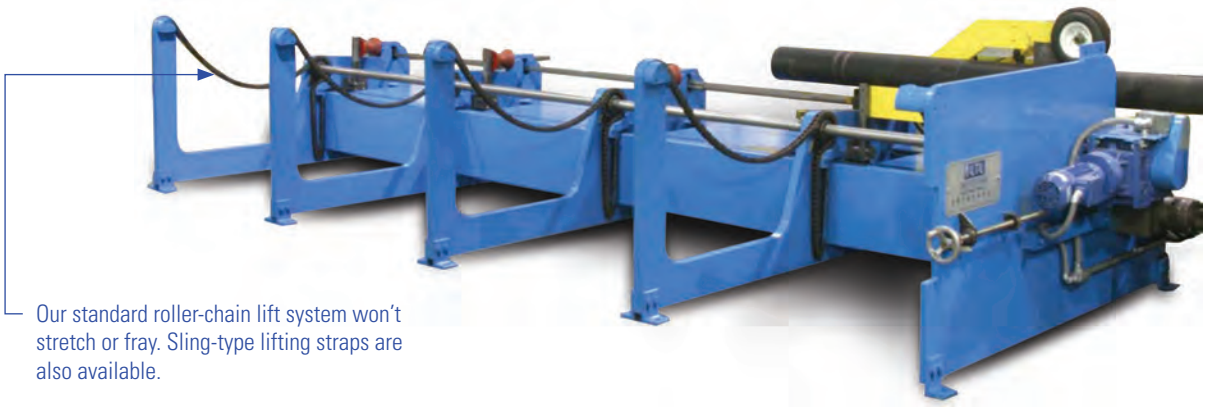

**RC50, 60 & 80 with ID Chamfer**
Diameter & Wall Thickness Ranges



# Loaders ...

## Automatic Tube Bundle Loader

- Full bundles of tubing are raised by chains or nylon straps, allowing tubes to roll into a magazine.
- Single tubes are then lifted to the correct height and advanced to the feeder.
- A graduated handwheel adjusts for tube diameter.
- Designed for fast, easy loading by either fork truck or overhead crane.
- Available in reversed configuration for rear-loading.
- Holds up to 10,000 pounds of tubing.
- Individual tube weight limit is 2000 pounds.
- Standard maximum length up to 24 feet.
- Extended loader lengths up to 42 feet.



Our standard roller-chain lift system won't stretch or fray. Sling-type lifting straps are also available.

## Indexing Supply Conveyor

- The operator loads the tubes into the conveyor from the hopper above the conveyor.
- Four parallel chains automatically index the tubes.
- Single tubes are then lifted to the correct height and advanced to the feeder.
- No changeover is required for different tube diameters.
- Hopper capacity is 10,000 pounds of tubing up to 24 feet long.

Tubes are kept separated by chain links and don't rub together. Used for plated or polished tubes, also for short run applications.

# Options ...

### Tool lubrication system

- Unbreakable thru-the-jaw nozzle
- Standard or extra-capacity tanks
- Low level sensing
- PLC-controlled operation

### Automatic Grease System

- Trabon® positive-displacement style
- Hydraulically-powered pump
- PLC controlled, with monitoring of grease level and cycle completion.
- Supplies all non-rotating grease points.

### Air-to-Oil Heat Exchanger

- Integrated pump & fan
- Provides “kidney-loop” cooling and filtration
- Adjustable temperature control
- Eliminates need for process cooling water

### Tube Runout Table

- Precision-ground top
- Adjustable height
- Adjustable angle

### Tube Runout Conveyor

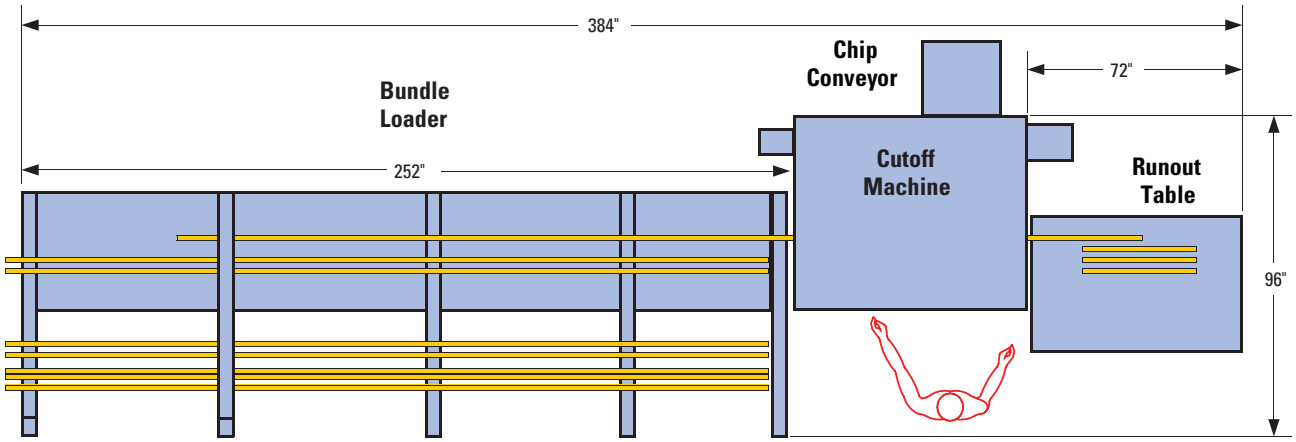
- Separates trims, primary lengths and secondary lengths.
- Hydraulically-powered
- Durable flat-top chain

### Chip Conveyor

- Programmable run time
- Reverse jog function
- 48" discharge height

# RC Series Machine Specs ...

## Rotary Cutoff Specifications




| Machine Model | RC15 | RC30 | RC50 | RC60 | RC80 |
|---|---|---|---|---|---|
| **Maximum Tube Diameter*** | 1.5" | 3.25" | 5.0" | 6.7" | 9.1" |
| **Minimum Tube Diameter*** | .25" | .50" | .87" | 1.25" | 3.5" |
| **Minimum Cut Length** | .50" | .50" | .50" | .50" | .50" |
| **Maximum Cut Length** | 240" | 240" | 240" | 240" | 240" |
| **Cutoff Length Accuracy**** | ±.005" | ±.005" | ±.005" | ±.005" | ±.007" |
| **Maximum Tube Advance Rate** | 50 inch/sec. | 50 inch/sec. | 30 inch/sec. | 30 inch/sec. | 30 inch/sec. |
| **Maximum Cycle Rate** | 1200/hour | 1100/hour | 900/hour | 900/hour | 600/hour |
| **Maximum Headstock Speed** | 1000 RPM | 600 RPM | 510 RPM | 510 RPM | 480 RPM |
| **Headstock Motor** | 30 HP Baldor™ | 30 HP Baldor™ Premium-Efficiency Motor Inverter-Rated, ODP | | | |
| **Hydraulic Pump Motor** | 20 HP Baldor™ Premium-Efficiency Motor, ODP | | | | |
| **Hydraulic Filtration** | 10µ Pressure, 10µ Return, (both electrically monitored), 10µ Case Drain | | | | |
| **Hydraulic Cooling** | Water-to-oil Heat Exchanger, 1-4 GPM required at 30 PSI minimum (standard),<br>Optional Integrated Pump/Cooler/Filter System with 12 GPM Circulating Pump<br>1 HP Baldor™ Motor | | | | |
| **Control System** | Allen-Bradley™ ControlLogix® with Removable Flash Memory Card<br>Rack-Mounted Closed-Loop Servo Motion Control Modules<br>Allen-Bradley™ PanelView+1250® ColorTouch Screen<br>Ethernet/IP Communications<br>Dial-Up Modem or Paging Modem (Optional) | | | | |
| **Electrical Supply** | 480 volt, 3 phase 80 amps maximum (240 volt optional) | | | | |
| **Air Supply** | 80 PSI, 1/2" NPT | | | | |
| **Machine weight (est. lbs.)** | 12,000 | 14,000 | 15,500 | 17,000 | 18,500 |

* Larger or smaller tubes may be cut with special jaws. ** Up to 30" cut length. Allow ±.005" per 30" additional. Specifications are subject to change without notice.

# Tube Endfinishing Systems ...

**While Hautau Rotary Head Cutoff Machines have evolved to cutoff, face, and chamfer the ID and OD on both ends of the tube in one operation, our endfinishing systems can augment the capabilities of other tube cutoff machines you may have.**

### C30 Single Endfinisher

The Hautau C30 endfinishing machine chamfers, faces and bores tube or bar ends, up to 3" with high precision. And with our precise electro-hydraulic tool feed, you get short cycle times and long tool life.

### C50 Single Endfinisher

The mid-range C50 endfinishing machine can bevel, bore, face and groove tubing or bar up to 5" diameter. Our heavy box-frame construction keeps all chucking and cutting forces contained within the frame, so there's virtually no deflection. The electro-hydraulic feed is mounted on-center, providing the solid thrust and precision necessary to sustain high metal-removal rates plus maintain long cutting tool life.

### C60 Single Endfinisher

The Hautau C60 single endfinisher machine is rigid, powerful and precise. Our massive box-frame, high-thrust spindle and rigid hydraulic chucking assure fast, repeatable machining at optimum feed rates. The C60 can chamfer, bore, face and groove tubing or bar up to 6.75" diameter. With our quick-change tooling and program storage, changeovers are fast and repeatable.

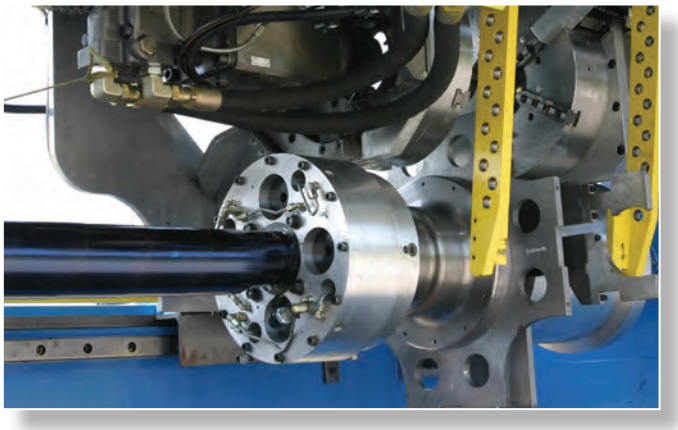
### C80 Single Endfinisher

The Hautau C80 is our largest endfinisher, designed for profiling and boring of cylinders, conveyor rollers and mill-cut tube ends up to 10" diameter. This workhorse has plenty of horsepower and thrust for precision machining and fast removal rates, with up to five inserts cutting at once. For tube mill applications, use a pair of C80's and a transfer for double-end finishing of long lengths.

# CC60 Tube Processor ...

**Hydraulically Powered Double End Boring & Machining**

*For conveyor rollers, electric motor housings, starters and pumps.*



Tube cutoff is all about continuous processing. A conveyor roller manufacturer wanted an in-line solution for boring diameters for press fitting bearing assemblies at the ends of the rollers.

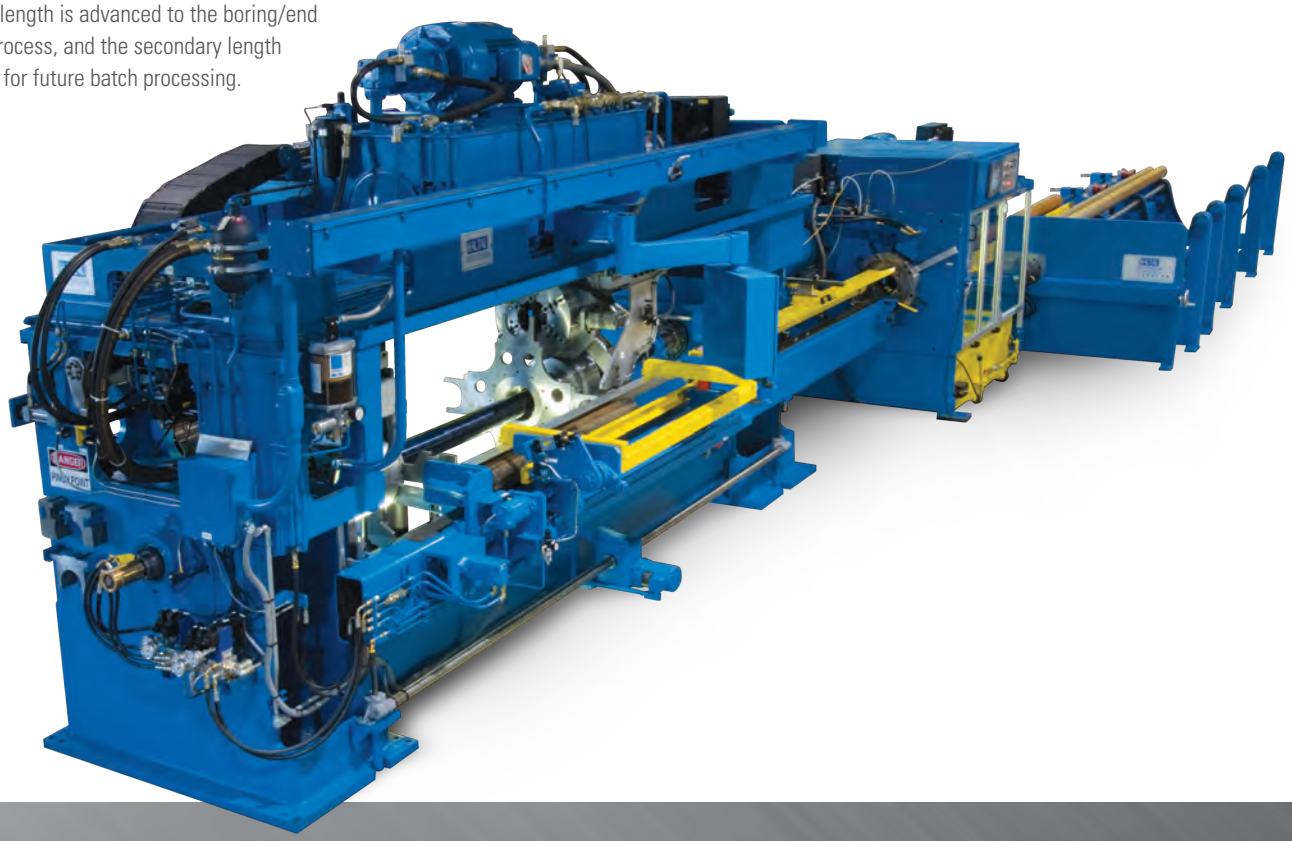
Hautau's solution is the CC60, a unique double endfinishing and boring station that can also be used in such applications as the continuous production of cylinders, driveshafts, motor housings and pumps.

This secondary operation station is designed to be in-line with a Hautau RC60 tube cut-off machine, or can be linked to your existing cutoff system. Cut to length tubes are continuously fed into the station via a chain conveyor.

A 60 hp electric motor powers two hydraulic motors. These drive two quick-mount boring heads to simultaneously bore both ends of the tube up to a depth of three inches to accommodate a bearing assembly. The process also faces and bevels both ends.

Simultaneous machining centralizes the load, providing very accurate roller length and machining depth, with precise concentricity. The system can handle tubes up to 7 inches OD, with a wall thickness of 5/16 inch and range from 7 inches to 90 inches in length

Designed for high production continuous processing, the integrated loading system can accept primary and secondary lengths. The primary length is advanced to the boring/end machining process, and the secondary length is separated for future batch processing.



# Hautau Tube Processing Solutions ...

**With Hautau, you can get the complete system, including integrated loading, cutting, sorting, inspection and cleaning.**

### Thick Wall Solutions – Lathe Tooling

- Incoming Material: 1 to 75 feet, and random
- Part Length: 1/2 inch to 60 feet
- Diameter: Up to 9"
- Wall: .020" to 1.50"
- Laser-accurate part feeding
- Optimal Length Programming—one tube, up to 5 lengths
- Minimum tool overhang eliminates chatter, improves surface finish
- Solid bar through 3" OD
- Quiet running

### Thin Wall Performance – Cutting Wheel

- Chipless wheel cutoff, no kerf loss
- Roller restores inside diameter on both ends
- Wall: 0.049" up to 0.125"
- Ready for mandrel bend operations
- Eliminates ID sizing operations
- Quick-change to lathe cutoff tooling

One Hautau does it all. You get unmatched capability on a full range of tubing wall thicknesses, plus quick changeover.

### Software Solutions, too

Hautau cutting systems include length optimization software that makes it easy to setup length combinations to minimize the scrap length and eliminate stored remnants. We can also measure the overall tube length at the loader and recalculate for each tube so that random length tubes can be processed automatically.

### Ideal Capabilities

Hautau solutions combine cutting, full tube end machining and efficient material utilization. You get a system with programmable setup for both product diameter and optimum cut lengths, so idle time is virtually eliminated.

Our tube loading and feeding system accepts full bundles as well as partial length tubes with little or no changeover, so the occasional re-cut piece can be processed with minimal setup time.

Hautau tube cut-off machines literally function as tube “vending machines”, perfect for short or long runs.

When you buy from Hautau, you get innovative design, top-quality construction, installation assistance and guaranteed performance.

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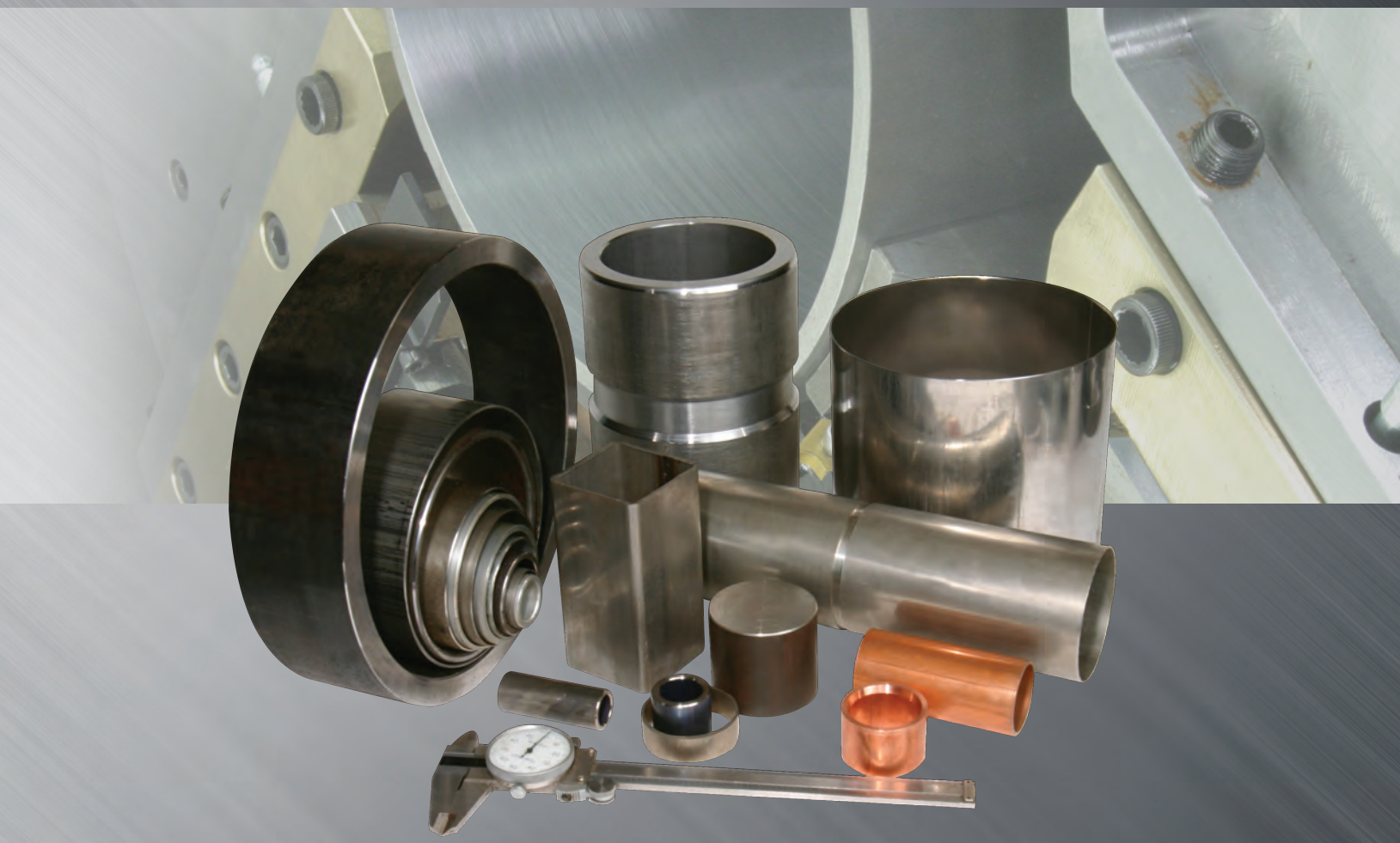
## Tube Loading & Endfinishing Systems



### *See for Yourself!*

For a video demo, visit our website: **www.hautau.com**

For more information, call **765-647-1600** today, or send an e-mail to **sales@hautau.com**.

***Made with Pride In the USA***

HAUTAU

***Best from the inside out***

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