

*Simple Machine
Cuts Tube & Pipe
10 Times Faster
than Sawing!*

*Square Cuts
Everytime!*

No Stock Loss!

K-Series Supercutters for Tube & Pipe

Capacity Range
1/4"-61/2" Dia.

Cycle Times
1/2-10 Sec.

**Manual &
Semi-Automatic
Roll Cutting
& Grooving
Machines**

K400MU-3PH

Fast and easy to operate.
Set ups are simple and
can be done by unskilled,
inexperienced personnel in
minutes. All the operator
does is position stock
under the cutter blade,
step on the foot pedal,
and pull the handle.

CHIPLESS SUPERCUTTERS

CHIPLESS TUBE CUTTING

Sentry Industries

Sentry Industries manufactures the most advanced roll cutters for tube and pipe with the broadest range of accessories in the world. O.J. Birkestrand invented Sentry Ind.'s patented products and has been designing and manufacturing precision, quality machines since 1974. Sentry Ind. chose to specialize in roll cutters after finding that many manufacturers were compelled to build such machinery themselves, because they could not find suitable equipment on the market.

We are committed to making high speed roller cutting affordable for all manufacturers. By specializing in chipless cutters, Sentry Ind. can build heavier machines with more refinements for less money. In addition to our K-Series Supercutters, Sentry Ind. also makes portable and production chamfering and end finishing machines.

Why Roll Cut?

Roll cutting is ten times faster than sawing and is the simplest, most economical method for production cutting of tube and pipe. Sentry Tool Supercutters use the same process as simple hand tubing cutters. Cutting is noiseless, chipless, requires no coolant, and generates little heat, dust or odor and no abrasive sparks. Because Sentry Tool Supercutters *rotate the stock*, the cut edge is always square to the bore—as in lathe cutting. This is difficult for other methods, especially on large stock. With the patented Sentry Industries process, the undriven cutter blade free wheels on a needle bearing and actually *rolls* a groove through the stock wall, so cutter blades last longer.

Why Is Sentry Industries Better?

More than 60 years ago, others designed rolling cutters with *large-diameter cutter blades and tiny adjustable, free-wheeling support rollers*. Sentry Ind. uses the opposite modern design approach: a small free-wheeling cutter blade and large, nonadjustable, long drive rollers. It makes no sense to us why anyone would attempt to rotate a 21' x 4.5" dia x 300 lb pipe at 300 rpm using the sharp edge of a cutter blade as the only driving force. Yet, this is exactly what the obsolete designs do. This puts needless strain on the cutter blade and shortens its life—especially when pipe is being accelerated to operating speed.

K-Series Supercutters

Sentry Ind. has perfected K-Series Manual and Semi-Automatic machines for production roll cutting and grooving tube and pipe. The major difference between K-Series models is that larger machines can handle larger stock. All models have a built-in gear reduction ratio, interchangeable gear belt drives, and replaceable parts, including bearings. To increase productivity, Sentry Tool offers optional, almost indestructible, stock handling accessories and automatic length gauge stop. Call us regarding your unusual applications.

Manual Operation

Designed in 1982, K-Series Models 250MU, 400MU and 600MU are manual-lever-actuated, second-generation machines that incorporate all of the refinements learned working with hundreds of customers since 1974. Our most popular performer is the compact K400MU. It is Sentry's

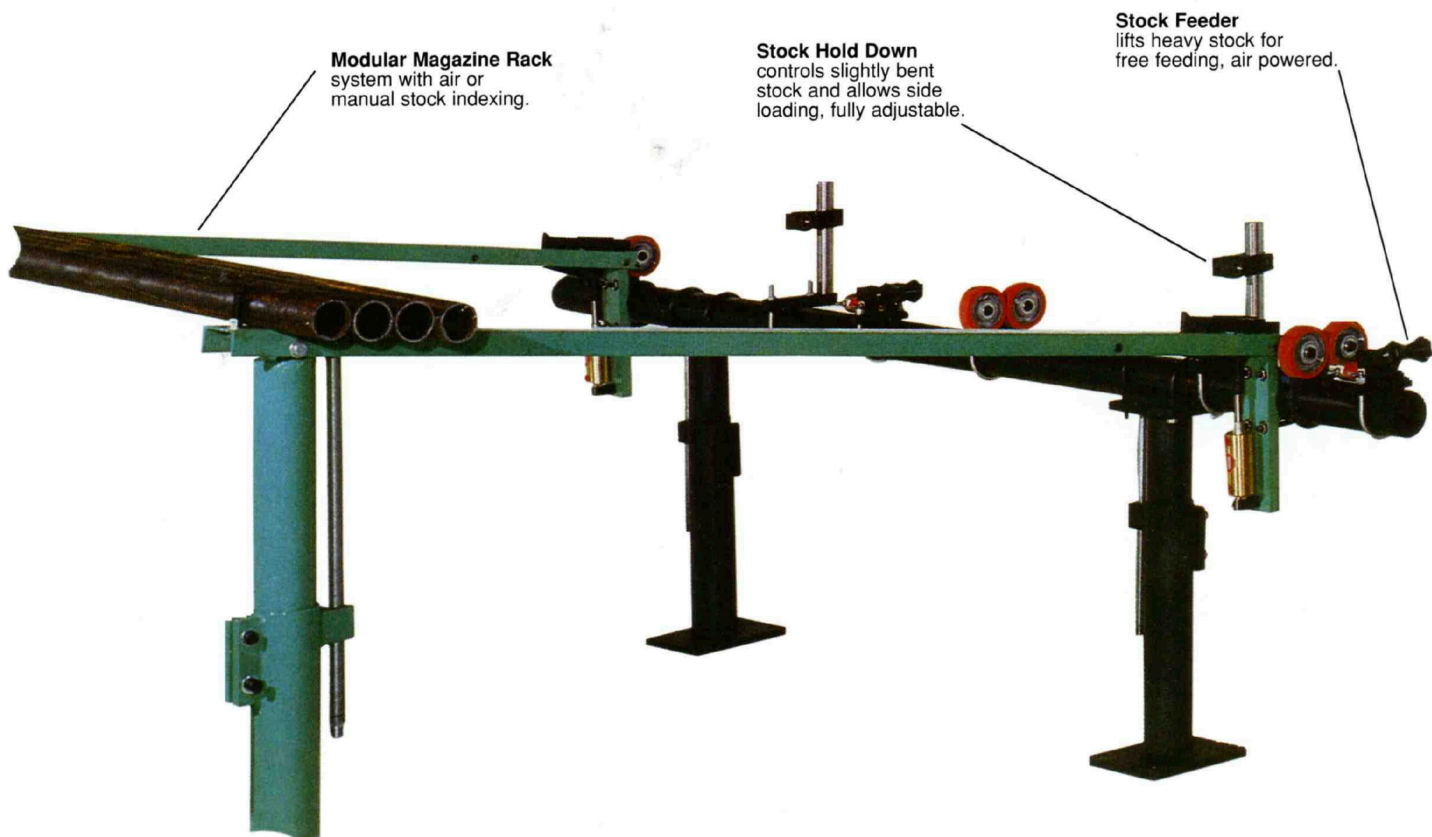
lowest priced machine able to cut 4" pipe in 6 seconds and 1 1/2" tube in only 3 seconds. Easy-to-operate, the K400MU has all the features of the semi-automatic K400USA6. On individual cycle times, the K400MU is often faster than the semi-automatic models, and is a little easier and faster to set up. Typical production rates are 500 to 1,500 pieces per hour.

Semi-Automatic Operation

Designed in 1983, K-Series Semi-Automatic Models 250USA4, 400USA6 and 600USA6 are heavier, second-generation machines. Many customers claim that versatile Sentry Tool Supercutters are the best investment they have ever made. K-Series Semi-Automatics are low cost, easy-to-maintain super performers competitively able to cut a wide range of materials. Machines faster than ours cost 10 to 20 times more money and have greatly restricted stock size capability. If you are cutting more than 1,000 pieces per day, you definitely should consider Sentry K-Series Semi-Automatics. They offer the highest repetitive production rates with the least operator fatigue and influence. Cutter pressure and feed rate are preset to insure repeatable cuts and longer blade life. Designed to use two different cutter blade sizes, our Semi-Automatics can cut ultra thin wall tube only 3/8" diameter as well as heavy wall tube and pipe up to 6 1/2" diameter.



K400MU



Why Is Sentry Industries Faster?

K-Series Supercutters make only one cut at a time, but they are often faster than gang band or cold saw cutting because of negligible setup time and faster cycles.

- No chucking or unchucking of stock is necessary
- The blade cuts through only the stock wall—not the diameter, so there is less blade travel time.
- The cutter blade penetrates at a higher feed rate without damaging or heating the blade and stock.
- Setups can be done easily by unskilled, inexperienced personnel in minutes.
- Cutting is dry; eliminates cutting oil handling and disposal requirements for *OSHA sensitive materials*.

Simple Blade & Stock Changes

Changing stock or cutter blades on any K-Series model requires only 10 seconds. Other manufacturers' designs require adjusting the cutter support rollers and realigning the entire stock support system to change stock size. This is a time-consuming, trial-and-error process. The K-Series permits cutting stock by merely raising and lowering the cutter head. It's fast and simple. Sentry Tool's patented eccentric actuated cutters provide maximum cutting control with minimum operator effort. Even unskilled personnel can set up, run and maintain our Supercutters.

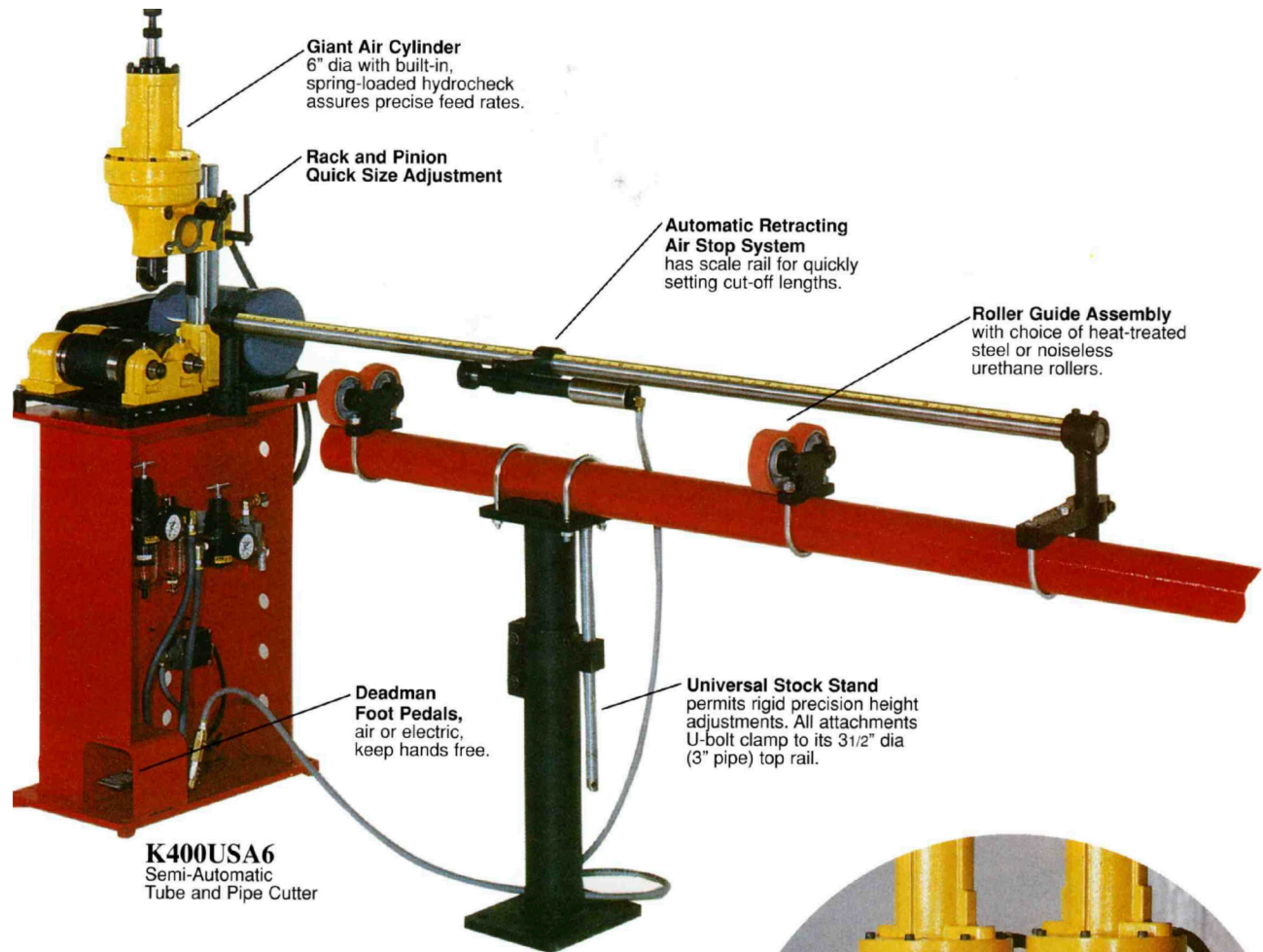
Built to Last

Sentry Ind.'s designs and builds the most rugged cutting machines available. Engineered for durability, our Supercutters can withstand the brutal abuse encountered at fabrication shops and during continuous manufacturing. They are easy to use, simply designed and constructed for heavy-duty service. Our cutters have performed reliably for years with minimum maintenance.

The K-Series larger models are available with either a 1 1/2 HP or 3HP industrial motor with a magnetic starter and stand (recommended for heavy wall, large diameter production pipe cutting). Construction of all models is rock solid with extra heavy ductile iron castings, a hard chrome plated solid 2 1/2" dia column and 1 1/4" dia heat-treated, precision-ground roller shafts, each supported by four large needle bearings with a total shaft load rating of 16,680 lb. The highly efficient all spur gear drive purrs in a sealed oil bath gear box. All this built-in strength means higher production rates with less down time.

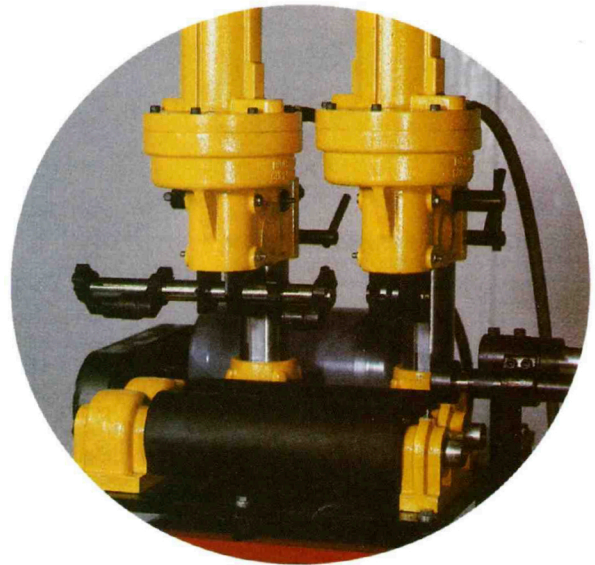
One-Year Warranty

All Sentry's Tools are designed to provide trouble-free operation. Should the need arise, all parts are engineered for easy replacement. Interchangeable replacement parts are normally available off the shelf, or you can send your Sentry Ind. machine to the factory for rebuilding. K-Series products have a one-year warranty on parts only.



Unique Stock Handling Accessories

Sentry Ind. has developed practically indestructible optional stock handling accessories that U-bolt clamp to a 3" pipe (3.500" OD) top rail. This complete Sentry Ind. System is not available from any other supplier. It simplifies stock handling and can often double your production. With the Sentry Ind. System, you can choose exactly the options required for your operations and not waste money on equipment you don't need. You can start with a minimum setup, and as volume grows, add to the Sentry Ind. System to increase your production.



K400USA6-2X

Double-head, double-length roller version of the K400USA6 is used to simplify driving, cutting and controlling pliable plastic or ultra thin wall, large diameter metal tube. One head controls difficult-to-handle stock while the other cuts and roll grooves.

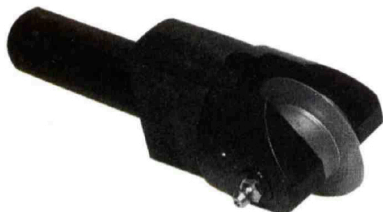
K-SERIES STOCK OPTIONS



Precision Standard Cutter Blade
Five styles available.



Manual Small Cutter Blade
Cartridge and Eccentric Assembly.



Semi-Automatic Small Cutter Blade
Cartridge and Assembly
Cuts down to 3/8" dia tube.



Custom Roll Grooving Tool
1-2 Second
Cycle Times.

Superblades

At the heart of Sentry Ind. Supercutters are long-wearing, easy-to-resharpen blades. Sentry Ind. Superblades put less footprint on the stock allowing faster penetration with no edge roll and less inside diameter burr.

We have developed blade specs for all gauges of tube and pipe. Normally, only one or two types of blades will handle all of your requirements: Sentry Ind. Standard Blades (33/8" dia) and Extra Small Blades (17/8" dia) for stock less than 18 gauge (0.49 wall).

Superblades are normally made of AISI S-7 Bearcat shock-resistant tool steel, which is carefully heat-treated to peak toughness and then triple tempered, finish sharpened to specs, and stress relieved for extra longevity. We make harder, but less tough blades, from AISI M-4, for cutting work hardenable stainless steel or titanium alloys.

You can sharpen all Sentry Ind. Superblades ten or more times in house on a grinder or lathe with carbide tooling, or Sentry will do it for you.

Roll Grooving

Roll grooving with the K-Series is faster than most other methods and offers longer tool life. Sentry Ind. can make locating and stop grooves for snap rings and O-rings in less than 3 seconds--without internal back-up mandrels. The maximum single groove width is limited to approximately 1/4".

We will design and make custom roll grooves to your specifications at nominal cost. Sometimes it is practical to build combination cut-and-groove tools that can finish both tube ends in less than 3 seconds.

ID & OD Deburring

All Sentry Ind. K-Series Supercutters have dual output shafts for mounting ID or OD deburring tools. Standard tools are 60° included angle and have two ranges: 1/2-2" dia or 1-3" dia--ideal for breaking sharp edges and removing light burrs. The amount of material removed and accuracy of the cut is limited by the hand pressure applied. The high-speed steel blades are taper mounted with a fine adjustment screw so that the stock can be easily hand held without grabbing or chatter.

Smaller commercial off-the-shelf deburring tools can be used with our special adapter shanks. The Sentry Ind. PC Series and X+SQ Series are portable and production machines specifically designed for end finishing and chamfering.

Supergrip Rollers

All K-Series rollers are reversible for double life. Our exclusive extra long roller designs improve contact and provide more power to the stock for faster cuts. Sentry Ind. manufactures three types of interchangeable rollers especially designed to drive any tubular stock:



Solid Urethane Rollers
with steel cores provide non-slip surface for mar-free finishes when cutting thin wall tube (14 gauge or less).



Solid Steel Rollers
with supergrip drive surfaces generally provide maximum driving power on oily or dry tube and pipe.



Combination Rollers
urethane midsection/ heat-treated steel hub for all around performance when a mar-free finish cut and steel backup is required for heavier (14 gauge and up) chrome-plated stock.



ID and OD Deburring Tools

K-SERIES SUPERCUTTERS

Cutting Time

Mild Steel	K400USA6 - 3HP
.75 dia x .035 wall	1/2 sec
1.05 dia x .083 wall	1 sec
1.315 dia x .133 wall	3 sec
1.90 dia x .145 wall	4 sec
2.375 dia x .154 wall	5 sec
2.50 dia x .049 wall	3 sec
2.875 dia x .120 wall	6 sec
3.00 dia x .093 wall	4 sec
3.50 dia x .216 wall	9 sec
4.00 dia x .065 wall	6 sec
4.50 dia x .145 wall	6 sec

Blade Life

Typical Cuts Before Resharping Blade	
20,000	Copper, Alum, Brass
10,000	16 Gauge Steel
3,000	Stainless Steel



K250USA4



K250MU



K400MU



K600USA6

K-Series Machine Specifications

Model No.	K250MU	K250USA4	K400MU	K400USA6	K400MU-2X	K400USA6-2X	K600MU	K600USA6
Actuation	Manual	Semi-Automatic	Manual	Semi-Automatic	Manual 2 Heads	Semi-Automatic 2 Heads	Manual	Semi-Automatic
Capacity								
Tube	1/4-2 1/2"	1/4-2 1/2"	1/2-4 1/2"	1/4-4 1/2"	1/2-4 1/2"	1/2-4 1/2"	1/2-6 1/2"	1/2-6 1/2"
Pipe	N/A	N/A	1/4-4"	1/4-4"	1/4-4"	1/4-4"	1/4-6"	1/4-6"
Wall Thickness	.010-.125	.010-.125	.020-.250	.020-.250	.020-.250	.020-.250	.020-.250	.020-.250
Length Tolerance	± .010	± .010	± .010	± .010	± .010	± .010	± .010	± .010
Electric Motor	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1725 rpm	1725 rpm
	1HP-1PH 110/220V	1HP-1PH 110/220V	1 1/2HP-1PH 110/220V	1 1/2HP-1PH 110/220V	1 1/2HP-1PH 110/220V	1 1/2HP-1PH 110/220V	1 1/2HP-1PH 110/220V	1 1/2HP-1PH 110/220V
	or	or	or	or	or	or	or	or
	1HP-3PH 240/480V	3HP-3PH 240/480V	3HP-3PH 240/480V	3HP-3PH 240/480V	3HP-3PH 240/480V	3HP-3PH 240/480V	3HP-3PH 240/480V	3HP-3PH 240/480V
Air Compressor	80-100 psi 1CFM Lance Stop	80-100 psi 3CFM Lance Stop	80-100 psi 1CFM Lance Stop	80-100 psi 3CFM Lance Stop	80-100 psi 1CFM Lance Stop	80-100 psi 3CFM Lance Stop	80-100 psi 1CFM Lance Stop	80-100 psi 3CFM Lance Stop
Dimensions & Weight								
No Stand	11"W x 15"L x 11"H 100 lbs	11"W x 15"L x 15"H 110 lbs	17"W x 23"L x 17"H 250 lbs	N/A	N/A	N/A	17"W x 23"L x 18"H 255 lbs	N/A
With Stand	13"W x 23"L x 41"H 230 lbs	13"W x 23"L x 46"H 250 lbs	17"W x 23"L x 50"H 400 lbs	17"W x 23"L x 58"H 450 lbs	25"W x 23"L x 50"H 550 lbs	25"W x 23"L x 58"H 600 lbs	17"W x 23"L x 52"H 410 lbs	17"W x 23"L x 60"H 460 lbs

N/A = Not Applicable

