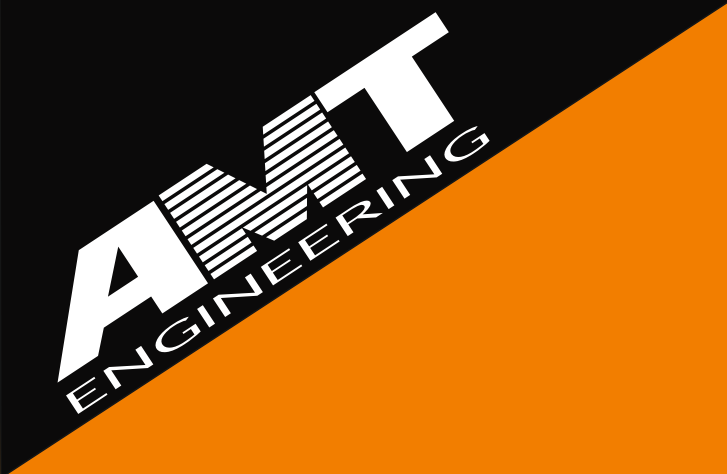




# AUTOMATIC LINE CROSS WEDGE ROLLING METAL FORMING SYSTEM





## GENERAL PROCESS CHARACTERISTICS

With continuous increase in raw materials prices, Cross Wedge Rolling is a logical solution to this issue.

There is a wide range of products that may be manufactured by Cross Wedge Rolling with productivity and cost savings that cannot be achieved by using traditional production methods.

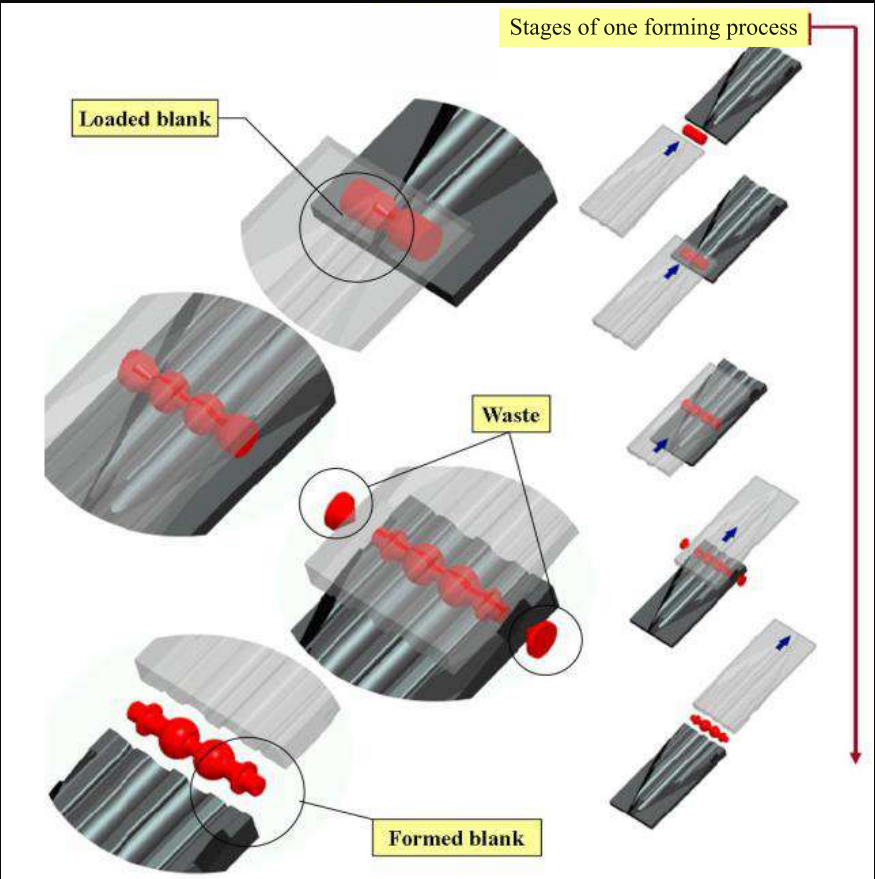
Machining Method Type		
	Conventional	Cross Wedge Rolling
Overall saving of material		
Loaded blank, kg	6,3	3,3
Formed blank (preform), kg	2,7	3,1
Waste, kg	3,6	0,2
Waste, %	57,14	6,7





# CROSS WEDGE ROLLING METHOD

Cross Wedge Rolling method makes it possible to form complexly shaped parts from rare metals (such as titanium), high-strength steel (such as 52100), or aluminum. This process is a technological breakthrough with multiple advantages, which will permanently change the way you approach your manufacturing process if round or cylindrical type solid parts are part of your manufacturing program.



An exceptionally stable base together with extra-long dies give all Cross Wedge Rolling machines the capability of producing complex shapes and forms in one simple operation.

Old method



New method



Comparison of the preform dimensions made by old and new methods



## WRL AND WRL..TS SERIES:

### INNOVATIVE CROSS WEDGE ROLLING WITH PROCESS CONTROL:

The WRL and WRL..TS Series lines from AMTengineering that are based on Cross Wedge Rolling technology meet the constantly increasing market demands with three key features:

- Simplification of tool settings
- Further improvement of workpiece quality
- Increase in flexibility

### WRL AND WRL..TS USE ADVANCED TECHNICAL SOLUTIONS

This results in special advantages to the customer:

- Fully automated Cross Wedge Rolling process
- High capacity
- Mechanical or hydraulic power pack
- Vertical feed during rolling (dimensional correction via control system off-sets)
- Individually programmable rolling speeds

### NEW APPROACHES HAVE BEEN USED TO OPTIMIZE THIS

- Optimized machine guarding concept
- Analysis of the forming process with the aid of FEA simulation
- Innovative tool design to increase tool life

WRL series with one movable slide for production of parts Ø6-100mm parts

	WRL 1206	WRL 2510	WRL 4012	WRL 6010	WRL 6312	WRL 8012	WRL 10016
Max. part Ø, mm	12	25	40	60	63	80	100
Max. part L, mm	200	350	350	350	350	350	420
Output, pcs/hour	1200	500-720	450	600	300-450	240-300	200-300
Tool length, mm	630	1000	1200	1000	1200	1200	1600



WRL..TS series with two movable slides for production of parts Ø6-300mm parts

	WRL 2510TS	WRL 6316TS	WRL 9018TS	WRL 8020TS	WRL 10025TS	WRL 13030TS	WRL 20035TS	WRL 30060TS
Max. part Ø, mm	25	63	90	80	110	130	200	300
Max. part L, mm	250	350	500	500	600	600	1200	2800
Output, pcs/hour	720-900	450-600	360-500	360-450	120-240	90-180	60-180	60-120
Tool length, mm	1000	1600	1800	2000	2500	3000	3500	6300





## CROSS WEDGE ROLLING TOOL

The tool is the most important component of the forging production. ATMeengineering employs experienced specialists in tool design and tool production which allows us to produce high quality tools for CWR machines. Along with the tool itself, we provide our customers with a set of drawings and make proper adjustments after trial runs at our plant. Customer personnel may be trained at our facility where they will receive all the necessary knowledge or rolling technology, tool design, and CWR line servicing.



## INDUCTION HEATERS

Induction heater systems produced by our company can operate both with rolling machines, any forging machine, or used independently (induction heater power varies from 20 to 100kW). Resistance furnaces of special design are produced for warm rolling (around 700 °C).

Per customer request we equip our machines with heaters.



## ANCILLARY EQUIPMENT

To solve special production tasks of Cross Wedge Rolling a wide range of ancillary equipment is produced: feeding mechanisms, induction heaters, conveyors, cooling systems, and other special equipment of various types.

Cross Wedge Rolling lines feature various feeding devices depending on the customer's production program: from simple storage devices with manual feeding to complex hoppers that can store up to 5 tons of billets that would ensure rolling for 408 hours without additional feeding and any operator's involvement.



## SERVICING

We take servicing very seriously. When you buy a line from ERS Engineering Corp., our relationship doesn't terminate when the line is delivered; it's just the beginning. We're committed to making sure you get the most use of equipment supplied by us. The service provided is the best in the business. Just ask our customers. We can quickly respond to problems by performing system diagnostics via telephone and Internet.

## WARRANTY

We realize that a warranty is only as good as the company that stands behind it. That's why we don't simply stock "critical" parts or wear items. We back up our warranty with an extensive inventory of spare parts that allow most items to be shipped the same day you call.

## DESIGN

We use the latest solid modeling software to design our systems. While the systems we produce are built to order, the individual machines that make up our systems are based on standard designs. In order to provide you with a system that meets your specifications, we simply choose the appropriate components from our standard equipment. The result is a custom-built line produced from standard components that are competitively priced.



## MANUFACTURING

We are one of only a few companies in our industry that actually manufactures in house our own equipment. Most vendors outsource manufacturing to subcontractors and simply assemble the finished components. We design, manufacture, and assemble the entire line. We invest in the state-of-the-art fabrication equipment. Consequently, our manufacturing costs are lower and we have parts readily available if you need a replacement. Rest assured, when you buy from ERS Engineering Corp. the highest quality is in every system we manufacture.





## AUTOMATIC CONTROL SYSTEMS

The purpose of the automatic control systems is automation of the Cross Wedge Rolling process and adjustment of its parameters depending on main features of the part to be rolled. Frequency converters ensure accurate control of tool drives over a wide range of settings and have a high overload resistance.

Programmable logical controllers represented by a wide variety of base and add-on modules are used for configuration of automatic control system in order to meet the technological process requirements. Operator control panels are used to provide more efficient production process control and adjust the required parameters. Automatic control system elements and electrical equipment are assembled in RITTAL cabinets.

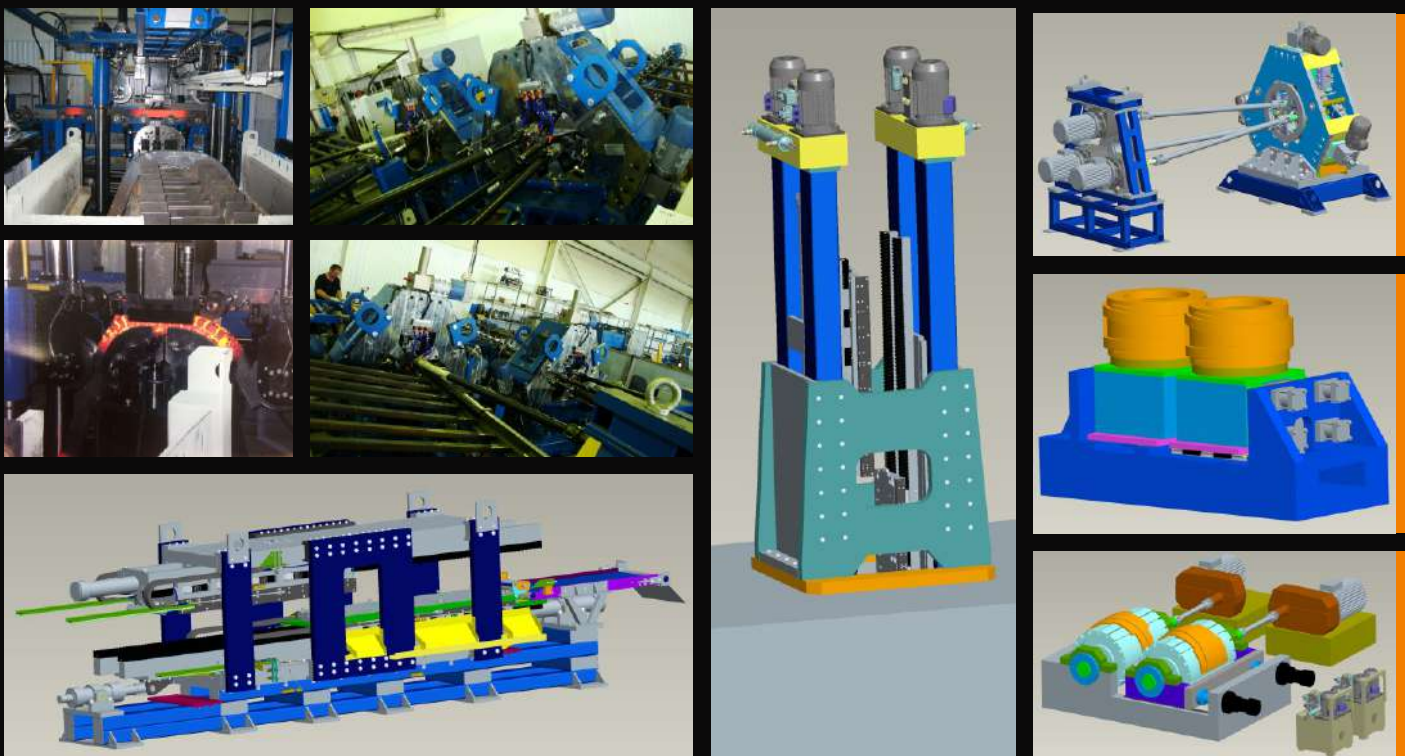
Components produced by such world-famous manufacturers as Mitsubishi, Omron, Hitachi, Siemens, and Allen-Bradley are used in AMT automatic control systems.



## OUR NEW DEVELOPMENT

In addition to traditional rolling we have developed new machines for metal forming by pressure:

- Roller Cross Wedge Rolling lines with vertical and horizontal installation of rolls
- Cross Wedge Rolling lines with flat tool installed on a vertical surface
- Three-roll Helical Rolling lines
- Special Bending Machines for hot parts bending



**ERS Engineering Corp. is an exclusive representative of AMTengineering.**

AMTengineering specializes in design, engineering, and manufacturing of equipment for the metal-working industry.

Over the years of successful operation AMTengineering has assisted its customers in increasing profitability and discovering new business opportunities. AMT's main goal is to meet and exceed its customers' expectations and become the most advanced and respected metalworking equipment supplier worldwide. The AMTengineering's floor space, including its engineering center, is about 8000 square meters. At present, the company employs nearly 190 people (including 76 design engineers). Many years of research activities and design developments are reflected in the high quality of AMT's equipment. Since the company started operations in 1999, it has received 42 patents for various types of equipment and special tools.

The equipment manufactured by AMTengineering is successfully working at factories of some leading enterprises of the world: "STANLEY BLACK & DECKER INC." (USA), "DANAHER Tool Group", "Metaldyne" (USA), "American Axle & Manufacturing" (Mexico), "Severstal", "Gorky Automobile Plant", "Kama Automobile Plant", "Exergia", Vologda plant "Building Constructions and Road Machines", Samara Plant "Electroschit", "Novolipetsk Metallurgical Plant", "Dimitrovgradsky Plant of Light Steel Profiles", the Group of companies "Metal profile" (Russia), "Minsk Tractor Works", "Mogilev Plant of Elevator Engineering", "Belarusian Potash Company" (Belarus), Chernigov Plant "Avtodetal", "Vinnitsa Plant of Tractor Units", Dimitrovgradskiy Plant "Gidrosila" (Ukraine), and others.



**ERS**  
**Engineering Corp.**

6346 ORCHARD LAKE RD., SUITE 103,  
WEST BLOOMFIELD, MI 48322 USE

PH: 248-538-9082

FAX: 248-538-9486

info@ersengine.com

WWW.ERSENGINE.COM