

ROLLING MILLS

Maximize Uptime

Increase Production Quantities

Hot | Cold | 2HI | 4HI

Custom solutions configured to your unique requirement



Standard Features

- Automatic gauge control
- Data acquisition system
- Automatic pass scheduling
- Asymmetric rolling
- Motorized conveyor tables
- Built-in roll change rig
- Driveshaft support system
- Interlock safety guarding





**> Electromechanical Screwdown
4-229 4HI Cold Rolling Mill Model**

- Capacity: 1,175,000 lbs/533 MT at 100 FPM/30 MPM
- Material: Variety of materials
- Work Rolls: 6.75"/171.45mm diameter x 30"W/762mm face
- Notable Feature: Hydraulic actuated roll changing rig



**> Single Direction Coil to Coil Design
Special 2 Stand 2HI Cold Rolling Mill Model**

- Capacity: 22,000 lbs/10 MT at 100 FPM/30 MPM
- Material: Various steels up to 1.182"W/30mm for testing lubricants
- Work Rolls: 4"/100mm diameter x 3"W/75mm face
- Coil Weight: 66 lbs/30kg
- Coil ID: 15"/380mm



**> Mechanical Screwdown
4-046 2HI/4HI Combination Mill Model**

- Capacity: 30,000 lbs/13.6 MT at 33 FPM/10 MPM
- Material: Hot & cold rolling of various materials
- Max Material Thickness: 1.6"/40mm
- Max Material Width: 4"/100mm



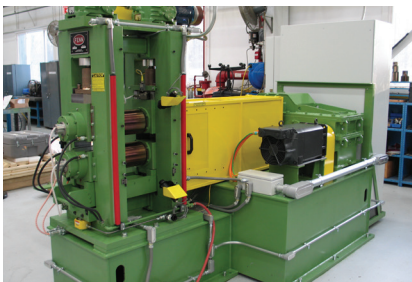
**> Electromechanical Screwdown
103 Reversing Hot & Cold Rolling Mill Model**

- Capacity: 190,000 lbs/86 MT at 50 FPM/15 MPM
- Material: Aluminum Alloy
- Work Rolls: 10"/254mm diameter x 12"W/305mm face



**> Electromechanical Screwdown
4-169 Special 2HI/4HI Hot Rolling Mill Model**

- Capacity: 30,000 lbs/136 MT at 50 FPM/15 MPM
- Material: Aluminum Alloy
- Max Material Temperature: 1,652°F/900°C
- Work Rolls: 5.75"/146mm diameter x 12"W/305mm face
- Back-up Rolls: 16"/406mm diameter x 12"W/305mm face



**> Electromechanical Screwdown
061 2HI Reversing Hot Rolling Mill Model**

- Capacity: 165,000 lbs/74.8 MT at 25 FPM/7.6 MPM
- Material: Various alloys & composites
- Max Material Temperature: 1,112°F/600°C
- Max Material Thickness: 2.4"/60mm
- Max Material Width: 6"/150mm
- Work Rolls: 6.5"/165mm diameter x 10"W/250mm face

FERROUS • NON-FERROUS • ALLOY • EXOTIC METALS • ENGINEERED METALS

Rolling Mills Machinery

For any application up to 3.3 million lbs (1500 MT) separating force

Engineered to meet the critical requirements of metallurgical research and applications up to 3.3 million pounds, 1500 MT, separating force. FENN designs and builds rolling mills with a complete offering of material handling options, processing, gauging, and labor-saving accessories. We offer customizable rolling mills for processing ferrous, non-ferrous, alloy, exotic, and engineered metals for production and laboratory applications.

Hot and **cold** milling machinery and **combination** mills can accommodate both hot and cold rolling applications. Hot rolling is when the metal heats above the recrystallization temperature, allowing the material to deform on a microscopic level and take its new shape. Cold rolling is when the process is conducted at room temperature and does not require metal heating.

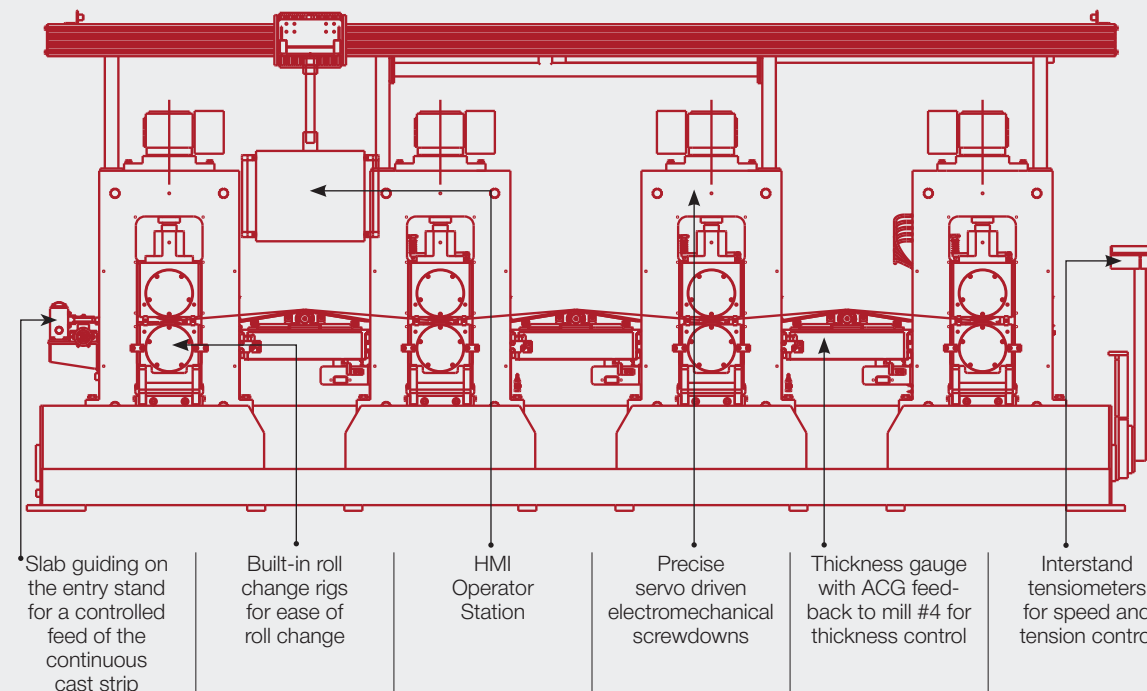
Custom Solutions for Unique Applications

Examples include:

- Breakdown rolling either straight lengths or coil-to-coil
- Finish rolling for tight tolerance thing gauge stock
- Powder metallurgy rolling
- Bonding dissimilar metals together
- Camber correction of BI-metal strip after electron-beam welding
- Grooved rolls for rod rolling of square or circular sections
- Embossed rolls for pattern rolling
- Laboratory mills used for research and development

Anatomy of a FENN Rolling Mill

Material is then fed to a coiling unit (coiling unit not shown)



**> Servo-Hydraulic Screwdown
082 2HI Reversing Hot Rolling Mill Model**

- Capacity: 150,000 lbs/68 MT at 50 FPM/15 MPM
- Work Rolls: 8"/200mm diameter x 10"W/250mm face
- Starting Width: 5"/127mm
- Starting Thickness: 0.5"/12.7 mm
- Minimum Final Thickness: 0.05"/1.27mm
- Application: Rolling sandwich material of aluminum plates for energy research



**> Electromechanical Screwdown with Position Control
4-125 2HI/4HI Reversing Hot & Cold Rolling Mill Models**

- Capacity: 840,000 lbs/381 MT at 35 FPM/10.6 MPM
- Material: Advanced Steel & Magnesium
- 2HI Work Rolls: 12"/305mm diameter x 15"W/381mm face
- 4HI Work Rolls: 3.75"/95mm diameter x 15"W/381mm face
- Back-up Rolls: 316"/406mm diameter x 12"W/305mm face
- Max Material Temperature: 2,192°F/1,200°C
- Notable Feature: Built-in sliding carriage for quick and easy roll change



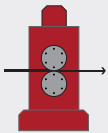
**> Electromechanical Screwdown with Position Control
082 2HI Reversing Hot & Cold Rolling Mill**

- Capacity: 165,000 lbs/74.8 MT at 25 FPM/7.6 MPM
- Material: Various alloys & composites
- Work Rolls: 6.5"/165mm diameter x 10"W/250mm face
- Max Material Temperature: 1,112°F/600°C
- Max Material Thickness: 2.4"/60mm
- Max Material Width: 6"/150m



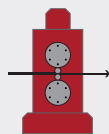
2HI/4HI Laboratory Rolling Mill

Standard Rolling Mill Types



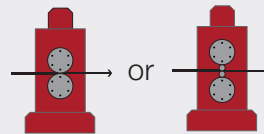
Two-High

Hot or cold breakdown and finishing of bar, sheet or strip. Wide range of sizes with separating force capacities from 10,000 lbs (4.53 MT) to over 3,000,000 lbs (1360 MT).



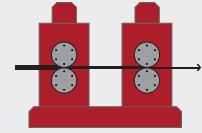
Four-High

For finish rolling of thin gauge stock. Six-High roll inserts are also available for narrow width ribbon and foil products.



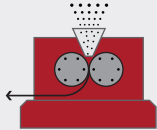
Combination

A versatile "two-in-one" type mill that permits both Two-High and Four-High rolling.



Tandem

For multiple pass rolling combining two or more mill stands, often used with FENN Turks Heads, Edgers, Dancers, Interstand Tensiometers, Payoff and Take-up Equipment.



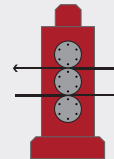
Horizontal

Designed for the field of powdered metallurgy, plastics and battery industries.



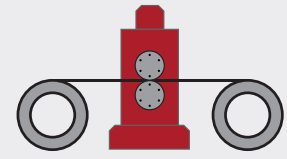
Laboratory

Specialized mills engineered to meet the critical requirements of metallurgists and scientists in research and university fields, and pilot line development.



Three-High

An economic milling solution for the breakdown of rod and ingot.



Mill with Winders

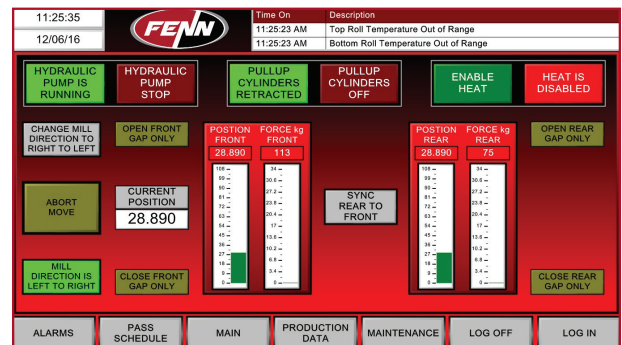
Allows for the rolling of continuous coil for sheet or thin foil.



2HI, 30" Diameter Rolling Mill

Customizable HMI Software

- Internal closed loop feedback
- Roll temperature measurement
- Material temperature measurement
- Screwdown position control
- Separating force measurement
- Torque measurement
- Automatic roll pass programming
- Data acquisition system
- Remote diagnosis capability



PRODUCTION OF PRECISION STRIP IN STRAIGHT LENGTHS OR COIL-TO-COIL ROLLING



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All FENN machinery is proudly designed and built in our USA headquarters. Contact us today to see how FENN can customize a metal forming machine that is best suited to your application requirements.

A Trusted Leader in Custom Engineered Metal Forming Machinery

FENN has been designing and building rugged, dependable metal-forming machinery for more than a century. From initial design to manufacturing and equipment support, FENN has a full team of experts, including customer service technicians, product managers, and engineers, to ensure your project's success.

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