

DRAWING EQUIPMENT

Maximize Uptime

All Stages of the Drawing Process

Custom solutions configured to your unique requirement



MACBEE

- Drawbenches
- Multi-Pass Draw Machines
- Pointers
- Bull Blocks
- Dead Blocks
- De-Scalers / Wire & Rod Cleaners
- Rebuilds & Retrofits

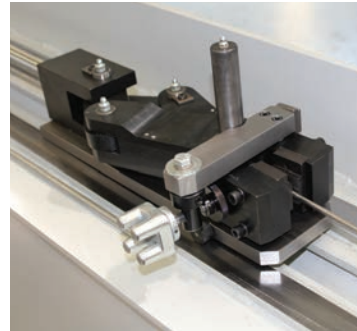
Benches for drawing can accommodate tooling such as floating plugs and fixed mandrels for controlling tube wall thickness.

applications

- Tubes
- Solid Rod
- Shaped Wire



< Chain Type



Manual Gripper >



Hydraulic >



For over 100 years, FENN has been the leader in providing high-quality metal forming solutions.

materials

- Steel
- Copper
- Aluminum
- Superconducting
- Exotic Metals
- Precious Metals



Fully Automated Chain >



< Hydraulic Gripper



Manual Chain >

FENN designs and manufactures a full line of drawbenches used for straight length die drawing of round rod, wire or tube. Drawbenches can also be used with a FENN Turks Head, for producing straight lengths of shaped rod or wire.

FENN provides equipment designed with quality, production, and safety in mind. Suitable for any application, large or small, FENN offers drawbenches ranging from 2'/60.96cm long and 250 lbs/1.1 kn of pull force to 230'/70.1m long and 200,000 lbs/890 kn of pull force.

Drawbenches are available in both hydraulic cylinder and motorized chain type units. Each drawbench can be customized with a full selection of ancillary options to suit a variety of applications, including:

- Manual or hydraulically-actuated grippers with removable tooling for wear replacement and tooling changes for various wire, rod and tube sizes
- Single or multi-draw benches available
- Fully articulating die boxes available
- Dry and wet lube systems
- Turks Head mounting provisions
- Draw pull force measurement and readout
- Full draw cycle automation
- Roll or swager type pointers
- Material handling systems manual or automated
- Safety covers guarding and electrical interlocks



Multi-Pass Draw Machines

MACBEE Multi-Pass Draw Machines allow for an unlimited number of passes and combination of motors and block sizes to suit your needs. Available with no cooling, air cooling and air/water cooling for blocks and water-cooled dies that are suitable for dry powder lube drawing and wet lube drawing.



Dry Lube Drawing



Wet Lube Drawing



Dancer-Type Drawing



X Series



Two great American-made machinery brands engineered and built under one roof.

FENN acquired Engineered Machinery Group's intellectual property, including the rights to MacBee Engineering Group. FENN continues to develop and support its product lines, which include draw machines, drawbenches, payoffs, take-ups, and various ancillary equipment.

Configurations	
Dry Lube	– For sink drawing of tubing
Wet Lube	– Slip type and non-slip type via dancer
Dancer-Type	– Multi-hole drawing – Accommodates any R/A % between each block and makes up for any wear on the die and still follow line speed – Can run multiple ranges of finish sizes
X Series	– Modular design allows for integration of additional spindles with reduced installation costs with plug-in Ethernet – Coil up to .406 diameter low/medium carbon and de-formed wire – Non-twist string-up capabilities – Interchangeable sheaves, blocks and motors – Holding brake for holding and stopping minimizes shut-down maintenance costs and time



Starting: 0.250"

Finished: 0.150"



A Series



B Series



C Series



D / E Series

Pointers

MACBEE Roll Pointers are available to prepare rods or tubing for wire drawing. As an alternative to swaging, roll pointers include a pair of rolls instead of dies, which are driven manually or by a motor.

Each pointer has a pair of rolls grooved to your specifications. The grooves will continue to get smaller, allowing the material to pass through to the desired finish size.

Configurations	
Manual	– For fine wire or tubes
Motorized	– For larger wire or tubes

Pointer Sizing					
Machine	A Series	B Series	C Series	D Series	E Series
Configuration	All machine series are available in single plane and two plane configurations				
Function	Manual	Powered			
Capacity-Solid	0.1875	0.250 – 0.375	0.375 – 0.500	1.000 – 1.250	0.625 – 0.750
Capacity-Tubing					
Min. Finish Size	0.017	0.031 – 0.101	0.046 – 0.143	0.312 – 0.735	0.120 – 0.325
Max. Alloy Range Sizes					
Low Carbon Steel	—	0.312	0.500	—	0.750
High Carbon Steel/Alloys		0.250	0.375		0.625
Aluminum, Copper or Soft Metals		0.375	0.500	0.750	
Motor Horsepower		3	5	15	7.5

Electrical	—	115V AC 208/230/460V AC 60 Hz (USA) 50 Hz (International)			
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Counter-top	•	•	•	•	•
Floor-Standing		•	•	•	•

*Outside diameter.

Bull Blocks

Bull Blocks draw wire as a single unit. The wire is reduced in the die box and collected in the capstan as a loose coil, or into another process from the capstan. Can be used as a single unit or in tandem with other machines.

Configurations	
Horizontal	– Single draw coil removal on block pins or in line with spoolers or dead blocks
Inverted	– Single bright basic draw coils onto turntable
	– Inverted blocks can be above ground or with a pit for turntable See FENN's indexing turn tables
Vertical	– For use with block strippers
Barrel Pack	– Paying out wire from a barrel



Inverted Bull Block above Floor

For wire or tube .010" up to 2" diameter.
Block sizes up to 96" diameter.
Air or water cooled blocks available.



Horizontal Bull Block

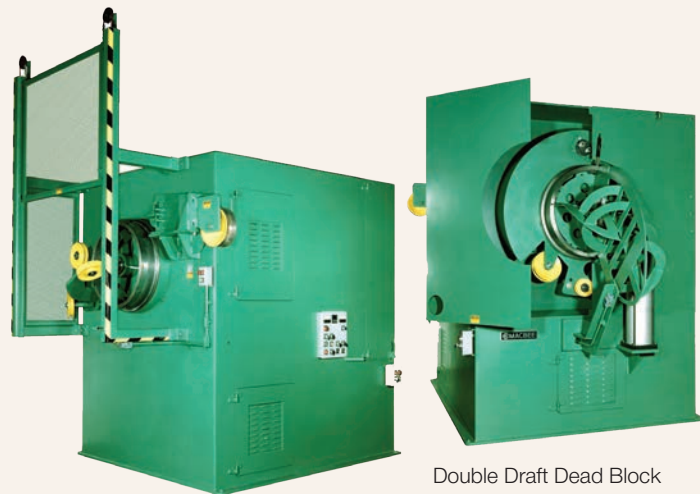


Vertical Bull Block

Dead Blocks

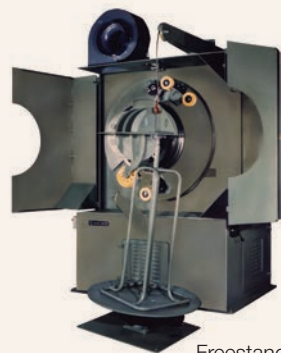
Dead Blocks are utilized for drawing and/or coiling wire, always as a finisher and typically in conjunction with a drawing machine. When used in line with another drawing machine or drawing line, dead blocks make it a nonstop operation.

Configurations	
Freestanding	– Draw or coil
Double Draft	– Infinite to 30% R/A between blocks
V-Groove Dead Block Take-up	– Ideal for use with annealing ovens and coating lines
Live Block Take-up	



Double Draft Dead Block

For wire or tube up to 7/16".
Block sizes up to 36" diameter.



Freestanding



V-Groove



Live

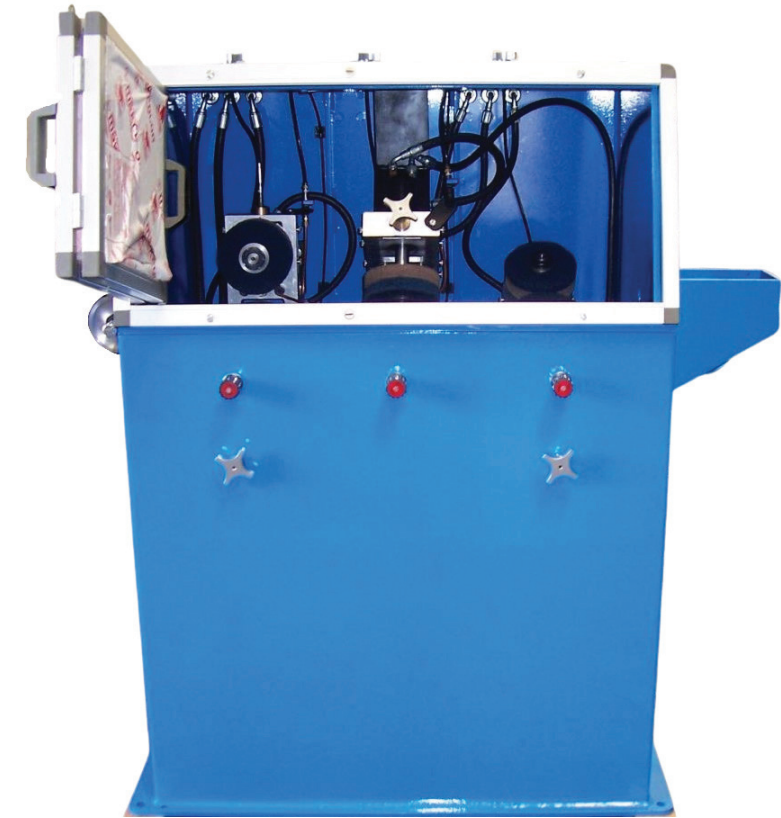
De-Scalers

To clean the outside diameter of wire, a **De-Scaler** or **Wire and Rod Cleaner** takes the scaled material off wire rod that has been heat treated and has a scale on it. Can be used offline or inline during the wire drawing process. Speeds from 800-1750 FPM.

Configurations	
Brush	– Brushes clean the scale, for any type of wire up to 1/2" diameter
Breaking Roll	– Rolls clean scale, for any type of wire up to 3/4" diameter



6 Breaking Roll Cleaner System



6 Brush Cleaner System

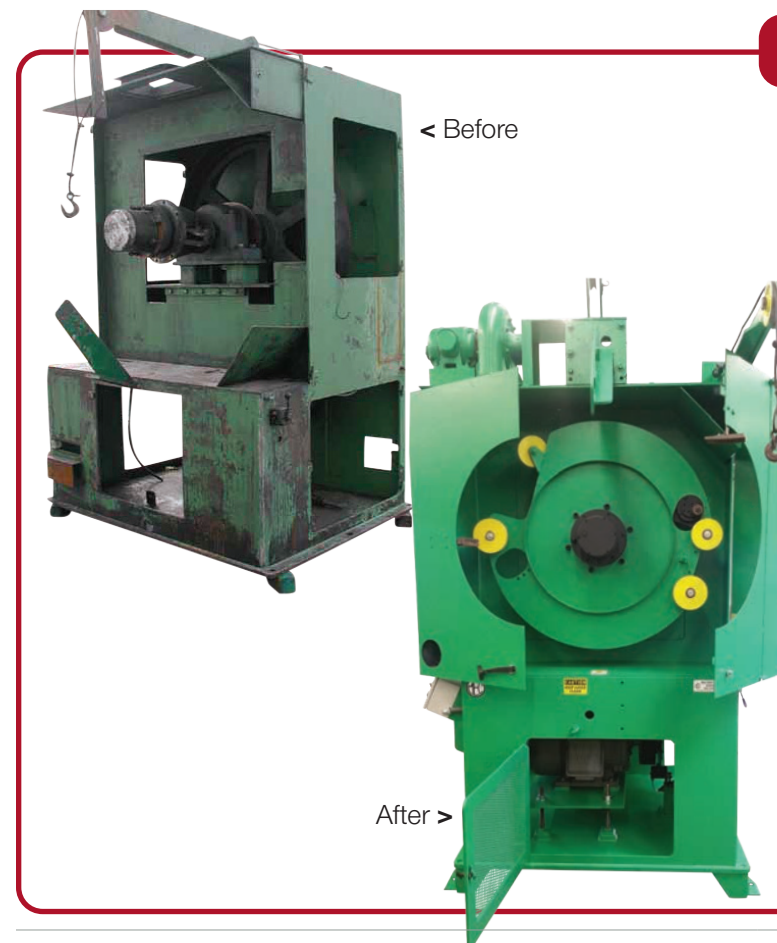
Rebuilds, Retrofits

Partial to complete restoration of older FENN and MacBee machinery, including replacing specific obsolete components and controls.

Applications and production requirements can change, and machines may no longer be useful in their original configuration. FENN and MacBee equipment owners can increase the machine's capabilities and stay current with safety standards for a fraction of the cost of a new machine. We can provide an upgrade solution for your existing FENN and MacBee machinery through a rebuild or retrofit.

Our Process

FENN will discuss your machine's condition, age, wear, and production goals. Then, FENN technicians will inspect the machine. Our team will then provide a comprehensive evaluation outlining customized recommendations and estimates of time, labor, and materials required for the rebuild/retrofit.





Spare Parts

Ordering spare parts and **accessories** from the OEM guarantees that you receive the correct item and ensures that the quality and compatibility of the part will match that of the original machine.

Don't know exactly what you need? Our staff will take the time to work with you to understand your unique requirements.



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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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