

# TENNSMITH<sup>®</sup> USA



Sheet Metal Machinery



**TOOLING & MACHINERY, INC.**

COMPLETE METALWORKING SOLUTIONS  
(800) 991-4225      [www.ahbinc.com](http://www.ahbinc.com)  
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Proudly made in the USA

AN AMERICAN TRADITION

# TENNSMITH® USA

A Family Tradition

Ray Smith, Sr., and sons, Ray Smith, Jr., and W. Douglas Smith, founded the business, first known as Smith Machine Tool Company in McMinnville, Tennessee. Ray, Sr., and his brothers were the owners and managers of Powermatic, the McMinnville-based manufacturer of wood and metalworking machinery, which was established by their father, Leonard F. Smith, Sr., back in 1928. Smith Machine Tool Co. was later reincorporated as TENNSMITH, INC.

**All TENNSMITH products are built in the USA, backed by an industry-leading 3-year limited warranty.**

Today, the Smith family continues to build upon eight decades of manufacturing excellence with TENNSMITH American-made metal

forming machinery. TENNSMITH has developed a full range of sheet metal tools including Automatic Folders, Hand Brakes, Shears, Slip Rolls, Cleat Benders, Notchers and Rotary Machines. The company is recognized worldwide as a premier leader in the manufacture of sheet metal fabricating machinery. All TENNSMITH products are

built in the USA. Our 100,000-square-foot manufacturing facility is well equipped with the very latest in machine tool technology.



*Inside Smith Machine Shop (Powermatic), early 1940s.*

and customer satisfaction are the key ingredients of maintaining our future growth. If you have suggestions, opinions or ideas that will help us improve our products, we would enjoy hearing from you.

TENNSMITH machinery is backed by an industry leading 3-year limited warranty.

Quality workmanship, product performance



*Proudly Made in the USA  
A Family Tradition Since 1928 .*

## BRAKES



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## HEAVY-DUTY HAND BRAKES

**HB**  
series



### MODELS

HB48-12  
HB73-16  
HB97-18  
HB97-16  
HB97-12



Model HB97-16

TENNSMITH's heavy-duty hand brakes are designed and built for long service and accurate bending. Welded steel plate construction and heavy truss rods and braces provide strength and durability.

With much more substantial steel side plates than other domestically made units, these brakes have the rigidity required for upper beam adjustment without the use of wrenches.

Equipped with thrust bearings, the upper leaf adjustment screws permit quick, accurate alignment for different material thicknesses or radii.

Heavy-Duty Hand Brakes	HB48-12	HB73-16	HB97-18	HB97-16	HB97-12
Capacity, mild steel	12 gauge/2.7 mm	16 gauge/1.6 mm	18 gauge/1.25 mm	16 gauge/1.6 mm	12 gauge/2.7 mm
Bending length	49 in./1245 mm	73 in./1854 mm	97 in./2464 mm	97 in./2464 mm	97 in./2464 mm
Maximum lift of beam	1-7/8 in./47 mm	1-7/8 in./47 mm	1-7/8 in./47 mm	1-7/8 in./47 mm	2-1/4 in./57 mm
Front to rear beam adjustment	1/2 in./13 mm	1/2 in./13 mm	1/2 in./13 mm	1/2 in./13 mm	1/2 in./13 mm
Minimum reverse bend	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm	1 in./25 mm	1 in./25 mm	1 in./25 mm
Dimensions, counterweights in place, LxWxH	72 x 36 x 53 in. 1829 x 915 x 1346 mm	114 x 48 x 59-1/2 in. 2896 x 1220 x 1512 mm	138 x 48 x 59-1/2 in. 3506 x 1220 x 1512 mm	140 x 52 x 60 in. 3556 x 1321 x 1524 mm	145 x 54 x 63-1/2 in. 3683 x 1372 x 1613 mm
Shipping weight	1100 lbs./500 kg	1200 lbs./545 kg	1385 lbs./628 kg	1675 lbs./759.8 kg	2800 lbs./1273 kg

## HEAVY-DUTY HAND BRAKES

**MODELS**  
 HB121-18  
 HB121-16  
 HB121-14  
 HB145-18

**HB**  
 series



Model HB121-16

Other adjustment features include:

- Leveling screws and lock nuts on the pedestals
- Jack screws and tensioner bolts on the apron
- Truss rods on the apron, base and upper beam
- Fully adjustable counter balances to facilitate the bending process
- Replaceable nose bar and apron inserts

Removable apron angle and insert permit 1/4-inch reverse bends in lighter material.

Bored in line to ensure perfect alignment, the pivot points are fitted with oil impregnated bearings. The hinge pins are high-tensile, alloy steel.

Ductile steel clamp handles, heavy yokes, grease fittings and an apron stop rod complement the many other fine features of these heavy-duty brakes.

<i>Heavy-Duty Hand Brakes</i>	<i>HB121-18</i>	<i>HB121-16</i>	<i>HB121-14</i>	<i>HB145-18</i>
Capacity, mild steel	18 gauge/1.25 mm	16 gauge/1.6 mm	14 gauge/2.0 mm	18 gauge/1.25 mm
Bending length	121 in./3073 mm	121 in./3073 mm	121 in./3073 mm	145 in./3683 mm
Maximum lift of beam	1-7/8 in./47 mm	2-1/4 in./57 mm	2-1/4 in./57 mm	2-1/4 in./57 mm
Front to rear beam adjustment	1/2 in./13 mm	1/2 in./13 mm	1/2 in./13 mm	1/2 in./13 mm
Minimum reverse bend	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm	1 in./25 mm	1 in./25 mm
Dimensions, counterweights in place, LxWxH	159 x 52 x 60 in. 4039 x 1321 x 1524 mm	161 x 53 x 59-1/2 in. 4090 x 1347 x 1512 mm	162 x 54 x 63-1/2 in. 4115 x 1372 x 1613 mm	185 x 53 x 59-1/2 in. 4700 x 1347 x 1512 mm
Shipping weight	2300 lbs./1043 kg	2875 lbs./1304 kg	3250 lbs./1477 kg	3400 lbs./1545 kg



## CONNECTICUT BENDING BRAKES

**CT**  
series



### MODELS

816  
1018  
1016



Model 1018

*Connecticut*  
SERIES

Connecticut Series floor-mounted manual bending brakes are precision machines designed for accurate bending within rated capacities.

Features of the Connecticut Bending Brake:

- Positive clamping pressure adjustment
- Apron stop rod for repeat bends
- Long handles for extra leverage
- Work support angle bar for full capacity
- 1-inch minimum flange
- Improved leg design for lighter weight
- All-steel construction

- Heavy tie rods for minimum deflection
- Removable bending bar and angle
- Adjustable apron hinges
- Positive rear material gauge adjustment

Connecticut Series hand brakes are an economically-priced solution for your bending needs and will provide years of trouble-free service.

<i>Straight Bending Brakes</i>	<b>816</b>	<b>1018</b>	<b>1016</b>
Capacity with bending bar/angle in place, mild steel—1" Flange	16 gauge/1.60 mm	18 gauge/1.25 mm	16 gauge/1.60 mm
Capacity with bending angle removed, mild steel—1" Flange	20 gauge/1.00 mm	22 gauge/.76 mm	20 gauge/1.0 mm
Capacity with bending bar/angle removed, mild steel—1" Flange	24 gauge/0.61 mm	26 gauge/0.5 mm	24 gauge/0.61 mm
Bending length	97 in./2464 mm	121 in./3073 mm	121 in./3073 mm
Maximum lift of beam	1-5/8 in./41 mm	2-1/4 in./57 mm	2-1/4 in./57 mm
Front to rear beam adjustment	1-1/8 in./28.5 mm	1-1/8 in./28.5 mm	1-3/8 in./35 mm
Minimum reverse bend (bar and angle removed)	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm	1 in./25 mm
Dimensions, counterweights in place, LxWxH	140 x 52 x 60 in. 3556 x 1321 x 1524 mm	159 x 52 x 60 in. 4039 x 1321 x 1524 mm	161 x 53 x 60 in. 4090 x 1347 x 1512 mm
Shipping weight	1640 lbs./745 kg	2200 lbs./1000 kg	2660 lbs./1200 kg



Model U412-6

## Connecticut SERIES

Connecticut Series floor-mounted manual bending brakes are precision machines designed for accurate bending within rated capacities. Features of the Connecticut Box and Pan Bending Brake:

- 6-inch depth of box capacity
- Positive clamping pressure adjustment
- Apron stop rod for repeat bends
- Replaceable bushings and hinge pin
- Long handles for extra leverage
- Work support angle bar for full capacity 1-inch minimum flange
- Improved leg design for lighter weight
- All-steel construction

- Heavy tie rods for minimum deflection
- Removable bending bar and angle
- Adjustable apron hinges
- Positive rear material gauge adjustment

Connecticut Series box and pan brakes are an economically-priced solution for your bending needs and will provide years of trouble-free service.

## CONNECTICUT BENDING BRAKES

**MODELS**  
U 4 1 2 - 6  
U 6 1 6 - 6

**CT**  
series



<i>Box and Pan Bending Brakes</i>	<i>U412-6</i>	<i>U616-6</i>
Capacity with bending bar/angle in place, mild steel—1" Flange	12 gauge/2.6 mm	16 gauge/1.6 mm
Capacity with bending angle removed, mild steel—1" Flange	16 gauge/1.6 mm	20 gauge/1.0 mm
Capacity with bending bar/angle removed, mild steel—1" Flange	18 gauge/1.25 mm	24 gauge/.61 mm
Bending length	48 in./1220 mm	72 in./1830 mm
Maximum lift of beam	1-5/8 in./41 mm	1-5/8 in./41 mm
Front to rear beam adjustment	1-1/8 in./28.5 mm	1-1/8 in./28.5 mm
Minimum reverse bend (bar and angle removed)	1/4in./6 mm	1/4in./6 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm
Dimensions, counterweights in place, LxWxH	72 x 48 x 72 in. 1829 x 1219 x 1829 mm	96 x 48 x 72 in. 2439 x 1219 x 1829 mm
Shipping weight	1600 lbs./730 kg	1800 lbs./820 kg

## BOX & PAN HAND BRAKES

**HBU**  
series

**MODELS**  
HBU48-12  
HBU72-16



Model HBU48-12

TENNSMITH's HBU Series box and pan hand brakes are an economical tool for a wide range of sheet metal bending and forming operations.

The Model HBU48-12 can handle 12-gauge and lighter materials. The Model HBU72-16 is rated for 6 feet of 16-gauge material. Each hand brake is ideal for both box and pan and straight bending in hot and cold rolled plate, stainless steel, aluminum and heavy plastic.

Ample clamping and nose bar adjustments allow for the bend radius necessary for your application. Welded steel plate construction and heavy truss rods and braces provide strength and rigidity.

This brake features a removable apron insert for 1/4-inch bends in lighter material. The upper leaf adjustment screws feature thrust bearings to prevent upper beam creep. Ductile steel clamp handles, heavy counterweights and an apron stop rod add to the brake's ease of operation.

The removable fingers are case hardened for long service. TENNSMITH's box and pan hand brake is a productive addition to any shop doing prototype or design work, fabrication or short run production in heavier materials.

Box & Pan Hand Brakes	HBU48-12	HBU72-16
Capacity, mild steel	12 gauge/2.7 mm	16 gauge/1.6 mm
Capacity, stainless steel	16 gauge/1.6 mm	20 gauge/1.0 mm
Bending length	48-1/4 in./1225 mm	72 in./1829 mm
Maximum lift of beam	1-1/2 in./38.1 mm	1-1/2 in./38.1 mm
Front to rear beam adjustment	1 in./25 mm	1 in./25 mm
Maximum depth of box	4 in./101.6 mm	4 in./101.6 mm
Maximum reverse bend	1/4 in./6 mm	1/4 in./6 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm
Finger widths	2, 3 and 4 in. 51, 76 and 101 mm	2, 3 and 4 in. 51, 76 and 101 mm
Dimensions, counterweights in place, LxWxH	72 x 36 x 53 in. 1829 x 915 x 1346 mm	96 x 36 x 53 in. 2438 x 915 x 1346 mm
Shipping weight	1330 lbs./603.3 kg	1700 lbs./772 kg

Available option: Radius fingers.





Model F6-48-12

## BOX & PAN HAND BRAKES

### MODELS

F6-48-12  
F6-72-12  
F6-96-12  
F6-120-14

# F6 series



### Finger Assortments

Model F6	Number of Fingers			Total
	3"W	4"W	5"W	
48-12	4	4	4	12
72-12	6	6	6	18
96-12	8	8	8	24
120-14	10	10	10	30

TENNSMITH's F6 Series box and pan brakes were designed to provide heavy-duty forming capability, along with the flexibility of removable 6-inch box depth fingers. Ample clamping and easy-to-use nose bar adjustments allow for a quick-setting bend radius. Welded steel plate construction and heavy truss rods and braces provide strength and rigidity.

Other adjustment features include:

- Leveling screws and lock nuts on the pedestals
- Jack screws and tensioner bolts on the apron
- Truss rods on the apron, base and upper beam
- Fully adjustable counter balances to facilitate the bending process
- Removable apron angle and insert permit 1/4-inch reverse bends in lighter material

Box & Pan Hand Brakes	F6-48-12	F6-72-12	F6-96-12	F6-120-14
Capacity, mild steel	12 gauge/2.7 mm	12 gauge/2.7 mm	12 gauge/2.7 mm	14 gauge/2.0 mm
Capacity, stainless steel	16 gauge/1.6 mm	16 gauge/1.6 mm	16 gauge/1.6 mm	18 gauge/1.25 mm
Bending length	48 in./1220 mm	72 in./1829 mm	96 in./2464 mm	120 in./3048 mm
Maximum lift of beam	1-1/2 in./38.1 mm	2-1/4 in./57 mm	2-1/4 in./57 mm	2-1/4 in./57 mm
Front to rear beam adjustment	1/2 in./12.7 mm	1/2 in./12.7 mm	1/2 in./12.7 mm	1/2 in./12.7 mm
Maximum depth of box	6 in./152.4 mm	6 in./152.4 mm	6 in./152.4 mm	6 in./152.4 mm
Minimum reverse bend	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm	1/4 in./6 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm	1 in./25 mm	1 in./25 mm
Finger widths	3, 4 and 5 in. 76.3, 101.6 and 127 mm	3, 4 and 5 in. 76.3, 101.6 and 127 mm	3, 4 and 5 in. 76.3, 101.6 and 127 mm	3, 4 and 5 in. 76.3, 101.6 and 127 mm
Dimensions, counterweights in place, LxWxH	72 x 49 x 56 in. 1829 x 1245 x 1425 mm	110 x 53 x 60 in. 2794 x 1347 x 1524 mm	137 x 53 x 60 in. 3480 x 1347 x 1524 mm	161 x 53 x 60 in. 4090 x 1347 x 1524 mm
Shipping weight	1725 lbs./783 kg	2825 lbs./1282 kg	3250 lbs./1475 kg	3675 lbs./1670 kg

Available options: Radius fingers; extension fingers (right and left extension fingers form inside corners with a return flange across the top on boxes, cabinets, etc.); open end fingers (provide triangular, square and rectangular tube forming abilities). Ask dealer for more details.

## UNIVERSAL HAND BRAKES

**HBT**  
series

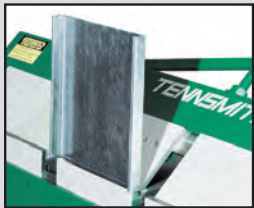
**MODELS**  
HBT48-12  
HBT72-16



Sample bends achieved with HBT72-16.



Model HBT72-16



TENNSMITH's HBT72-16 is designed to provide forming capabilities for complex parts. This machine is truly a universal hand brake, which allows for the removal of both upper and lower segments of fingers. Complex parts, such as

HVAC transverse duct forming and down flanged parts, as well as architectural sheet metal and signage applications, can easily be formed using this machine.

The HBT72-16 is built with the same high-quality features and standards that TENNSMITH brakes are recognized for throughout the industry.

Other models are available upon request. Please consult TENNSMITH for specific forming questions or applications.

Heavy-Duty Hand Brakes	HBT48-12	HBT72-16
Capacity, mild steel	12 gauge/2.7 mm	16 gauge/1.6 mm
Capacity, with bending support angle removed, mild steel	16 gauge/1.6 mm	20 gauge/1.0 mm
Bending length	48 in./1220 mm	72 in./1828.8 mm
Maximum lift of beam	1-1/2 in./38.1 mm	1-1/2 in./38.1 mm
Front to rear beam adjustment	1/2 in./13 mm	1/2 in./13 mm
Maximum depth of box	4 in./101.6 mm	4 in./101.6 mm
Minimum reverse bend	5/8 in./16 mm	5/8 in./16 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm
Top segment tooling widths	2, 3 and 4 in. 50.8, 76.2 and 101.6 mm	2, 3 and 4 in. 50.8, 76.2 and 101.6 mm
Lower segment tooling widths	1, 1-1/2, 4, 6, 8, 12, 20 in. 25, 38, 102, 203, 305, 508 mm	1, 1-1/2, 4, 6, 8, 12, 20 in. 25, 38, 102, 203, 305, 508 mm
Bending beam tooling segments	1, 1-1/2, 6, 8, 12, 20 in. 25, 38, 203, 305, 508 mm	1, 1-1/2, 4, 6, 8, 12, 20 in. 25, 38, 102, 203, 305, 508 mm
Maximum transverse bend (through tooling centers)	2 in./50.8 mm	2 in./50.8 mm
Maximum transverse bend (at either end of machine)	3 in./76.2 mm	3 in./76.2 mm
Dimensions, counterweights in place, LxWxH	72 x 36 x 53 in. 1829 x 915 x 1346 mm	89 1/2 x 36 x 53 in. 2273 x 915 x 1346 mm
Shipping weight	1750 lbs./795 kg	2200 lbs./1000 kg

Available options: Radius fingers.

## BENCH-MODEL HAND BRAKES

**bench  
series**

**MODELS**  
 HBU48-16  
 HBS48-16  
 U48-22  
 S48-22



Model HBU48-16  
Shown with optional stand.



Model HBS48-16  
Shown with optional stand.

Model U48-22  
Shown with optional stand.



Model S48-22  
Shown with optional stand.



TENNSMITH's bench-mounted hand brakes are rugged, dependable USA-made tools that won't break your budget. Model HBU48-16 is a heavy-duty bench brake suitable for box and pan or straight bending in up to 16-gauge mild steel. The brake features a removable apron angle and apron insert permitting 1/4-inch reverse bends in lighter materials. The upper leaf and nose bar has a wide range of adjustment for radius bending. Standard equipment includes an apron stop rod for repeat bends, extension handles and a counterweight.

Model HBS48-16 is identical in features and capacity to the HBU48-16 but is intended solely for straight bending. Like our larger hand brakes, the HBS48-16 features a replaceable nose bar.

Models U48-22 and S48-22 are lighter capacity versions of the four-foot bench brake, which

Bench-Mounted Hand Brakes	HBU48-16	HBS48-16	U48-22	S48-22
Capacity, mild steel	16 gauge/1.6 mm	16 gauge/1.6 mm	22 gauge/0.75 mm	22 gauge/0.75 mm
Bending length	48-1/4 in./1225 mm	48-1/4 in./1225 mm	48-1/4 in./1225 mm	48-1/4 in./1225 mm
Maximum depth of box	4 in./101.7 mm	—	3 in./76.2 mm	—
Maximum lift of beam	1-1/4 in./31.75 mm	1-3/4 in./44 mm	7/8 in./22.2 mm	7/8 in./22.2 mm
Front to rear beam adjustment	5/8 in./16 mm	5/8 in./16 mm	1/4 in./6 mm	1/4 in./6 mm
Minimum reverse bend	1/4 in./6 mm	1/4 in./6 mm	5/16 in./7.9 mm	5/16 in./7.9 mm
Minimum flange in capacity material	1 in./25 mm	1 in./25 mm	3/8 in./9.5 mm	3/8 in./9.5 mm
Finger widths	2, 3, 4 in. 51, 76, 101 mm	—	2, 3, 4 in. 51, 76, 101 mm	—
Shipping weight	495 lbs./224.5 kg	460 lbs./208.7 kg	280 lbs./127 kg	220 lbs./100 kg

Available options: Bolted assembly stand and radius fingers.

offer economical alternatives in working 22-gauge and lighter materials. Also, their lighter weights make these models better suited for transporting to remote job sites.

TENNSMITH's bench-mounted hand brakes

provide an economical means of performing a wide range of sheet metal bending and forming operations. These brakes are of all-steel welded construction, readily adjustable and utilize bronze bearings at pivot points.



## SHEARS

### foot-squaring series



#### MODELS

36  
52



Model 52

TENNSMITH's squaring shears offer precision shearing and rugged construction at an affordable price. The shear frame, bed and cutter head assemblies are constructed of heavy-duty cast iron. The shear bed is machined and then surface ground to precision tolerances to ensure an accurate working surface.

These shears feature triaction, high-carbon/high-chromium (HCHC) steel blades. Both the upper and lower blades have a 2-degree edge relief and the lower blade has an additional 1-degree face relief for maximum material penetration with minimum effort. Triaction blades help prevent material movement while shearing, prolonging blade life.

TENNSMITH shears have the most complete adjustment features of any sheet metal shear

on the market. The lower shear blade is bed-adjusting and the upper blade is adjustable by means of a truss bar on the cutter head. The spring-activated holddown feet clamp the work piece securely in place and are easily adjustable to compensate holding pressure for light or heavy gauge material. There is ample clearance between the holddown feet and shear blades to allow good operator vision for line-of-sight cutting. The standard, double-locking back gauge, which features embossed scales and vernier wheels for fine adjustment, gives highly accurate readings.

Foot-Squaring Shears	Model 36	Model 52
Maximum shearing capacity, mild steel	16 gauge/1.6 mm	16 gauge/1.6 mm
Maximum shearing capacity, stainless steel	20 gauge/1.0 mm	20 gauge/1.0 mm
Maximum cutting length	37 in./940 mm	52-1/4 in./1327 mm
Back gauge range	30 in./762 mm	30 in./762 mm
Front gauge range	37 in./940 mm	37 in./940 mm
Floor space, gauges in position	45 x 80 in. 1143 x 2032 mm	60 x 80 in. 1524 x 2032 mm
Dimensions, less gauges, LxWxH	46-1/2 x 27 x 42 in. 1181 x 686 x 1067 mm	61 x 36 x 42 in. 1550 x 915 x 1067 mm
Shipping weight	700 lbs./317.5 kg	950 lbs./431 kg

Standard equipment includes a back gauge, front extension arms with stop, bevel gauge and graduated side scales. Additional option: Squaring arm.



Model 52H

## AIR & HYDRAULIC SHEARS

**MODELS**  
36A  
52A  
52H

**power  
series**



TENNSMITH's power shears combine all of the features of our foot shears with the advantage and convenience of air or hydraulic operation. TENNSMITH power shears are a productive addition to any shop. The air shears utilize heavy-duty, tie rod-type pneumatic cylinders, which provide up to 40 strokes per minute in capacity materials.

A foot-operated air valve control, pressure regulator, air gauge, oiler/condenser cups and neoprene, padded holddown feet are standard features. We recommend a maximum air supply of 75 psi for operating these shears at rated capacity. Where air supply pressures exceed 75 psi, an in-line regulator is helpful to provide pressure control.

The model 52H cycles at 45 strokes a minute, thanks to its first class hydraulic system. The hydraulic unit is of a low maintenance design featuring a solenoid actuated valve, 3-hp electric motor, self-contained pump in tank with pressure gauge, check valve and industrial quality cylinders. The motor is protected by a magnetic starter.

Other electrical safety features include a low voltage on/off switch; low voltage, shrouded, electric foot switch; step-down transformer with low voltage circuit fuse; fully enclosed electrical box; and insulated reinforced conduit for all wiring. Models 36A and 52A are ideal ways to enhance shearing productivity with minimal investment.

All shears are standard, equipped with high-carbon/high-chromium (HCHC) blades.

<i>Power Shears</i>	<i>Model 36A</i>	<i>Model 52A/52H</i>
Maximum shearing capacity, mild steel	16 gauge/1.6 mm	16 gauge/1.6 mm
Maximum shearing capacity, stainless steel	20 gauge/1.0 mm	20 gauge/1.0 mm
Maximum cutting length	37 in./940 mm	52-1/4 in./1327 mm
Back gauge range	30 in./762 mm	30 in./762 mm
Front gauge range	37 in./940 mm	37 in./940 mm
Floor space, gauges in position	45 x 80 in. 1143 x 2032 mm	60 x 80 in. 1524 x 2032 mm
Dimensions, less gauges, LxWxH	46-1/4 x 24 x 42 in. 1181 x 686 x 1067 mm	61 x 25 x 42 in. 1550 x 915 x 1067 mm
Strokes per minute, full length	40	40/45
Maximum operating pressure	75 psi/5.1 atmos.	75 psi/1450 psi 5.1 atmos./98.6 atmos.
Air consumption per stroke	1.1 cu. ft./0.031 cu. m.	1.33 cu. ft. / n/a 0.038 cu. m. / n/a
Motor-230/460v, 3-phase, 60Hz, 1745 RPM	n/a	n/a / 3 hp
Shipping weight	800 lbs./363 kg	1085 lbs./1300 lbs. 492 kg/590 kgs

Standard equipment includes back gauge, front extension arms with stop, bevel gauge, graduated side gauges, foot control and neoprene padded holddown feet.

Available options: Squaring arm and one-shot lubricating system.



## HAND SHEAR

**SK**  
series



**MODEL**  
SK1020



Model SK1020

TENNSMITH's SK Series shear is built with the quality and high exacting standards that our customers have come to expect from our line of machinery. This model is ideal for customers interested in 10-foot shearing capacity with the affordability of manual operation.

The SK shear is equipped with a standard 2x-R, 0-24 inch, quick-moving back gauge system, 4-edge high carbon/high chromium (HCHC) blades and precision bearings.

Please consult a TENNSMITH sales representative for more information on the SK model shear.

<i>SK Series Shear</i>	<i>SK1020</i>
Maximum shearing capacity, mild steel	20 gauge/1.0 mm
Maximum shearing capacity, stainless steel	24 gauge/0.61 mm
Maximum cutting length	121 in./3073 mm
Back gauge range	24 in./610 mm
Dimensions, LxWxH	135 x 60 x 55-1/2 in. 3429 x 1524 x 1410 mm
Shipping weight	2,900 lbs./1318 kg

Available options: Five-foot squaring arm, front support arms and protractor.



Model SK1020 Back Gauge

## MECHANICAL SHEARS

**MODELS**  
MSE616  
MSE1016

**MSE**  
series



Model MSE1016

TENNSMITH's MSE Series is based on our popular LM model shears.

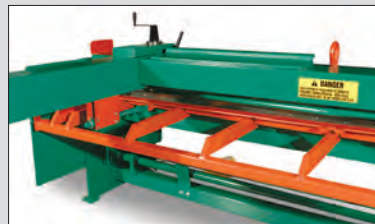
Standard features include:

- 30-inch front-operated 2x back gauge system
- 4-edge high carbon/high chromium (HCHC) blades and precision bearings

The MSE616 is available as a standard model or in our popular Performance Package.

Model MSE1016 comes standard with Performance Package F or R (see box).

Numerous options are available. Please consult a TENNSMITH sales representative for specific details.



Mode MSE1016-F shown from rear.  
(Sheet Support System-F)



Model MSE1016 shown with 2x back gauge.

MSE Series Shears	MSE616	MSE1016
Maximum shearing capacity, mild steel	16 gauge/1.6 mm	16 gauge/1.6 mm
Maximum shearing capacity, stainless steel	20 gauge/1.0 mm	20 gauge/1.0 mm
Maximum cutting length	73 in./1854 mm	121 in./3073 mm
Back gauge range	30 in./762 mm	30 in./762 mm
Strokes per minute, full length	40	40
Motor-230/460v, 3-phase, 60Hz	3 hp	3 hp
Number of holddowns	Solid BAR	Solid BAR
Floor space, gauges in position	92 x 69 x 50 in. 2337 x 1753 x 1270 mm	140 x 69 x 50 in. 3556 x 1753 x 1270 mm
Shipping weight	2,300 lbs./1046 kg	4,150 lbs./1886 kg

Available options: Air-operated sheet support system, five-foot squaring arm, front support arms, protractor and stroke counter.

### The MSE Performance Package includes:

1. Five-foot squaring arm.
2. Pair of front support arms.
3. Air-operated sheet support system, F or R.  
( "F" is a Front Return Material System via material tray located under the shear table. "R" is a Rear Return Material System.)

## LOW-PROFILE SHEARS

**LM**  
series



### MODELS

LM410  
LM610  
LM810



Model LM410  
Shown with optional squaring arm,  
front supports, light beam and  
digital readout (DRO).

TENNSMITH's low-profile LM Series mechanical shears utilize a simple low-maintenance design, coupled with an array of standard features for an attractive combination of high value and solid performance.

Models LM410, LM610, LM810, LM1012, LM1014 and LM1214 incorporate the unique 2x back gauge system. This allows the operator to move the backstop from 0 up to 30 inches (0 to 24 inches for Model LM410) in approximately 2 seconds with only two rotations of the handle. An optional digital readout is available for this system.

The LM Series shears are standard with four-edge, high carbon/high chromium (HCHC) top and bottom blades, independent, self-leveling holddown feet with neoprene inserts, single,

Low-Profile Mechanical Shears	LM410	LM610	LM810
Maximum shearing capacity, mild steel	10 gauge/3.5 mm	10 gauge/3.5 mm	10 gauge/3.5 mm
Maximum shearing capacity, stainless steel	14 gauge/2.0 mm	14 gauge/2.0 mm	14 gauge/2.0 mm
Maximum cutting length	52-1/2 in./1334 mm	60-1/2 in./1525 mm	97 in./2464 mm
Back gauge range	24 in./610 mm	30 in./610 mm	30 in./762 mm
Strokes per minute, full length	35	35	35
Number of holddown feet	8	12	14
Motor-230/460v, 3-phase, 60Hz	7.5 hp	7.5 hp	10 hp
Dimensions, LxWxH	72 x 68 x 55-1/2 in. 1829 x 1753 x 1410 mm	81 x 69 x 56 in. 2058 x 1753 x 1423 mm	116 x 72 x 56 in. 2947 x 1829 x 1423 mm
Shipping weight	3,400 lbs./1542 kg	4,000 lbs./1815 kg	6,800 lbs./3091 kg

continuous and job stroke cycles, motor reverse switch, precision-machined table with hand well, dual inch/metric inlaid bed scales and

non-metallic gibs. The LM410 model incorporates all of the popular LM series features into this 52-1/2" cutting length, 10-gauge mild-

steel capacity shear. Model LM610 has a rated capacity of 10-gauge mild steel with a maximum cutting length of 60-1/2 inches.

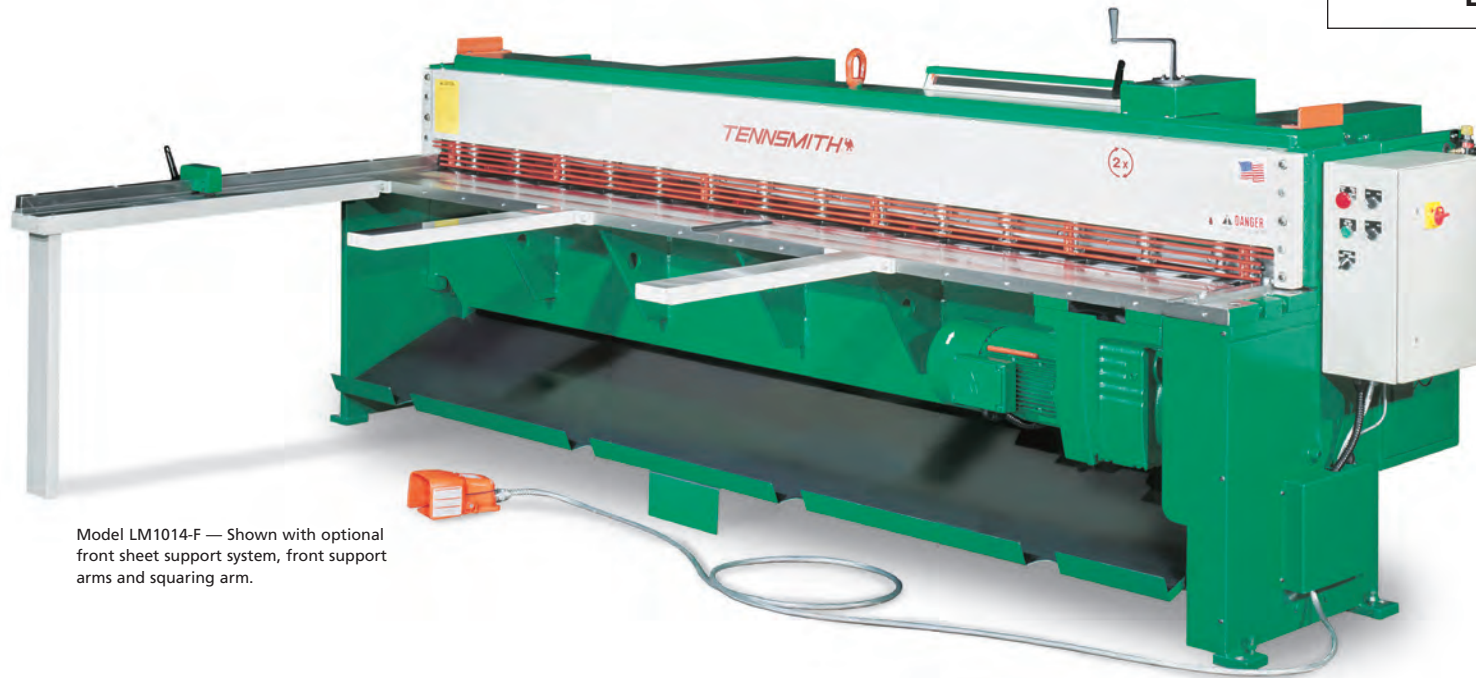
Available options: Please consult a representative for a complete listing.



## LOW-PROFILE SHEARS

**MODELS**  
LM1012  
LM1014  
LM1214

**LM**  
series



Model LM1014-F — Shown with optional front sheet support system, front support arms and squaring arm.

The LM1014 will handle 14-gauge mild steel up to 121 inches. The LM1214 is rated for 14-gauge mild steel with 145-inch cutting length.

To enhance productivity, optional equipment available for the machines include:

- Five or ten-foot squaring arm
- Front support arms
- Protractor attachment

On models LM1014 and LM1214, the air operated sheet support is available in two styles:

- **System R** drops the supported material to the rear of the machine.
- **System F** returns the supported material to the front of the machine via a front return chute.

The LM Series shears are now available in an optional “Performance Package” configuration.

Low-Profile Mechanical Shears	LM1012	LM1014	LM1214
Maximum shearing capacity, mild steel	12 gauge/2.7 mm	14 gauge/2.0 mm	14 gauge/2.0 mm
Maximum shearing capacity, stainless steel	16 gauge/1.6 mm	18 gauge/1.25 mm	18 gauge/1.25 mm
Maximum cutting length	121 in./3073 mm	121 in./3073 mm	145 in./3683 mm
Back gauge range	30 in./762 mm	30 in./762 mm	30 in./762 mm
Strokes per minute, full length	35	35	35
Number of holddown feet	16	16	18
Motor—230/460v, 3-phase, 60Hz	7.5 hp	5 hp	7.5 hp
Dimensions, LxWxH	140 x 72 x 56 in. 3556 x 1829 x 1423 mm	143 x 72 x 56 in. 3632 x 1829 x 1423 mm	164 x 72 x 56 in. 4166 x 1829 x 1423 mm
Shipping weight	6,400 lbs./2910 kg	5,900 lbs./2682 kg	7,530 lbs./3423 kg

Available options: Please consult a representative for a complete listing.

### The LM Performance Package includes:

1. Five-foot squaring arm.
2. Pair of front support arms.
3. Air-operated sheet support system, F or R.  
(“F” is a Front Return Material System via material tray located under the shear table. “R” is a Rear Return Material System.)

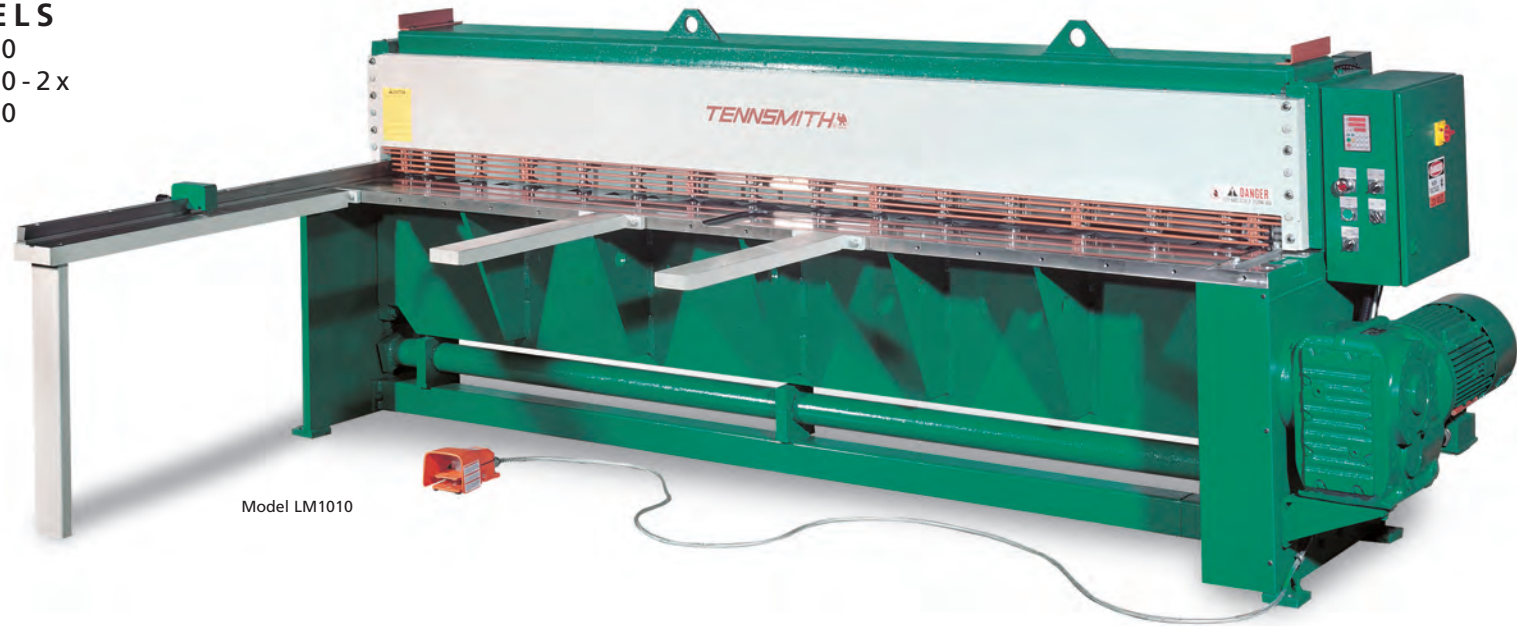
## LOW-PROFILE SHEARS

**LM**  
series



### MODELS

LM1010  
LM1010-2x  
LM1210



Model LM1010

TENNSMITH's LM1010 is equipped with a standard "GO TO" 30-inch back gauge system. The ballscrew-driven back gauge provides quick, accurate cuts. The LM1010 is powered by a 12-1/2-hp gear motor attached to a mechanical linkage which provides smooth, quiet operation.

The LM1010 is rated at a maximum of 10-gauge material with a cutting width of 121 inches. To enhance productivity, optional equipment available for the machines include: five or ten-foot squaring arm, front support arms, light beam and protractor attachment. A rear drop sheet support system is available for the LM1010.

Additionally, the LM1010-2x is equipped with the popular 2x manual back gauge option. This allows the operator to move the backstop from 0 to 30 inches in approximately two seconds

Low-Profile Mechanical Shears	LM1010	LM1010-2x	LM1210
Maximum shearing capacity, mild steel	10 gauge/3.5 mm	10 gauge/3.5 mm	10 gauge/3.5 mm
Maximum shearing capacity, stainless steel	14 gauge/2.0 mm	14 gauge/2.0 mm	14 gauge/2.0 mm
Maximum cutting length	121 in./3073 mm	121 in./3073 mm	145 in./3683 mm
Back gauge range	30 in./762 mm (Go-To)	30 in./762 mm (2x)	30 in./762 mm (Go-To)
Strokes per minute, full length	35	35	35
Number of holddown feet	16	16	18
Motor-230/460v, 3-phase, 60Hz	12.5 hp	12.5 hp	2 x 7.5 hp
Dimensions, less gauges, LxWxH	145 x 39 x 59-1/2 in. 3683 x 991 x 1511 mm	145 x 39 x 59-1/2 in. 3683 x 991 x 1511 mm	169 x 39 x 60 in. 4293 x 991 x 1524 mm
Floor space, gauges in position	145 x 78 x 60 in. 3683 x 1981 x 1524 mm	145 x 78 x 60 in. 3683 x 1981 x 1524 mm	169 x 78 x 60 in. 4293 x 1981 x 1524 mm
Shipping weight	9,400 lbs./4272 kg	9,400 lbs./4272 kg	11,400 lbs./5182 kg

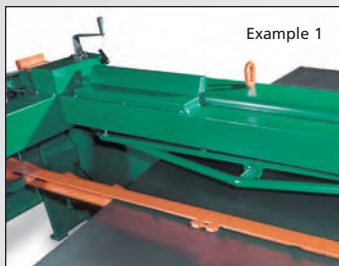
Available options: Please consult a representative for a complete listing.

with only two rotations of the handle. An optional digital readout is available for this system.

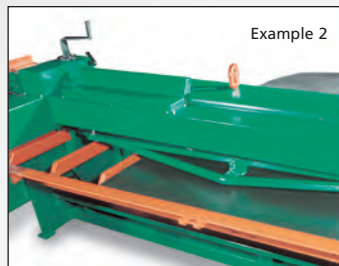
TENNSMITH LM Series shears are quality manufactured in the USA at competitive prices.



## OPTIONAL SHEET SUPPORT SYSTEM



Example 1



Example 2

The optional sheet support system is recommended for gauging of thin material. With this air-powered support mechanism, one operator can effectively shear cumbersome, light-gauge stock. The sheet support system is available in two styles: **System F**, available on models LM1014 and LM1214, is a front return support which drops sheared parts to a front chute for easy retrieval; and support **System R** which drops sheared material to the rear of the machine.

Unlike competitive front return systems, with the LM Series Performance Package F, you can cut materials longer than the standard back gauge length by deactivating the sheet support.

Example 1 illustrates longer material being sheared by sliding material under the backstop. Most competitors are limited to 24” or 30,” and longer pieces cannot be sheared like a TENNSMITH does.

Example 2 illustrates the sheet support system.



### 2X BACK GAUGE WITH DIGITAL READOUT

All MSE and LM models come standard with the unique 2x back-gauge system. The design of the 2x allows the operator to position the back stop from 0 to 30 inches with only two rotations of the handle. Speed of the 2x is unmatched with positioning speeds of only 2 seconds. With the combination

of the optional digital readout for 2x back gauge system, the operator adds both speed and great accuracy to the job. The optional digital display shows measurements in 0.001” increments. Longer travel ranges are available by request.



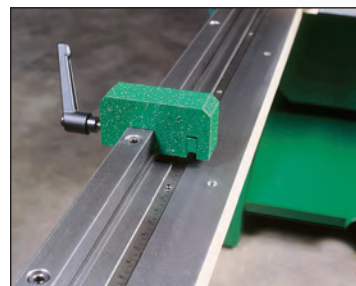
### STANDARD INDEPENDENT HOLDDOWNS

Independent, spring-loaded, self-leveling holddowns exert uniform pressure on a work piece, ensuring an accurate cut. The plungers have neoprene inserts to prevent marring the surface of the piece.

NOTE: Safety guard has been removed for photo purposes only.

## MSE & LM SHEARS

### Options



### OPTIONAL SQUARING ARM

The optional five-foot squaring arm is a precision gauge, which can be mounted left or right and has inlaid inch/metric scaling and adjustable guide block. Also available in ten and twelve-foot lengths. A toggle on the block lets sheet stock slide underneath, then pivots to the stop position.



### OPTIONAL GO-TO BACK GAUGE SYSTEM

The optional Go-To back gauge system features a twin ball screw design which provides accuracy and repeatability. The standard travel range is 30-inches, longer travels are available. The back gauge is powered by a 3/4-hp gear motor and operated by a Go-To control system. Models LM1010 and LM1210 are standard with this system.

## MORE OPTIONS AVAILABLE

- Five-foot squaring arm
- 10-foot squaring arm
- Front support arms
- T-slotted table (supports arms with inlaid inch/metric scales)
- Material cart (MSE1016 and LM1014)
- Stroke counter
- Protractor for angled cuts
- Go-To ball screw driven back gauge
- High speed motors for increased cutting cycles
- Air-operated sheet support system (front or rear return)
- Performance Packages

## AUTOMATIC FOLDERS

**SBS**  
series



**MODELS**  
SBS12614  
SBS15016



Model SBS12614

TENNSMITH's SBS folders are fast, highly durable and ready to meet your needs for years to come. At the heart of the SBS Series is a center-mounted motor and drive system, which maximizes accuracy by minimizing torque loss.

Frequency inverters ensure exceptional accuracy for the back gauge as well as the clamping beam and folding drive systems. Solid-state technology and controls provide reliable performance in difficult working environments while also offering forward compatibility to accommodate additional memory or software enhancement in the future.

- Low-maintenance design ensures fast service, minimum downtime.
- Twin-motor folding beam drive system delivers accuracy and speed—up to 90 degrees per second.

- Center clamping beam drive maximizes power and reduces torque loss.
- Flash memory stores all machine information for fast upgrades and no on-site programming of replacement parts.
- Solid-state electronics minimize maintenance and downtime.
- Touch-screen operation and Windows®-based interface deliver complete operator control.
- Numerous applications include construction, roofing, consumer products, office equipment, appliance manufacturing and a wide range of OEM applications.



**Contact  
TENNSMITH for a  
detailed brochure  
on SBS Automatic  
Folders.**

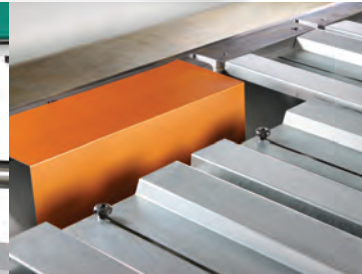
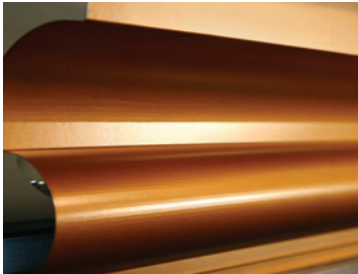
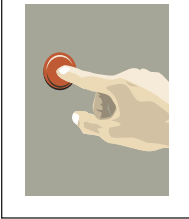
<i>SBS Series Folders</i>	<i>SBS12614</i>	<i>SBS15016</i>
Bending capacity, mild steel	14 gauge/2.0 mm	16 gauge/1.5mm
Bending capacity, stainless steel	16 gauge/1.5 mm	18 gauge/1.25 mm
Bending length	126 in./3200 mm	150 in./3800 mm
Back gauge depth	40 in./1016 mm	60 in./1524 mm
Clamping beam opening height	7 in./178 mm	7 in./178 mm
Folding beam adjustment	1 in./25 mm	1 in./25 mm
Working height	34 in./864 mm	34 in./864 mm
Dimensions, LxWxH	180 x 96 x 72 in. 4572 x 203 x 1829 mm	204 x 96 x 72 in. 5182 x 203 x 1829 mm
Machine weight	9,020 lbs.	10,180 lbs.
Shipping weight	9,885 lbs.	11,195 lbs.
Back gauge motor	¾ hp	¾ hp
Clamping beam motor	2 hp	3 hp
Bending beam motor	2 + 2 hp	2 + 2 hp



# AUTOMATIC FOLDERS

**MODELS**  
SBS12614  
SBS15016

**SBS**  
series



All drive systems are controlled by frequency inverters, a feature that gives the SBS Series folders exceptional accuracy.

Center motor placement maximizes power while reducing torque loss through the drive shaft.

Adjustable base panels enable the SBS Series to create an intricate and endless range of finished pieces.

Twin motor drives for the folding contribute both speed and a high degree of accuracy.

SBS Series Speeds	SBS12614	SBS15016
Clamping beam speed	2.5" per second	2.0" per second
Folding beam speed	90 degrees per second	90 degrees per second
Back gauge speed (0.375" to 40")	7 seconds	7 seconds

With a weight beginning at 9,400 lbs., SBS Series folders are not only more substantial than competitive folders, they promise long-lasting performance in any manufacturing facility or shop floor. They'll stand up to the rigors of hard work day after day, year after year. Yet, while these folders have the brawn to perform under the toughest conditions, they are also incredibly smart.

Parts for SBS Series folders will continue to be readily available from distributors or through our Tennessee-based manufacturing facility and company headquarters.

The SBS Series folders along with all TENNSMITH machines maintain the highest-quality standards known with its brand name.

### SBS control features:

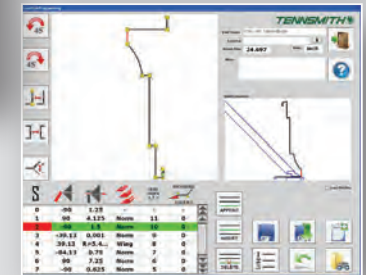
- Graphical programming of profiles
- Hemming macros for open, closed, and teardrop hems
- Radius macro for complex bending of different radii (cornice work, etc.)
- Parts counter
- Bend compensation for different material spring back and bending bar set-up
- Automatic blank calculation
- Material handling instructions



Run Screen



Saved Profile Screen



Graphic Screen

## SLIP ROLLS

**SR**  
series



### MODELS

SR24  
SR36  
SR42



MODEL SR36  
Shown with optional stand.



MODEL SR336  
Shown with optional stand.

TENNSMITH's slip rolls combine precision-turned, ground and polished high carbon steel rolls with heavy-duty, cast iron end frames and a welded steel base to make an accurate and durable forming tool. Convenient operating features include large roll adjusting screws, scales for speeding repeat set-up, and a front-mounted handle to lift the upper roll for material removal. Wire grooves are standard.

TENNSMITH's initial pinch slip rolls are heavy-duty, affordable, production tools for forming curved parts and tubes. Models SR48, SR324, SR336 and SR342 rolls have three gear-driven roll drives that ensure even starting and feeding of

capacity materials. These same models also feature constant drive of the rolls. All three rolls continue to drive throughout their adjustment range.

The SR48 gearing features a 4:1 reduction ratio for ease of operation of heavy materials. All gears are fully enclosed for safety and protection from the elements.

TENNSMITH's SR48P powered slip roll combines all of the features of our SR48 initial pinch roll with the productive advantage of electric-powered drive for production forming of curved parts and tubes made of 16-gauge and lighter sheet metal.

SR Series slip rolls	SR24	SR36	SR42
Capacity, mild steel	20 gauge/1.0mm	22 gauge/0.75 mm	24 gauge/0.6 mm
Maximum forming length	24 in./610 mm	36 in./914 mm	42 in./1067 mm
Diameter of rolls	2 in./51 mm	2 in./51 mm	2 in./51 mm
Minimum forming radius	1 in./0.25 mm	1 in./0.25 mm	1 in./0.25 mm
Wire grooves	3/16, 1/4, 5/16 in. 5, 6.5, 8 mm	3/16, 1/4, 5/16 in. 5, 6.5, 8 mm	3/16, 1/4, 5/16 in. 5, 6.5, 8 mm
Dimensions LxWxH	38 x 19 x 19 in. 711 x 483 x 483 mm	51 x 19 x 19 in. 1295 x 483 x 483 mm	57 x 19 x 19 in. 1448 x 483 x 483 mm
Shipping weight	190 lbs./86 kg	250 lbs./113 kg	270 lbs./122 kg

Available option: Heavy-duty fabricated floor stand.



MODEL SR48  
Shown with optional stand.



Model SR48P

## SLIP ROLLS

**MODELS**  
SR324  
SR336  
SR342  
SR48  
SR48P

**SR**  
series



Drive power for the SR48P is supplied by a heavy-duty, industrial quality gear reduction motor and roller chain directly to the gear train. The roll drive is controlled by a toggle action, shrouded foot pedal for instant forward and reverse action. The drive motor is equipped with an electromagnetic brake to prevent roll creep and over-forming.

Electrical and operator safety features include a full-length, front and back wire cable safety mechanism which instantly stops the rolls when tripped; two magnetic motor starters; fully enclosed electrical box with pilot light; insulated reinforced conduit for all wiring; and fully enclosed drive train. The rolls and gears are mounted in hardened bronze bushings for long life and precision operation.

SR Series Slip Rolls	SR324	SR336	SR342	SR48	SR48P
Capacity, mild steel	20 gauge/1.0mm	22 gauge/0.75 mm	24 gauge/0.61 mm	16 gauge/1.6 mm	16 gauge/1.6 mm
Maximum forming length	24 in./610 mm	36 in./914 mm	42 in./1067 mm	49 in./1244 mm	49 in./1244 mm
Diameter of rolls	2 in./51 mm	2 in./51 mm	2 in./51 mm	3 in./0.76 mm	3 in./76 mm
Minimum forming radius	1 in./0.25 mm	1 in./0.25 mm	1 in./0.25 mm	1-1/2 in./0.38mm	1-1/2 in./38 mm
Wire grooves	3/16, 1/4, 5/16 in. 5, 6.5, 8 mm	3/16, 1/4, 5/16 in. 5, 6.5, 8 mm	3/16, 1/4, 5/16 in. 5, 6.5, 8 mm	3/8, 1/2, 5/8 in. 9.5, 12.7, 15.8mm	3/8, 1/2, 5/8 in. 9.5, 12.7, 15.8 mm
Gearing ratio	n/a	Direct drive	Direct drive	4 : 1	4 : 1
Roll speed	n/a	n/a	n/a	n/a	22 rpm/17.28 sfpm
Motor-230/640v, 3-phase, 60Hz	n/a	n/a	n/a	n/a	3/4 hp
Dimensions LxWxH	38 x 19 x 19 in. 711 x 483 x 483 mm	51 x 19 x 19 in. 1295 x 483 x 483 mm	57 x 19 x 19 in. 1448 x 483 x 483 mm	77 x 30 x 22 in. 1956 x 762 x 559 mm	77 x 29 x 50 in. 1956 x 737 x 1270 mm
Shipping weight	215 lbs./98 kg	275 lbs./125 kg	295 lbs./134 kg	1100 lbs./500 kg	1100 lbs./499 kg



## ROTARY MACHINES

manual  
series



### MODELS

R 22  
R 24



Model R24





Model R22







TENNSMITH's rotary machine, Model R22, with interchangeable rolls, is a versatile forming tool for the manual performance of numerous sheet metal operations.

This tool features a solid cast, enclosed frame and smooth meshing machine gears. Material can be fed through the rolls in either direction by selecting the proper arbor. The forming pressure of the rolls is controlled by the crank on top of the frame. This unit comes standard with rolls A, C, D, E and F listed on the chart, a hand crank, spanner and bench stand.

Model R24 provides simultaneous crimping and beading on 24-gauge and lighter materials. Spacer collars are provided with the machine to enable crimp-only operation. Optional extended ogee bead rolls are also available to configure the

Manual Rotary Machine	R24
Capacity, mild steel	24 gauge/0.61 mm
Throat	n/a
Distance, shaft center to center	1-3/4 in./44.5 mm
Shipping weight	35 lbs./15.7 kg
Roll Chart – R24	
Roll Diagram	Type
	Crimping
	Ogee Beading

unit solely for beading. Standard equipment for Model R24 includes ogee bead and crimping rolls, spacers, a hand crank, spanner and bench stand.

Manual Rotary Machine		R22	
Capacity, mild steel		22 gauge/0.75 mm	
Throat		7 in./177 mm	
Distance, shaft center to center		2 in./50 mm	
Shipping weight		67 lbs./30 kg	
Roll Chart – R22			
Name	Part Number	Roll Diagram	Type
"A" / 1/8"	22100/22101		Turning
"C"	22106/22107		Burring
"D"	22108/22109		Wiring
"E"	22110/22111		Crimping
"F" / 3/4"	22113/22114		Ogee Beading
"G"	22115/22116		Single Beading

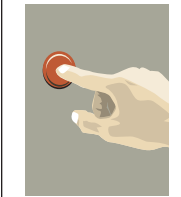


Model PR16

**POWER ROTARY**

**MODEL  
PR 16**

**power  
series**



The PR-16 power rotary is a versatile machine capable of forming numerous applications up to 16-gauge mild steel material. Standard features include variable speed control, heavy cast body with steel body stand.

A 3/4-hp gear motor provides smooth operation. The forming pressure is controlled by a crank on the top of the frame on the standard unit; an optional hydraulic powered forming pressure unit is available. Rolls are ordered separately for this unit.

Crimping, single beading, ogee beading, elbow edging, flattening, wiring, burring and turning rolls are available.

Please contact TENS SMITH for special application forming.

<i>Power Rotary Machine</i>	<i>PR16</i>
Capacity, mild steel	16 gauge/1.6 mm
Capacity, stainless steel	20 gauge/1.0 mm
Throat	10 in./254 mm
Distance, shaft center to center	2.5 in./63.5 mm
Gear ratio	3 : 1
Working speed variable	3 to 45 rpm
Motor	3/4 hp
Shipping weight	350 lbs./159 kg

Available option: Hydraulic depth selection.

Roll Chart – PR16	
Roll Diagram	Type
	Elbow Edging
	Flange
	Flattening
	Offset
	Turning
	Burring
	Wiring
	Crimping
	Ogee Beading
	Single Beading

## NOTCHER, CLEAT & CHEEK BENDERS

manual  
tools



### MODELS

18  
24  
30  
DS24-20  
16-18

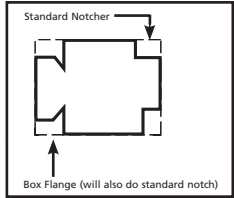
Model 24 Cleat Bender  
Shown with optional stand.



Model DS24-20 Cheek Bender



Optional Box Flange Blade



Optional box flange blades are available for the reinforced box, pan and chassis corners. Front gauges and large-surface, ground work table with inlaid scales are standard features.

Model 16-18  
Shown with optional stand.

Cleat Benders	Model 18	Model 24	Model 30
Maximum capacity, mild steel	20 gauge/1.0 mm	20 gauge/1.0 mm	20 gauge/1.0 mm
Maximum bending	18 in./457 mm	24 in./610 mm	30 in./762 mm
Depth of drive cleat	1/2 in./12.7 mm	1/2 in./12.7 mm	1/2 in./12.7 mm
Dimensions, handles removed, LxWxH	25-1/2 x 12-1/2 x 12-1/2 in. 648 x 317.5 x 317.5 mm	32 x 10 x 11 in. 813 x 254 x 280 mm	38 x 10 x 11-1/2 in. 965 x 254 x 292 mm
Shipping weight	63 lbs./29 kg	95 lbs./44 kg	150 lbs./59 kg

Available option: Heavy-duty fabricated stand.

TENNSMITH's cleat benders are manually operated tools that form uniform drive cleat edges on rectangular ductwork in seconds without set-up or adjustment. The upper handle forms the cleat and the lower handle opens the tool for easy removal of the material. Heavy cast iron and fabricated steel construction provides long life and trouble-free operation. A TENNSMITH cleat bender can save you time and money.

TENNSMITH's Model DS24-20 cheek bender is a rugged tool built for increased productivity while getting the most consistent bends quickly. This model's two-way trunnion design holds the bending apron steady at the base of the bend ensuring accuracy throughout the length of the sheet.

This machine can be bench-mounted and adjusts for bends of 1/4 to 7/8 inches, 24 inches long.

TENNSMITH's cheek bender handles mild steel to 20-gauge.

The TENNSMITH notcher, Model 16-18, is a versatile, heavy-duty bench tool for shearing, notching and piercing work. The heavy cast iron construction allows the notcher to be used to side shear six inches of material to its rated capacity; and the throat behind the upper ram is beveled on one side to permit long strips of material to pass without restriction.

Notches of more than 90 degrees can be accomplished in two operations. The upper blades can be reversed for a "nose to heel" cutting action; and the ram stroke can be controlled by means of two set screws to permit limited throat piercing and knockout operations.

Cheek bender	DS24-20
Capacity, mild steel	20 gauge/1.0 mm
Maximum bending	24 in./610 mm
Bend depth	1/4 in. - 7/8 in. 6.35 mm - 22.2 mm
Dimensions, handles removed, LxWxH	31 x 8-1/4 x 2-3/4 in. 788 x 216 x 70 mm
Shipping weight	80 lbs./37 kg

Notcher	Model 16-18
Maximum capacity notching, mild steel	16 gauge/1.6 mm
Maximum capacity piercing, mild steel	18 gauge/1.25 mm
Notch	6 x 6 in. x 90 degrees 152 x 152 mm x 90 degrees
Dimensions, handles removed, LxWxH	19 x 18 x 15 in. 238 x 257 x 381 mm
Shipping weight	170 lbs./77 kg

Available options: Tab blades and heavy-duty fabricated stand.

## Electrical Specifications

TENNSMITH power machinery features high quality brand name electrical components manufactured in the USA. Replacement components are generally readily available over the counter at electrical supply houses in any industrial market area. Our equipment features transformed control circuits for operator safety. TENNSMITH equipment is made to conform with J.I.C. standards through the addition of a NEMA-12 enclosure and disconnects. This is standard on all TENNSMITH machines.

## Parts

Every effort is made for prompt fulfillment of parts orders. With the entire manufacturing process occurring at our facilities in Middle Tennessee, you can rest assured that parts for your TENNSMITH machinery are, and will continue to be, readily available. Parts may be ordered through your local TENNSMITH distributor. If further assistance is needed, feel free to contact the factory. To facilitate processing of your order, please specify the model and serial number of your machine, and include the part number you require. Additional parts manuals are available upon request.

## Operating Capacities

Operating capacities of TENNSMITH machinery are rated for AISI 1020 steel, 80,000 psi tensile, 44,000 psi yield (unless otherwise specified).

<i>Approximate Shearing, Bending and Forming Capacities for Various Materials Compared to Mild Steel</i>								
<b>Mild Steel Capacity</b>	<b>24 Ga.</b>	<b>22 Ga.</b>	<b>20 Ga.</b>	<b>18 Ga.</b>	<b>16 Ga.</b>	<b>14 Ga.</b>	<b>12 Ga.</b>	<b>10 Ga.</b>
<b>FERROUS METALS</b>								
Iron – dead soft	————— Same as Mild Steel —————							
Steel – low carbon H.R.	————— Same as Mild Steel —————							
Steel – low carbon C.R.	————— Same as Mild Steel —————							
Steel – 40-50% carbon H.R.	28 Ga.	26 Ga.	24 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.
Steel – 1074, 1095 C.R annealed spring steel	28 Ga.	26 Ga.	24 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.
Steel – low carbon C.R. HARD	26 Ga.	24 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.	12 Ga.
Stainless – annealed	28 Ga.	26 Ga.	24 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.
<b>NON-FERROUS METALS</b>								
Aluminum – 1100-0, 2024-0, 3004-0, 5052-0, 5052-H32, 6061-T4, 6061-0, 6063-0, 6063-T4, 7075-0	.050	.060	.070	.090	.125	.150	.200	.3125
Aluminum – 2011-T3, 2014-T4, 2024-T3, 5086-H36, 6061-T6	.030	.036	.048	.063	.090	.105	.125	.150
Aluminum – 2014-T6, 7075-T4, 7075-T6	.015	.018	.024	.030	.036	.048	.060	.075
Copper – electrolytic	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.	12 Ga.	10 Ga.	8 Ga.
Bronze – commercial	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.	12 Ga.	10 Ga.	8 Ga.
Brass 70-30	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.	12 Ga.	10 Ga.	8 Ga.
Nickel alloys – inconel 600, monel R405, nickel 200A annealed	28 Ga.	26 Ga.	24 Ga.	22 Ga.	20 Ga.	18 Ga.	16 Ga.	14 Ga.
Zinc – as rolled	————— Same as Mild Steel —————							
<b>PLASTICS</b>								
ABS compounds	.060	.090	.120	.150	.200	.225	.250	.3125
Polycarbonate	.048	.063	.075	.125	.125	.156	.188	.200
<b>PRINTED CIRCUIT BOARDS</b>								
Copper-clad epoxy laminate	.058	.072	.086	.115	.150	.200	.250	.3125

<i>Approximate Gauge Equivalents</i>											
<b>Gauge</b>	<b>28 Ga.</b>	<b>26 Ga.</b>	<b>24 Ga.</b>	<b>22 Ga.</b>	<b>20 Ga.</b>	<b>18 Ga.</b>	<b>16 Ga.</b>	<b>14 Ga.</b>	<b>12 Ga.</b>	<b>11 Ga.</b>	<b>10 Ga.</b>
inches	.015	.018	.024	.030	.036	.048	.060	.075	.105	.120	.135
mm	.38	.46	.61	.76	1.00	1.25	1.60	2.00	2.70	3.05	3.50



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**www.tennsmith.com**

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**TENNSMITH, Inc.**  
6926 Smithville Highway • McMinnville, TN 37110 USA  
Phone (800) 991-4225  
e-mail: info@tennsmith.com • www.tennsmith.com

## 3-YEAR LIMITED WARRANTY

TENNSMITH machinery and component parts are carefully inspected at various stages of production and are tested and inspected prior to shipment. We agree that for a period of twelve (12) months from date of delivery from our authorized distributor to replace, at our option, any machine (or component part thereof) proving defective within the above period. Additionally, we agree that for a period of thirty-six (36) months from date of delivery to replace component parts proving defective within the stated period. All warranty claims are made



FOB our plant, providing such machine (or component part) is returned freight prepaid to our plant, or a designated service center of the undersigned, for our examination. This warranty does not include repair or replacement required because of misuse, abuse, or because of normal wear and tear; or electrical components which are warranted by their manufacturer. Further, we cannot be responsible for the cost of repairs made or attempted outside of our factory or designated service center without our authorization. No claims for defects will be honored if the name and data plate has been removed. This warranty is made expressly in place of all other warranties or guarantees, express or implied, with respect to fitness, merchantability, quality or operativeness. This warranty becomes effective only when the accompanying warranty card is fully and properly filled out and returned to the factory within ten (10) days from date of delivery.

## OTHER APPLICATIONS FOR TENNSMITH MACHINERY

TENNSMITH tools are most often used in cutting and forming light gauge steel sheet but are also suitable for fabricating or processing stainless steel, aluminum, plastics, non-ferrous sheet, laminates, printed circuit boards, paper and card stock, wire cloth and numerous other materials. Space limitations prevent listing capacity comparisons on all of the various possibilities. However, we would be pleased to work with you on specific applications if you will call or write us at the factory. Material characteristics or samples are helpful.

Specifications subject to change without notice.