BRUNSON INSTRUMENT COMPANY

Metrology Instrument Stand Catalog

HELPING THE WORLD MEASURE™

ISO 9001:2008 CERTIFIED

Oct. 2012

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Brunson Instrument Company

6 Micklehead Business Village
St. Michaels Road
Lea Green, St. Helens
WA9 4YU • UK
Tel: +44 (0)1744 813 100
Mobile: +44 (0)7980 722 340
sales@brunson.us • www.brunson.us

U.S. Address
8000 E. 23rd St., Kansas City, MO 64129
877-632-7873

HELPING THE WORLD MEASURE™

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Heavy Duty Stands

230-F Fixed Heavy Duty

Model	Min	Max
230-F24	24"	n.a.
	61 cm	n.a.
230-F26	26"	n.a.
	66 cm	n.a.
230-F36	36"	n.a.
	91 cm	n.a.
230-F48	48"	n.a.
	122 cm	n.a.

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231 Heavy Duty

Model	Min	Max
231-MOD-0	20 5/8"	25 5/8"
	53 cm	65 cm
231-0, 231-H0	29"	43"
	74 cm	109 cm

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233 Heavy Duty

Model	Min	Max
233-0, 233-H0	37"	55"
	94 cm	140 cm

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230 Heavy Duty

Model	Min	Max
230-0, 230-H0	44"	68"
	112 cm	173 cm

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232 Heavy Duty

Model	Min	Max
232-0, 232-H0	68"	113"
	173 cm	287 cm

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232-SP Very Tall

Model	Min	Max
232-SP-120	10' 3"	17' 3"
	3.12 m	5.26 m
232-SP-240	20' 4"	27' 4"
	6.20 cm	8.33 m
232-SP-360	30' 5"	37' 5"
	9.27 m	11.40 cm

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Pedestal & Specialty Stands

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Tooling Bars

MVTB Series Motorized Instrument Lift			
Bar Height Class	Max Bar Height	Instrument Shelf Height	
		Minimum	Maximum
Standard	24'	3.5'	21.5'
	7.3m	1.1m	6.6m
Extended	37'	3.5'	34.5'
	11.3m	1.1m	10.5m

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About Our Heavy Duty Stands

In metrology, stability is *always* the name of the game

In the precision measurement business, it is crucial that metrology instrumentation remain absolutely stable during the measurement process. The last thing you want is to have unspecified data variations creep into the system due to movement during the data capture phase. This is true regardless of whether you are using a portable CMM arm, Laser Tracker, Laser Scanner, Theodolite, Total station, Optical Tooling instrument, or anything else.

That's why we at Brunson are so hell-bent on fabricating the highest quality instrumentation stands. We understand that our customers do not want to spend tens of thousands of dollars - or even hundreds of thousands - on state-of-the-art measuring equipment, just to have their cutting-edge technology go to waste because it is not mounted on something worthy of their instrumentation investment.

Great for all types of metrology instruments

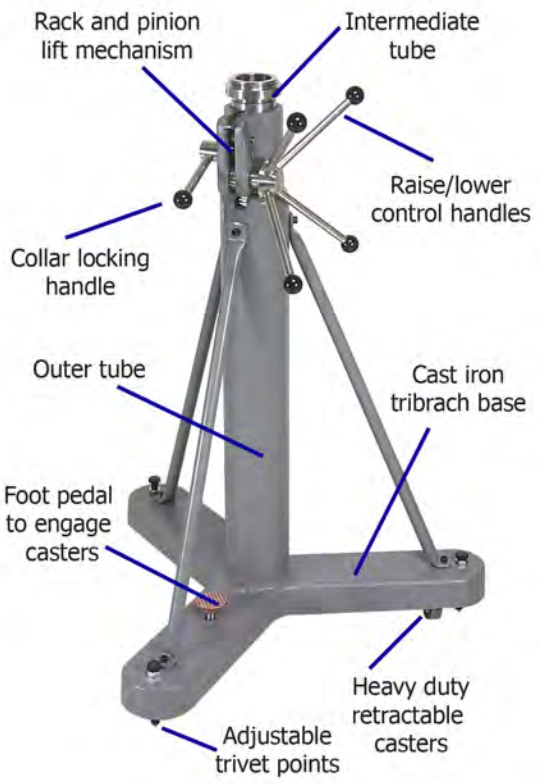
Some of our most popular stands are our heavy duty stands, which include our 230, 231, 232, and 233 series stands. They share the following characteristics:

Bases

The bases of these stands are cast iron for strength and stability. Three 2" casters with rubber tires are used for mobility, and may be retracted into the base by a foot pedal. (Due to its weight and size, the model 232 stand has larger casters, and raising or lowering them is accomplished by a hand wheel on the base.) In use, the stand rests on three adjusting screws called "trivets", with locking nuts. This permits leveling the stand on uneven surfaces.

Main Tube

Our main (or "outer") tubes are seamless steel tubing with a clamping collar on the upper end. Air trapped inside this tube by the air-check mechanism prevents rapid descent of the instrument if both the ratchet pawl and clamping lever are released at the same time. This feature helps to protect against accidental damage to expensive instrumentation.



About Our Heavy Duty Stands *(cont'd)*

Intermediate Tube
Intermediate (or "inner") tubes are hard chrome-plated for wear and rust resistance. Interchangeable instrument mounts and various accessories may be fitted into the upper end of this tube via the 2.825" x 20 NS-2 thread. A rack and pinion gearing system allows raising and lowering the instrument.

Controls
The pinion gear which raises and lowers the intermediate tube is controlled by four spoke-like handles which give you sufficient leverage to put your instrument in just the right position. A ratchet pawl on the gear rack helps to avoid inadvertent drops. A foot pedal engages and disengages the casters on the bottom of the stand. (As a matter of good practice we always recommend mounting the instrument on the stand after the stand is secured in place).

Just what does "Hollow" mean?
On a number of our stands and accessories, you will find the designation "hollow", often with an "H" included in the model number. This means that the stand or accessory has an open vertical centerline, with an unobstructed view straight down through the stand. In other words, if you look down on the center of the very top of the stand, you would see the floor underneath it. This allows for a "plummet shot", or shot straight down, which is important in some applications where our customers must center their instrument vertically over a floor target or other monument or reference.

For specific characteristics of each of our stands, please refer to their individual catalog pages.

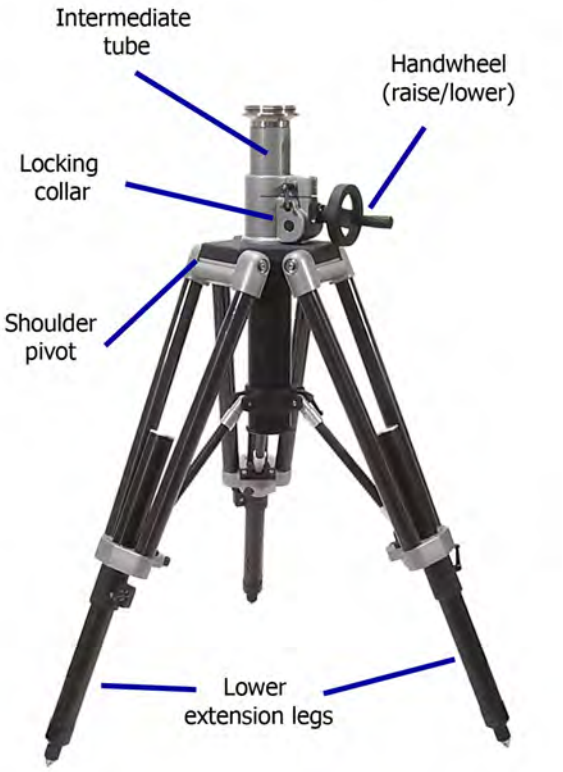
About Our Portable Stands

When heavy duty stands won't work

Portable stands are the answer when you just can't afford the weight or size of our heavy duty stands. Perhaps an instrument must be used in a variety of locations in a fairly short amount of time. Maybe your business requires that your instrumentation be very flexible and mobile. Or maybe your sales staff just doesn't have room in the trunk for a heavy duty stand. Whatever the reason, our portable stands can often be the right answer for your application.

The M-Series Portable Stands

The M Series (MGS and MAS) stands have been requested by both customers and other metrology instrument OEMs. With their input, Brunson has designed and assembled the ultimate instrument stand for stability, functionality, and portability. These stands give you the benefit of portability with a minimal sacrifice of stability. Our customers have used them for scanners and laser tracking instruments when they need to move the equipment easily. All of the M series stands utilize non-corrosive materials (i.e. stainless steel, aluminum, etc.) so they are considered fully weather proof and may be placed in most environments.



Legs

The leg design is common to all M Series stands. Our goal is optimal stability without losing the ability to adjust height while bearing substantial weight. Each leg utilizes two tubes for the double upper leg struts which span from the "shoulder" pivot to the "knee" of the stand. The tubes can be aluminum (MAS) or graphite (MGS) based on your requirements. Graphite is usually the choice when weight and thermal stability are critical.

We use a hard anodized aluminum tube to extend from the knee to the floor. This aluminum tube extension allows for height adjustment and is locked in place with a clamping mechanism underneath the knee. Stabilizer rods connect the tripod's legs firmly to the protective outer tube located in the center of the stand, giving additional rigidity when clamped in place. Cast aluminum shoulder assemblies attach the legs to the collar area for added strength.

About Our Portable Stands *(cont'd)*

Feet

Two options are available for the "feet" on the M series stands (left). You can choose either swivel pad feet or trivet point feet - or get both, they're interchangeable.

Vertical Adjustment

Our stands are available with, or without, an adjustable-height intermediate tube. This tube provides a wider range of vertical movement and the ability to make easy vertical adjustments once the legs are set in the desired position. The collar houses a rack-and-pinion gearing mechanism, giving a smooth vertical adjustment driven by a hand wheel. A clamping lever on the collar securely locks the intermediate tube into position for added stability. For customers whose requirements do not include this additional vertical adjustment, we provide an instrument mount directly connected to the top tribrach of the stand (right).

400S-D TetraLock™ Portable Stand

Engineered to be extremely stable... and lightweight!

Demanded by our customers, the **400S-D TetraLock™**, redefines the lightweight metrology stand. It uses one of the strongest structures known - a pre-stressed tetrahedron - to achieve a very high degree of stability. During setup, cross-brace members rotate down and "snap" into place, forcing the legs to open and lock against a positive stop. The cross braces are then firmly secured with knurled, collet-type clamps. This unique design allows the stand to be collapsible, yet virtually eliminates any movement within the joints when locked in the open position.

Features:
The height of the stand is adjusted by releasing quick-action cam style levers and extending (or retracting) each telescoping leg to the desired length. Index marks on the legs provide visual guides when adjusting the height. Each leg is outfitted with a "pad style" foot. On top is a standard 3½"-8 thread on which may be mounted instruments or other adapters. A bull's eye level vial makes for easy leveling of the stand prior to installing an instrument or adapter. A duffel style canvas carrying bag with shoulder strap is included with the stand.

Accessories:
You can customize your stand with our 400A-PT Point Feet and/or 400A-W Wheels (see picture above). The wheels are engaged and disengaged simply by unlocking the telescoping leg and rotating it, putting the wheel in an upper or lower position. **Note:** The wheel option must be installed at the factory. Wheels may be installed on stands with either point feet or pad feet.

Our 400A-LT Laptop Shelf (see photo on previous page) gives you a convenient location on which to put your computer in close proximity to your measurement instrument. It is easily installed with a single connecting point under the head of the stand. **Note:** Our laptop shelf is often requested by our customers, but such accessories must be used wisely when pursuing high accuracy measurements.

Specifications

Weight: 20.6 lbs (9.6kg)

Minimum Height: 29.5 in (75cm)

Maximum Height: 47 in (119cm)

Material: Aluminum and stainless steel

Finish: Clear coat and paint

Carrying Case: Duffel style canvas bag with strap handle

May be used with...

- 400A-PT Point Feet option.
- 400A-W Wheel option (must be factory installed).
- 400A-LT Laptop Shelf.
- Virtually any instrument or adapter having an internal 3½" x 8 thread.
- Have a look at our entire line of stand accessories and instrument adapters on our website.

400L-T TetraLock-Lite™ Featherweight Stand

Taking "Lite"- weight to a new level

The **400L-T TetraLock-Lite™** featherweight stand is a close cousin to the brawnier 400S-D TetraLock™ stand. The 400L-T was designed for customers needing a very lightweight stand, and who don't require the rigidity of our "bigger" stands. The legs swing open against a positive stop, to a set angle. They are locked in place against that stop using a trivet device which is located under the top of the stand (see picture below). This unique design "locks" the stand into its open position, minimizing movement within the joints.

Features:
The height of the stand is adjusted by releasing a quick-action cam style lever and extending (or retracting) each telescoping leg to the desired length. Index marks on the legs provide visual guides when adjusting the height. Each leg is outfitted with a "point style" foot. On top is a standard 3½"-8 thread for mounting instruments or other adapters. A duffel style canvas carrying bag with shoulder strap is included with the stand.

Accessories:
You can customize your stand with our 400A-PD Pad Feet and/or 400A-W Wheels (see picture above). The wheels are engaged and disengaged simply by unlocking the telescoping leg and rotating it, putting the wheel in an upper or lower position. **Note:** The wheel option must be installed at the factory and does not include the pad feet, as shown in the photograph above. Wheels may be installed on stands with either point feet or pad feet.

Also available: You may wish to add a 400A-BL bull's eye level vial (see photo on previous page) to quickly and conveniently level your stand (before attaching your instrument).

Specifications

Weight: 16.2 lbs (7.3kg)

Minimum Height: 29.5 in (75cm)

Maximum Height: 47 in (119cm)

Material: Aluminum and stainless steel

Finish: Clear coat and paint

Carrying Case: Duffel style canvas bag with strap handle

May be used with...

- 400A-PD Pad Foot option.
- 400A-W Wheel option (must be factory installed).
- 400A-BL Bull's Eye Vial option.
- Any instrument or adapter having an internal 3½"-8 thread.
- Have a look at our entire line of stand accessories and instrument adapters on our website.

M-Series Portable Stands

Sometimes being a lightweight is a good thing

The **M-Series** stands have been requested both by customers and other metrology instrument OEMs. With their input, Brunson has designed this instrument stand for functionality and portability. This collapsible, tripod-type stand is available in a number of standard configurations. Just tell us your preference:

Graphite or aluminum legs. These stands are available with aluminum or graphite double upper legs, which span from the shoulder pivots to the "knee" of the stand. Stands with graphite upper legs have a lower weight and give an advantage with respect to thermal stability.

Adjustable or fixed instrument mount. The stand is available with either an adjustable instrument column, also called the "intermediate tube" (below, left) or with an instrument adapter fixed directly to the tribrach at the top of the stand (below, right). The adjustable instrument mount employs a handwheel-driven worm gear for up-and-down adjustment of the instrument column. The collar may then be clamped to avoid any inadvertent instrument movement. An adapter on top of the intermediate tube provides a standard external 3½" x 8 thread for mounting instruments or other adapters. Note that the intermediate tubes on our M-Series portable stands do not have the same internal threads as found on our bigger stands, and as such will not directly accommodate adapters such as the model 800 precision lift.

The "fixed height" version of the stand has an adapter mounted directly to the top of the stand. For applications where fine vertical adjustment of the instrument is not necessary, this version reduces cost and increases lateral stability.

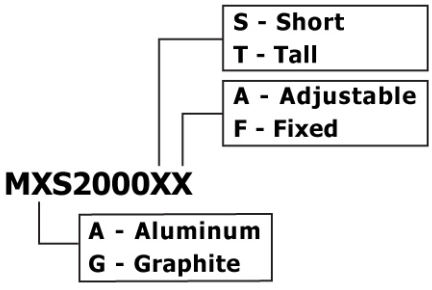
Note that the height of either type of stand (fixed or adjustable mount) may be adjusted by extending and locking the lower legs at the desired position.

Short or Tall. The M-series stands are available in a short or tall version. The double upper leg section and the adjustable instrument column of the tall version are longer, providing the additional height. The lower leg sections are the same length on both versions.

Points or Pads. The stand's lower leg will accommodate two different types of feet - trivet points (below, left) or swivel pad-type feet (below, right). The swivel pads have a thin, textured rubber pad on the bottom. (We know what you're thinking - *rubber*? But it works fine.) Either type of foot is an acceptable choice for general applications. The points work well on uneven surfaces, the pads work well on soft surfaces (ex., linoleum) which the points may damage. Pads have the additional advantage of being outfitted with a hole for semi-permanent mounting. The feet are easily interchangeable in the field. The M-Series comes standard with trivet point feet, and the pad feet are available as an option.

Trivet point feet

Pad feet



Use the legend at left to construct the part number for the M-Series stand that best suits your needs - or give us a call, and we'll help you determine the best configuration. Remember that the M-Series comes with trivet point feet as standard, but the following foot options are available:

For pad feet *instead* of trivet points, order part no. 9887-G2 (a price differential will apply). For *both* trivet points and pad feet, order part no. 9887-G1.

Specifications

Model	Short / Tall	Adj / Fixed	Min Ht.	Max Ht.	Graphite weight	Alum. weight
MxS2000SA	Short	Adj	29 1/4"	55 1/4"	32 lbs	35lbs
			74.3cm	140.3cm	14.5kg	15.9kg
MxS2000SF	Short	Fixed	24 3/8"	38 1/4"	26 lbs	29 lbs
			61.9cm	97.2cm	11.8kg	13.2kg
MxS2000TA	Tall	Adj	41 1/8"	74 5/8"	35 lbs	40 lbs
			104.5cm	189.5cm	15.9kg	18.1kg
MxS2000TF	Tall	Fixed	36 1/4"	50 1/8"	27 lbs	32 lbs
			92.1cm	127.3cm	12.2kg	14.5kg

May be used with...

- Any product having an internal 3½" x 8 thread
- We also have an entire line of stand accessories and instrument adapters.

801-1 Portable Stand

Trimmed-down Version of the 810

The **801-1** is a "trimmed down" version of our model 810 instrument stand. It comes with only those items nessessary to construct a portable, yet rigidly stable, instrument support. This stand is often used in places where our bigger stands are too heavy, bulky, or impractical to place. The height range of this stand is **37½" - 50½" (95 - 128cm)** as measured from the floor to the bottom plate of the instrument. The 801-1 may be disassembled for storage or transport. Included are three 26" aluminum legs with steel tips and top pivot mounts. The legs are bolted into the tribrach/collar assembly through these mounts. The cast aluminum collar has a worm gear to extend or retract the 21" hard-anodized aluminum intermediate tube for height adjustment. The stand is equipped with a 235-3 instrument mount adapter having external 3½" x 8 threads. A 3/4" wrench is included for assembly and operation. A transport/ storage case is available as an added option.

A number of our stand adapters, slides, lifts, and various instrument mounts fit on the stand. You can see our entire line of stand accessories and instrument adapters on our website.

Included Components:			
Qty	**Description**	**Qty**	**Description**
1	Hard-anodized aluminum intermediate tube, 21" (53.3cm)	1	235-3 Hollow adapter
3	26" (66cm) tubular aluminum legs with steel tips and pivot mounts	1	Wrench set
1	Cast aluminum tribrach and collar with height adjustment		

Specifications

Height range: 37½" to 50½" (95 - 128 cm)

Approximate weight: Stand, 29 lbs. (13.2 kg); Shipping, 35 lbs (15.9 kg)

Finish: Machine grey

May be used with...

- Any products that have an internal 3½" x 8 thread.

810 Portable Stand

Flexible Use, Heavy Duty Portable Stand Kit

Our **810** is a heavy duty portable stand which may be assembled by the user into a variety of configurations. It consists of a number of components which give you the flexibility to "build" the stand to the specification of any job which calls for portable or unique setups. It is relatively lightweight and disassembles for mobility, yet is extremely rigid while being used. Various combinations of the 810's components allow instrument mounting heights of **2"** to **55½" (5 - 141 cm)** from the floor. The stand allows you to make precision vertical and horizontal adjustments to solve a multitude of instrument location problems. [In case you're scratching your head, an instrument height of 2" is possible by installing the instrument mount tube - and the instrument - upside down between the legs of the stand.]

The 810 comes with a set of short legs, a set of long legs, and a set of trivet points that may be mounted directly in the three sockets on the tribrach plate, for setting the stand almost directly on the floor or other work surface. It is also supplied with a short and long intermediate tube. The photo above (right) shows the stand with the long legs and long intermediate tube; the photo below (left) shows the stand with the short legs and short intermediate tube.

Left: The 810 stand assembled with the short instrument mount tube and the short legs.

Right: The 810 comes in a sturdy polyethylene case with foam inserts to hold all parts securely.

A number of our stand adapters, slides, lifts, and various instrument mounts fit on the stand. Almost anything will fit on it because it is equipped not only with the 3½" x 8 standard external instrument mount threads, but also our dovetail receptacle and the 2.825" x 20 internal thread found on many of our intermediate tubes. For a trimmed down version of this stand, have a look at our 801-1.

Standard Components Included

Qty	Description	Qty	Description
1	802 precision cross slide	3	26" (66 cm) tubular aluminum legs with steel tips and pivot mounts
1	800 precision lift	3	10" (25.4 cm) tubular aluminum legs with steel tips and pivot mounts
1	Hard-anodized aluminum instrument mount (intermediate) tube, 21" (53.3 cm)	1	Rugged high-density polyethylene case with foam inserts for storage or shipping complete kit.
1	Hard-anodized aluminum instrument mount (intermediate) tube, 10½" (26.7 cm)	1	Cast aluminum tribrach and collar with worm gear height adjustment
3	1" (2.5 cm) trivet point legs with pivot mounts	1	Wrench set

Specifications

Height range: 2" to 55½" (5 - 141 cm)

Finish: Machine gray

Approximate weight: Stand (all components, together with case), 89 lbs (40.3 kg); Shipping, 92 lbs (41.7 kg)

May be used with...

- Any product having an internal 3½" x 8 thread
- Any of our stand accessories and instrument adapters.

5030 Portable Stand

Lightweight, easily disassembled stand

The **5030** stand provides a rigid support for various measuring instruments. Triangular bracing of the legs enhances stability. The legs are removable and the telescoping lower leg sections retract for compact storage and easy transport.

The stand height is adjustable from **31" to 51½" (78.7 - 131cm)** using the center column and telescoping legs. A spoked handwheel below the instrument mount permits fine height adjustment of the center column within a range of 3" (7.6 cm). A positive hand clamp gives extra assurance against accidental height changes. The swivel head at the top can be rotated through 360° and locked in any position. A standard 3½"-8 thread allows attachment of various adapters or instruments. The column and swivel head are hollow, providing a 1 1/8" diameter clear aperture for downward sighting. A removable plastic cap protects the mounting ring when the stand is not in use.

The telescoping legs are attached securely and quickly using attachment screws which seat in a slot in the triangular shoulder unit. The upper portion of the legs are made of aluminum tubing; the lower legs have a stainless steel insert to prevent fretting and wear.

Swivel pad feet on the lower legs facilitate setup on hard surfaces. The swivel pad feet can be removed and replaced with stainless steel points which are also furnished with stand.

For a very short version of this stand, see our 5035. Or, if you already have a 5030 stand and want to convert it to a 5035, you can do it with our **5037 Short Leg Kit** (below, right). This kit consists of three short legs, trivet points, and required mounting hardware. Simply remove the standard legs from the 5030 and bolt the new ones on.

The 5030 breaks down for easy storage and transport.

A short set of legs transforms the 5030 into a miniature stand.

Specifications

Height range: 31" to 51½" (78.7 - 131 cm)

Approx. weight: 28 lbs (13.2kg)

May be used with...

- Any product having an internal 3½"-8 thread
- Many of our instrument adapters

5035 Portable Stand

For cramped spaces and low setups

The **5035** miniature stand is essentially identical to our 5030 stand except for the fact that very short, non-telescoping legs are used. The 5035 utilizes the same top assembly as the 5030, including the tribrach (shoulder), instrument post, handwheel, and rotating mount. The height of the 5035 is adjustable from **14" to 17" (35.6 - 43.2cm)** using the adjustable center column. A bull's eye vial is mounted on the top of the tribrach to aid in leveling the stand. Both types of feet are included with the 5035 (trivet points and swivel pads).

If you already have a 5030 stand and want to convert it to a 5035, you can do it with our **5037 Short Leg Kit.** This kit consists of the three short legs, trivet points, and required mounting hardware. Simply remove the standard legs from the 5030 and bolt on the new ones. *Note that neither the trivet point nor swivel pad feet on these short legs will fit the standard legs for the 5030.*

Specifications

Height range: 14" to 17" (35.6 - 43.2 cm)

Approx. weight: 16 lbs (7.3 kg); shipping, 20 lbs (9kg)

May be used with...

- Any product having an internal 3½" x 8 thread.
- Many of our instrument adapters.

198-1 Trivet

For table-top applications or very low setups

The **198-1** trivet provides a convenient means of setting up instruments on surface plates, machine tables, the floor, or any place where the line of sight is close to the supporting surface.

The mounting ring has a standard 3½" x 8 external thread for instrument mounting as well as a 2.825" x 20 internal thread, which is the same as on the intermediate tubes of our heavy duty stands.

A number of our products fit on the 198-1, however, simple reasonable care must be taken to prevent the assembly from becoming topheavy.

Specifications

Instrument mount height: 5" (12.7 cm)

Body material: Cast iron

Finish: Machine gray

Approximate weight: Trivet, 7 lbs, shipping, 9 lbs

May be used with...

- 800 Precision Lift
- 235-16 Dovetail Adapter
- 273-4 Coordinate Motion Base
- Any item having an internal 3½" x 8 thread

230-F Series Heavy Duty Stands

The final word in stability

The **230-F Series** stands are a great solution when absolute stability is required, and no vertical height adjustment is needed. Often the perfect choice for tracker, scanner, or portable CMM arm applications, the 230-F Series stands give you performance that is as solid as a rock, and easy on your budget as well. This stand comes in several heights (see table below) and is also available in custom heights as required. Permanently mounted on top of this stand is an adapter with an external 3½" x 8 instrument thread. Note that our 234 Series extension tubes are often used with the 230-F stands when accommodation of various fixed heights is required.

As stated, this stand maintains instrument position extremely well, but is not the type of stand that you throw over your shoulder and carry around. Mobility around the shop floor is permitted using the drop-down casters under the heavy-duty tribrach base which are engaged and released by a foot pedal. The stand rests on three adjustable 5/8"-11 trivet bolts when the casters are retracted.

You can read more about our heavy duty stands or look at our entire line of stand accessories and instrument adapters.

Model	Height*	Shipping Weight
230-F-24	24"	214 lbs
	61cm	97 kg
230-F-26	26"	220 lbs
	66cm	100 kg
230-F-36	36"	252 lbs
	91cm	114 kg
230-F-48	48"	280 lbs
	122cm	127 kg

***The height specification in the table at left is the approximate distance from the floor to the top of the flange on the stand's instrument mount (corresponding to the bottom of an instrument's baseplate), with the casters retracted. Small changes in height may be observed depending upon the adjustment of the trivet bolts.*

Specifications

Finish: Machine grey; other finishes available on request.

See model-specific information in table above

May be used with...

- Accepts any product having an internal 3½" x 8 thread.

231 Series Heavy Duty Stands

Short mobile heavy duty stand

The **231 Series** stands available in several configurations, whose working heights range from a minimum of **28"** (71 cm) to a maximum of about **42"** (107 cm), as measured from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached. This stand height specification does not include the added height and vertical range of any of our stand accessories or instrument adapters.

A wide variety of stand adapters, slides, lifts, and various instrument mounts fit into the intermediate tubes of our heavy duty stands.

The 231 Series is also available in a "hollow" version, which means that there is an unobstructed vertical path straight down through the center of the stand. This is useful in certain applications when it is critical to position the stand over a specific point. Any stand or accessory designated as "hollow" has this characteristic.

A special version of the 231, called the **231-MOD-0** (see photo at left) has a range of **20 5/8"** - **25 5/8"** 52.4 - 65.1 cm). This is shorter than the standard 231, and comes with a 235-3 instrument adapter on top.

Stands in this group are generally used to support all types of metrology instrumentation, from portable CMM arms to laser trackers and scanners, to laser alignment devices, particularly when working with surface plates, machine tables, way checking, and assembly operations. Stability is the keyword here; this stand maintains instrument position very well, but it is not the type of stand that you throw over your shoulder and carry around! Mobility around the shop floor is permitted using the drop-down casters under the heavy-duty tribrach base which are engaged and released by a foot pedal. An air-check mechanism provides backup protection to prevent sudden drops of the instrument column in case the operator simultaneously releases the collar lock and main handle while disengaging the ratchet pawl.

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

- Virtually any instrument or adapter having an internal 3½"-8 thread.
- We also have an entire line of stand accessories and instrument adapters.

233 Series Heavy Duty Stands

Shorter Version of the Popular 230 Series

The **233 Series** stands are virtually identical to the 230 Series, but are all somewhat shorter. This stand has a working height range from a minimum of **36" (91 cm)** to a maximum of **54" (137 cm)**, as measured from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached. The stand height specification quoted above does not include the added height and vertical range of any of our stand accessories or instrument adapters.

We have a number of stand adapters, slides, lifts, and various instrument mounts that fit into the intermediate tube.

The 233 Series is also available in a "hollow" version, which means that there is an unobstructed vertical path straight down through the center of the stand. This is useful in certain applications when it is critical to position the stand over a specific point. Any stand or accessory designated as "hollow" has this characteristic.

Stands in this group are used to support all types of metrology instrumentation, from portable CMM arms to laser trackers and scanners, to theodolites, to laser alignment devices. The stand has excellent stability; it maintains instrument position very well, but it is not the type of stand that you throw over your shoulder and carry around! Mobility around the shop floor is permitted using the drop-down casters under the heavy-duty tribrach base which are engaged and released by a foot pedal. An air-check mechanism provides backup protection to prevent sudden drops of the instrument column in case the operator simultaneously releases the collar lock and main handle while disengaging the ratchet pawl.

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

- Virtually any instrument or adapter having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

230 Series Heavy Duty Stands

One of our most popular series of stands

Any of our **230 Series** stands are an excellent choice for average shop and plant requirements. This stand has a working height range from a minimum of **43"** (109 cm) to a maximum of **67"** (170 cm), not including any adapters which may be mounted on top of the intermediate tube. This height measurement is taken from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached.

A variety of stand adapters, slides, lifts, and various instrument mounts fit into the intermediate tube.

The 230 Series is also available in a "hollow" version, which means that there is an unobstructed vertical path straight down through the center of the stand. This is useful in certain applications when it is critical to position the stand over a specific point. Any stand or accessory designated as "hollow" has this characteristic.

Stands in this group are used to support all types of metrology instrumentation, from portable CMM arms to laser trackers and scanners, to theodolites, to laser alignment devices. Our customers are always putting something new on this stand, which attests to its popularity and flexibility. Stability is the keyword here; this stand maintains instrument position very well, but it is not the type of stand that you throw over your shoulder and carry around! Mobility around the shop floor is permitted using the drop-down casters under the heavy-duty tribrach base which are engaged and released by a foot pedal. An air-check mechanism provides backup protection to prevent sudden drops of the instrument column in case the operator simultaneously releases the collar lock and main handle while disengaging the rachet pawl.

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

- Virtually any instrument or adapter having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

232 Series Heavy Duty Stands

The tall one!

Our **232 Series** stands are great for those special jobs where reaching the heights is required. The 232 is available in a number of configurations, whose working heights range from a minimum of **67"** (1.7 m) to as high as **112"** (2.84 m), depending upon the configuration desired. Stand height is measured from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached. This height specification does not include the added height and range any of our stand accessories or instrument adapters.

A wide variety of our stand adapters, slides, lifts, and various instrument mounts fit into the intermediate tube, which is outfitted with the same 2.825"-20 thread as the intermediate tube on our other, shorter stands.

The 232 Series is also available in a "hollow" version, which means that there is an unobstructed vertical path straight down through the center of the stand. This is useful in certain applications when it is critical to position the stand over a specific point. Any stand or accessory designated as "hollow" has this characteristic.

Stands in this group are used to support all types of metrology instrumentation, and customers who use this stand need stability in high places. Mobility around the shop floor is permitted using the drop-down casters under the heavy-duty tribrach base which are engaged and released by a handwheel crank mechanism. An air-check mechanism provides backup protection to prevent sudden drops of the instrument column in case the operator simultaneously releases the collar lock and main handle while disengaging the ratchet pawl.

For general information about this stand, you can read more about our heavy duty stands on this website.

Note: If these stands are not tall enough for you, check out the 232-SP Series stands, or contact us for a custom stand quote. We have built various stands and vertical tooling bars as high as 40 feet.

Specifications

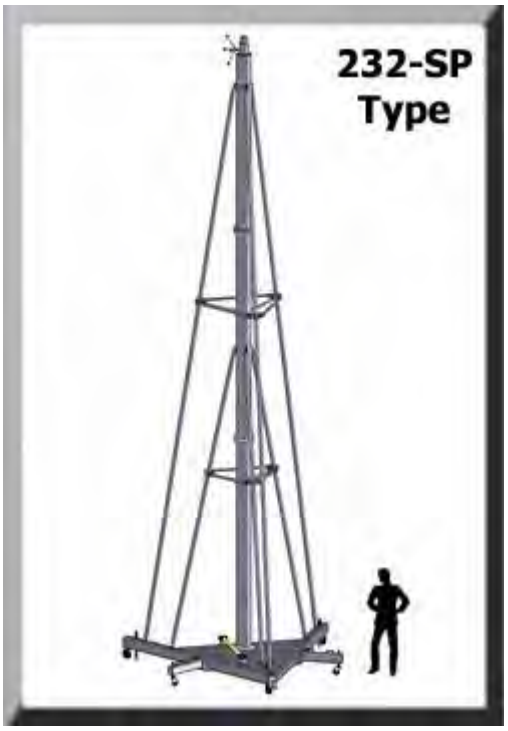
Finish: Machine grey; other finishes available on request.

May be used with...

- Virtually any instrument or adapter having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

232-SP Series Heavy Duty Stands

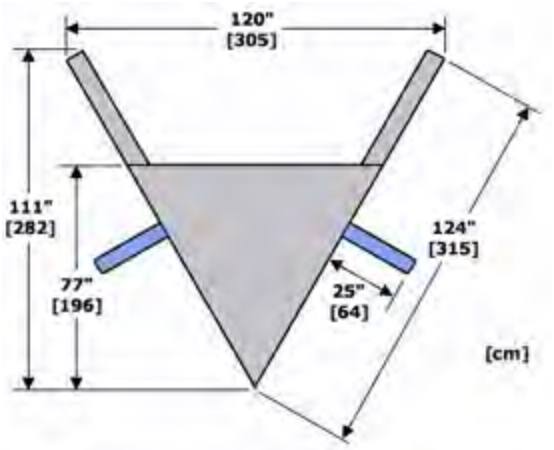
The Really Tall Ones



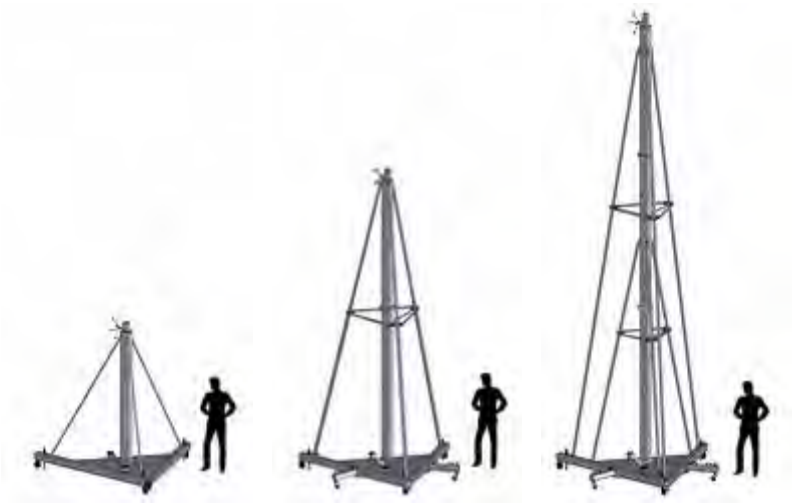
Sometimes you really need to reach the sky with a stable metrology platform. Our **232-SP Series** stands are made for such occasions. The 232-SP is available in three configurations whose working heights range from a minimum of **10' 2" (3.1m)** to as high as **37' 4" (11.4m)**, depending upon the model. Stand height is measured from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached. This height specification does not include the added height and range any of our stand accessories or instrument adapters.

A wide variety of our stand adapters, slides, lifts, and various instrument mounts fit into the intermediate tube, which is outfitted with the same 2.825"-20 thread as the intermediate tube on our other, shorter stands.

Stands in this group are used to support all types of metrology instrumentation, and customers who use this stand need a great deal of stability in some very high places. For instance, some of our customers use them in high-bay satellite assembly facilities. Mobility around the shop floor is permitted using the casters (once the trivet "feet" are manually retracted) under the heavy-duty tribrach base. An air-check mechanism provides backup protection to prevent sudden drops of the instrument column in case the operator simultaneously releases the collar lock and main handle while disengaging the ratchet pawl.



Footprint layout



232-SP-120STK **232-SP-240STK** **232-SP-360STK**

The stands in this series all have the same base (see footprint sketch), with one exception. The 232-SP-120 has the same footprint as the others but does not have the outriggers that the taller stands have (shown in blue).

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

- Virtually any instrument or adapter having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

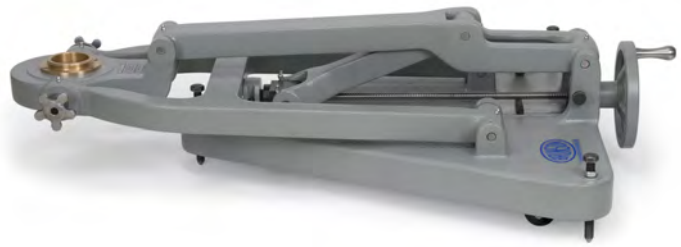
237 "Groundhog" Stand

Handy for Very Low Setups

The **237** is ideal for general shop applications and assembly areas where very low, very stable setups are required. This stand employs a scissors-type lifting mechanism which easily moves its heavy-duty aluminum framework into any working position between **7" (17.8 cm)** and **37" (94 cm)**, as measured from the floor to the instrument interface surface. This height specification does not include the added height and range of any of our stand accessories or instrument adapters. The flexibility and mobility offered by the 237 allows alignment and leveling operations near the floor as well as at average surface plate heights.

The 237 provides a standard 3½" x 8 external thread for instrument mounting and also has the same 2.825" x 20 internal threads as the intermediate tubes in a number of our other stands. (See below for a list of compatible products.)

The base is cast iron for strength and stability; the superstructure is aluminum for maximum rigidity with minimum weight. The instrument mount is raised and lowered by a recirculating ball nut lead screw. The stand may be locked in any position. A foot pedal engages or disengages three casters; when these casters are retracted, the stand rests on three adjustable trivet points with lock screws. This makes it possible to rough-level the stand on uneven surfaces.



Left: The 237 "groundhog" stand may be lowered to within a few inches of the floor, or secured in any position up to its full height.

Specifications

Finish: Machine grey and chrome.

Weight: Stand, 215 lbs (98 kg); Shipping, 290 lbs (132 kg)

Lateral shift of instrument from stand's low position to its high position: 28½" (72 cm)

May be used with...

- Any product having an internal 3½" x 8 thread
- 235-16 Dovetail Adapter
- 273-4 Coordinate Lateral Adjuster
- 800 Precision Lift
- Have a look at the entire line of stand accessories and instrument adapters on our website.

239 Series Pedestal Stands

For Permanent Installations

The **239 Series** consists of pedestal stands which are similar to our popular heavy-duty mobile stands except that they do not have an intermediate tube which may be raised or lowered. Other than the adjustment provided by any adapters which are mounted on the stand, the height is fixed. The standard height of this stand is **40 5/8" (103 cm)**, as measured from the floor to the top of the main outer tube, on top of which all instrument mount accessories are attached. However, the stand may be ordered at any custom height specification.

A variety of stand adapters, slides, lifts, and various instrument mounts fit into the top of the stand.

The baseplate is a 1" (2.54cm) thick steel plate with a diameter of 15" (38.1cm). Four 1-1/16" (2.7cm) mounting holes are equally spaced on an 11" (27.9cm) diameter bolt circle on this baseplate. It is also outfitted with four 5/8" x 11 UNC-2B threaded leveling screws on a 14" (35.6cm) diameter bolt circle to provide a means for adjustment to set the stand vertical.

Stands in this group are used for permanent installations of all types of metrology instrumentation, and are often used in test, calibration, or constant monitoring applications.

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

- Accepts any product having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

331 Type Pedestal Stand

For Permanent Fixtures

The **331 Type** pedestal stands are ideal for permanent installations requiring excellent stability and a short, adjustable height instrument stand. This stand has a working height range from a minimum of **24" (61 cm)** to a maximum of **37" (94 cm)**, not including any adapters which may be mounted on top of the intermediate tube. This height measurement is taken from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached. Custom heights are easily manufactured.

A variety of stand adapters, slides, lifts, and various instrument mounts fit into the intermediate tube. The stand has an air cushion damper to prevent the column from "free falling" and damaging the instrument in the event that the collar lock, ratchet pawl, and lift handle are released at the same time.

The baseplate is a 1" (2.54cm) thick steel plate with a diameter of 15" (38.1cm). Four 1-1/16" (2.7cm) mounting holes are equally spaced on an 11" (27.9cm) diameter bolt circle on this baseplate. It is also outfitted with four 5/8" x 11 UNC-2B threaded leveling screws on a 14" (35.6cm) diameter bolt circle to provide a means for adjustment to set the stand vertical.

Stands in this group are used for permanent installations of all types of metrology instrumentation, and are often used in test, calibration, or constant monitoring applications.

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

- Accepts any product having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

333 Type Pedestal Stand

For Permanent Fixtures

The **333 Type** pedestal stands are ideal for permanent installations requiring excellent stability and a variable-height column lift. This stand has a working height range from a minimum of **31" (79 cm)** to a maximum of **50" (127 cm)**, not including any adapters which may be mounted on top of the intermediate tube. This height measurement is taken from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached. Custom heights are easily manufactured.

A variety of stand adapters, slides, lifts, and various instrument mounts fit into the intermediate tube. The stand has an air cushion safety stop to prevent the column from "free falling" and damaging the instrument in the event that the ratchet pawl and lift handle are both released at the same time.

The baseplate is a 1" (2.54cm) thick steel plate with a diameter of 15" (38.1cm). Four 1-1/16" (2.7cm) mounting holes are equally spaced on an 11" (27.9cm) diameter bolt circle on this baseplate. It is also outfitted with four 5/8" x 11 UNC-2B threaded leveling screws on a 14" (35.6cm) diameter bolt circle to provide a means for adjustment to set the stand vertical.

Stands in this group are used for permanent installations of all types of metrology instrumentation, and are often used in test, calibration, or constant monitoring applications.

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

- Accepts any product having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

330 Type Pedestal Stand

For Collimation Test Stands and Permanent Fixtures

The **330 Type** pedestal stands are ideal for permanent installation of collimation test stands requiring a variable-height instrument column. This stand has a working height range from a minimum of **37" (94 cm)** to a maximum of **62" (157.5 cm)** , not including any adapters which may be mounted on top of the intermediate tube. This height measurement is taken from the floor to the top of the intermediate tube, on which all instrument mount accessories are attached. Custom heights are easily manufactured.

A variety of stand adapters, slides, lifts, and various instrument mounts fit into the intermediate tube. The stand has an air cushion damper to prevent the column from "free falling" and damaging the instrument in the event that the collar lock, ratchet pawl, and lift handle are released at the same time.

The baseplate is a 1" (2.54cm) thick steel plate with a diameter of 15" (38.1cm). Four 1-1/16" (2.7cm) mounting holes are equally spaced on an 11" (27.9cm) diameter bolt circle on this baseplate. It is also outfitted with four 5/8" x 11 UNC-2B threaded leveling screws on a 14” (35.6cm) diameter bolt circle to provide a means for adjustment to set the stand vertical.

Stands in this group are used for permanent installations of all types of metrology instrumentation, and are often used in test, calibration, or constant monitoring applications.

Specifications

Finish: Machine grey; other finishes available on request.

May be used with...

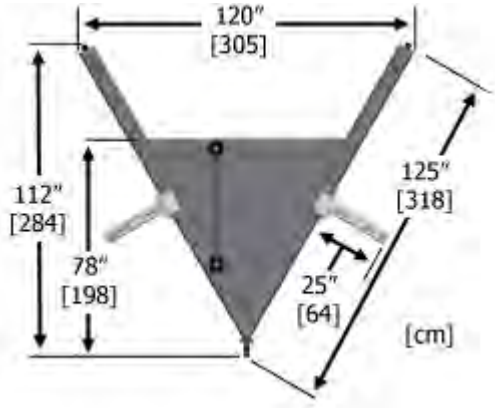
- Accepts any product having an internal 3½" x 8 thread.
- We also have an entire line of stand accessories and instrument adapters.

MVTB Series Motorized Vertical Tooling Bar

Various heights available

Our **MVTB Series** motorized vertical tooling bars give you the ability to position your instrument easily to any point within a wide vertical range.

This stand is designed for use with many types of metrology instruments. The instrument is mounted on a shelf which is attached to a motor-driven carriage. The instrument shelf is outfitted with a 3½"-8 thread and/or a receiver for the Metris Laser Radar, at your option. At its lowest point, the shelf is about 3.5 feet (1.1m) above the ground. A ground-level, hand-held pendant controls the movement of the carriage along the vertical rail. A motor brake holds the carriage in place if power is lost.



Footprint layout

Casters situated under the heavy-duty tribrach base allow mobility around the shop floor (once the trivet "feet" are manually retracted). We recommend a very slow-speed towing vehicle although it is possible for several people to move the tooling bar manually.

The MVTB is a standard product but is made to order. The only information we require is the maximum height that you wish to position your instrument.

These tooling bars have two different height classes - Standard and Extended. Please refer to the table below for height specifications regarding these two classes. Note that assembly of these tooling bars is required on site and is not trivial. Many of our customers are capable of assembling Standard Class tooling bars, but factory technicians may be hired to do so for an additional cost after delivery. On-site assembly by factory technicians is included with our Extended class bars.

Bar Height Class	Max Bar Height		Instrument shelf height				On-site assembly by factory technicians
			Minimum		Maximum		
Standard	24'	7.3m	3.5'	1.1m	21.5'	6.6m	Optional
Extended	37'	11.3m	3.5'	1.1m	34.5'	10.5m	Included

Specifications

Finish: Machine grey; other finishes available on request.

Max lift capacity: 125 lbs (56 kg)

Power Supply: 230VAC/Single Phase/60 Hz

May be used with...

- Metris Laser Radar
- Virtually any instrument or adapter having an internal 3½" x 8 thread.
- Have a look at the entire line of stand accessories and instrument adapters on our website.

The Brunson Stand Recycling Program

Don’t risk your instruments or your accuracy on a worn-out stand

Everyone knows Brunson builds heavy duty stands that can last a lifetime. But the wear and tear caused by misuse, dragging around a rough shop floor, supporting heavy instrument loads, or fast drops on the points can take their toll on their reliability.

A stand that doesn’t provide the necessary support for your instrument can put high-value assets at risk. Worn components can reduce the accuracy your instrument is capable of, or at a minimum, waste valuable time resetting the instrument.

If you have stands that aren’t operating like new, Brunson offers you the opportunity to get them back in shape. Our comprehensive recycling program ensures that your stand will function as originally designed – and we’ll back that with a standard 1-Year Warranty on it. Our quality control process includes:

- Upon receipt at Brunson, each stand gets a thorough inspection and performance deficiencies are noted.
- The stand is disassembled and key internal components of the lift mechanism are checked against new stand operational tolerances.
- Old-style (cast and plated) ratchet pawls that can flake and deform will be replaced with new all stainless steel ones, and a new pawl spring is used.
- The internal air cylinder seals are replaced.
- Old casters are replaced with new for easy mobility.
- Trivet bolts and locking nuts are replaced.
- The stand is surface-prepped and repainted standard colors (black or gray). Extra attention is paid to welds.

Send us your beat up and broken Brunson stands – get them back like new.

Every stand gets a thorough inspection and replacement of key internal components to ensure the stand’s performance measures up to your needs.

Repairs and parts that are not included in the scope of the recycling program will be quoted by Brunson customer service before any replacement is made.

Stands with other component wear or damage that requires repair or replacement will have a comprehensive quote prepared, and a Brunson Customer Service rep will contact you to determine if you wish to proceed with the additional cost. Repaired stands will carry the exact same 1 year warranty as new or recycled ones.

For additional cost, stands can be repainted one of a variety of different colors. This process requires the stand to remain at Brunson a little longer – talk to your customer service rep regarding the custom paint options before shipping it.

The Stand Recycling program is currently available for many of our stand models.

ООО «Промышленная геодезия»

Поставка высокоточного измерительного оборудования Leica и Romer (Hexagon Metrology, Швейцария),

программного обеспечения Spatial Analyzer
(New River Kinematics, США),

прецизионной измерительной оснастки
(Brunson Instrument Company, США),

высокоточных лазерных сканеров Surphaser (Basis Software, США, Россия) и программного обеспечения ScanIMAGER, Geomagic, PolyWorks

проекционных лазерных систем LAP Laser
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