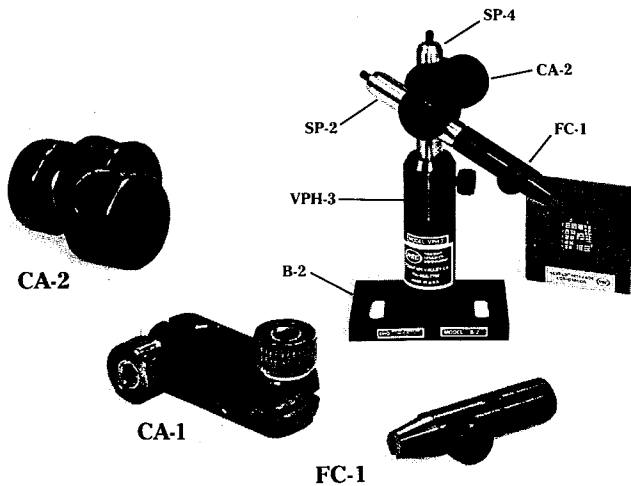


CLAMPS

The **HOLOGRAPHY LAB** boasts a plethora of devices for your clamping needs. The storage place for the bulk of them is in a **BIG BLUE BIN** in the **EAST WALL STORAGE ARE** of the **PRINTER ROOM**, with a generous assortment of the commonly used types in a **Coffee Can** in the **EXPERIMENTAL LAB**.

We have some **CA-1** and **CA-2** Clamps, but no **FC-1s**. The **CA-2** is actually quite a useful piece, as it can position two half-inch rods at any angle between them, which is handy for working in tight places. A ball driver may be necessary to torque the thing down properly, and if the weight is not too much then there should be no drift.

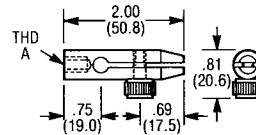
Post Clamps and Adaptors



Post Clamps and Adaptors

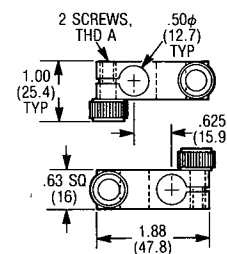
	English Model	Metric Model
Cross-Post Adaptor	CA-1	M-CA-1
Universal Clamp	CA-2	M-CA-2
Filter Clamp	FC-1	M-FC-1

MODEL FC-1

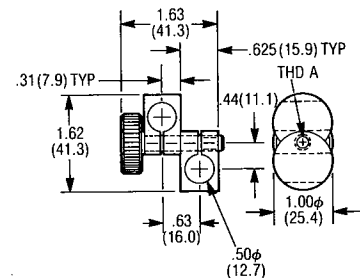


MODEL	THREAD A	
	ENGLISH	
CA-1	1/4-20	
CA-2	1/4-20	
FC-1	1/4-20	
METRIC		
M-CA-1	M6	
M-CA-2	M6	
M-FC-1	M6	

MODEL CA-1



MODEL CA-2



CA-1 Cross-Post Adaptor mounts two SP Series posts at 90° with respect to each other. The clamping screws permit fast, secure post mounting with only moderate finger pressure.

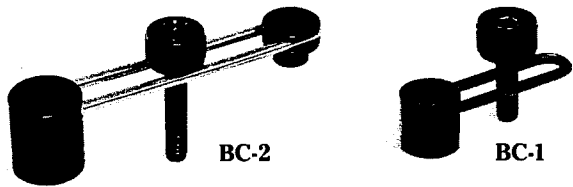
CA-2 Universal Clamp holds two SP Series Posts at an arbitrary angle with respect to each other. Both posts are tightened simultaneously with the knurled knob.

FC-1 Filter Clamp is a convenient device for holding thin objects such as optical filters, transparencies or even razor blades used as knife edges. A 1/4-20 mounting stud may be threaded into the Delrin clamp for attachment to the end of an SP Series Post, or the FC-1 may be held by a CA-1, cross-post adaptor.

MORE CLAMPS

These little clamps are useful for fastening things down to the **Newport Isolation Table Tops** when the holes (if any) of the device don't line up with the tapped holes in the table. For instance, if only one of the holes in a **Newport Model 45 Damped Rod** lines up with a table hole when it's placed in a useful position, then added stability and protection against getting bumped out of position is afforded by attaching one of the clamps to the diametrically opposite hole on the **Model 45's** flanged base.

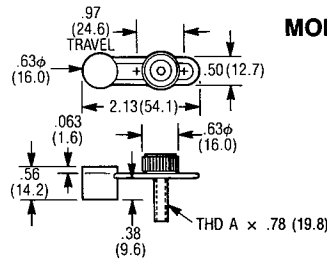
Base Clamps



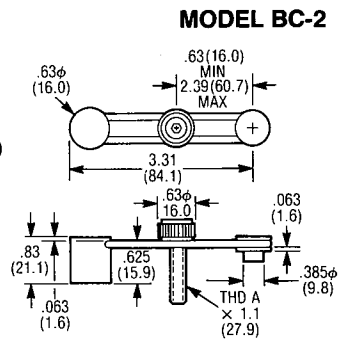
Models BC-1 and BC-2 Base Clamps secure components to any surface having 1/4-20 (M6) tapped holes, where direct tiedown is not practical. BC-1 is designed primarily for use with 3/8 in. (9.5 mm) Mini Series Base Plates, while BC-2 is for thicker bases such as the EB-1 Elevating Base. To use, the clamp is positioned so the heavy steel loop is over the base and so the screw can be inserted into a tapped hole. Tightening this screw will generate enough clamping force for most applications. Overtightening will not distort the table skin because the steel loop will deflect first. By inverting the clamp, thin objects can be secured in place. For larger objects, **Models CL-4 or CL-6** (page G-32) are recommended.

Base Clamps

	English Model	Metric Model
Base Clamp	BC-1 BC-2	M-BC-1 M-BC-2



MODEL BC-1



MODEL BC-2

MODEL	THREAD A
ENGLISH	
BC-1	1/4-20
BC-2	1/4-20
METRIC	
M-BC-1	M6
M-BC-2	M6

Universal Swivel Jaw Extension Clamp



Especially adaptable for use with condensers and irregularly shaped objects. It has an upper swivel jaw, plastisol covered. Another rubber-covered swivel jaw, placed between the clamp arms proper and the shank, permits its orientation at any angle. (Humboldt H-8370)

Jaw Opening To, in.	Overall Length, in.	Cat. No.	Each
2	8 ³ / ₄	21571-258	10.90
3	10	21571-305	13.85

This clamp makes a dandy inexpensive **Cylindrical Laser holder**.

RIGHT ANGLE CLAMPS

VWRbrand® Clamp Holder



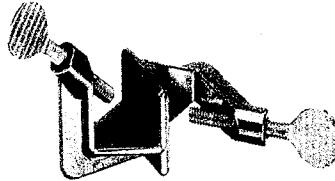
This is made from a non-ferrous, die-cast alloy that will not rust, and is fitted with

aluminum thumbscrews. Takes rods up to 5/8 inch diameter.

21572-501

6.25

VWRbrand® Jumbo Clamp Holder



Designed to hold heavy apparatus such as stirrers, circulating pumps, heaters, etc. Clamping faces have a large surface area to give maximum support.

Jaws grip shelves, bench tops, 3/4" pipe, or support rods up to 1". Made of corrosion-resistant alloy.

21572-556

9.95

Right Angle Clamps are part of the basic building setups, and come from a variety of manufacturers. Some aren't big enough to hold rods > 1/2", others won't screw down enough to hold thin rods, but with the variety we have you should be able to find what you need.

Regular Holder

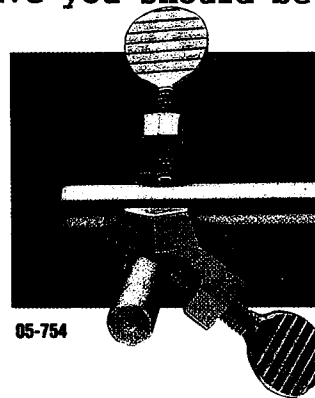
Attaches clamp at right angles.

Max. Rod Grip Size	Cat. No.	Each
3/4" (19mm)	05-754	8.50

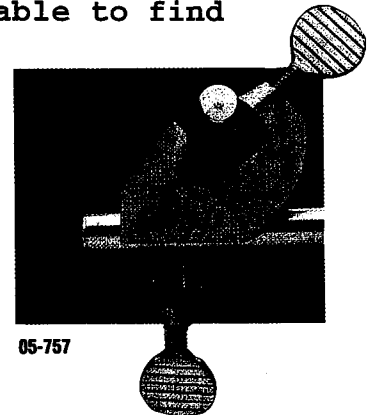
Jumbo Holder

Safest for heavy loads. Grips in variety of positions. Also holds flat shelf or panel to 3/4" (19mm) thick.

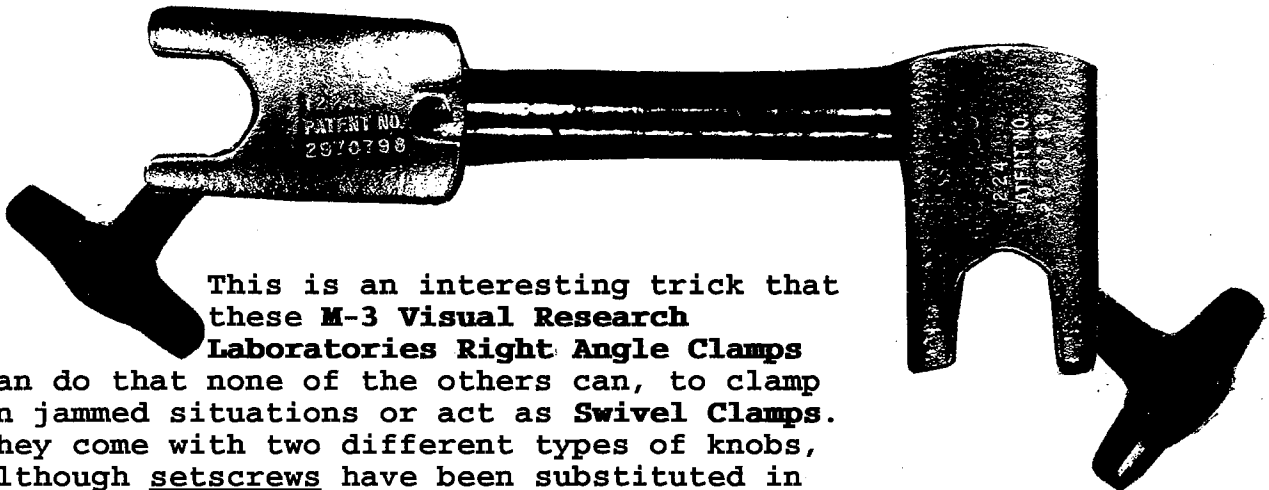
Max. Rod Grip Size	Cat. No.	Each
7/8" (22mm)	05-757	13.00



05-754



05-757



This is an interesting trick that these **M-3 Visual Research Laboratories Right Angle Clamps** can do that none of the others can, to clamp in jammed situations or act as **Swivel Clamps**. They come with two different types of knobs, although setscrews have been substituted in certain critical situations that needed to be made tamper-proof.

SWIVEL CLAMPS
(For Flexibility in More Than Two Dimensions)

Swivel Clamps are like Right Angle Clamps in that they attach two rods together, but the swivel feature allows any arbitrary angle to be formed between the two.

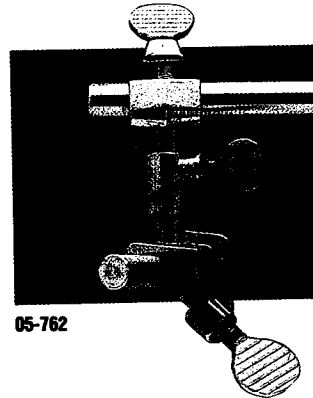
Castaloy Clamp Holders

With 45° Angle Thumbscrews

Swivel Holder

Tilts clamp at any angle in parallel planes. Holder will not fall apart when setscrew is loosened to permit one end to swivel.

Max. Rod Grip Size	Cat. No.	Each
3/4" (19mm)	05-762	12.00



05-762

VWRbrand® Swivel Clamp Holder



For adjustment at any angle. Holder is constructed so that when the set-screw on the angle adjustment is released, the

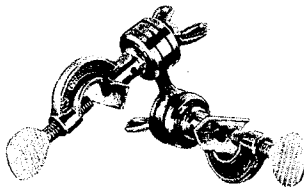
two halves of the holder do not come apart. Takes rods up to 3/4 inch diameter.

21572-603

10.95

Sometimes referred to as a **"Double Swivel Clamp"** or **"Contort Holder"** this little jobbie has enough flexibility to attach the "tail" of a Plateholder or Large Mirror Mount to another rod on a Magnetic Base for the ultimate in stability.

VWRbrand® All Position Clamp Holder



An all-purpose clamp holder that can be turned through any angle in any plane, has two holding members set at 90° angle, and connected by a double plate

joint. Washers between the flat gripping faces hold the clamp rigid by applying pressure with wing nuts. Takes rods up to 3/4 inch diameter.

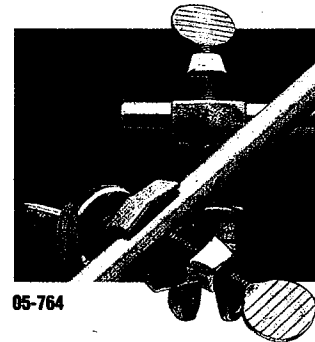
21572-658

19.95

Contort Holder

Connects at any angle in any plane. Consists of two holders connected by double plate-joint which sets holders 90° from each other. Each holder can be rotated 360°.

Max. Rod Grip Size	Cat. No.	Each
3/4" (19mm)	05-764	23.00



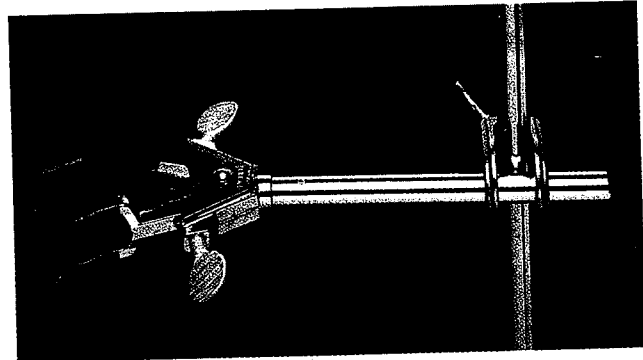
05-764

GRASPING CLAMPS

Three-Prong Clamps

Hold irregular shapes at any angle

Hold objects up to 3 1/2" (89mm) surely and safely. Two separate adjustment screws ensure even, precise pressure on glass. Minimize chance of breakage. Clamps are easily adjustable to vary holding angle, distance from stand. Come with both fiberglass and vinyl sleeves.¹ Without clamp holder.

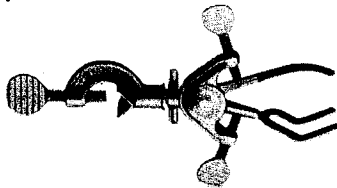


Max. Grip Size	Overall L	Extn. Arm	Extension Rod O.D.	Cat. No.	Each
1" (25mm)	6 1/2" (17cm)	4 1/4" (11cm)	5/16" (0.8cm)	05-769-6	16.50
2 1/4 (57)	8 3/4 (22)	5 1/8 (13)	7/16 (1.1)	05-769-7	12.50
3 1/2 (89)	10 1/2 (27)	6 (15)	1/2 (1.3)	05-769-8	16.50

¹For replacement sleeves, see next page.

Also called "Three-Finger Clamps", they are useful for holding larger objects, like camera objectives.

VWRbrand*
3-Finger Utility Clamp,
Vinylized Jaws



A very popular clamp because of its wide utility. It can be extended in length 5/8" and firmly locked in any position by means of the wing-nut. It will hold objects up to 2 1/4" in diameter and grip rods up to 3/4" diameter.

Cat. No. Each

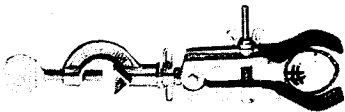
21573-708 13.95

Clamp with Fiberglass Sleeves

Identical to 21573-708, except fiberglass jaw sleeves.

21573-752 12.50

VWRbrand* Small
Utility Clamp, Round
Vinylized Jaws



These all-purpose utility clamps allow easy adjustment of apparatus to any angle. Made of corrosion-resistant PS alloy, with stainless steel springs. Round jaws grip objects up to 1 1/2" diameter. Clamp extends up to 1/2 inch, rotates 360°, is securely held in any position with lock nut.

Cat. No. Each

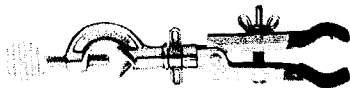
21573-504 11.50

Clamp with Fiberglass Sleeves

Identical to 21573-504, except fiberglass jaw sleeves.

21573-559 12.50

VWRbrand*
Medium Utility Clamp,
Round Vinylized Jaws



Similar to 21573-504, but larger. These clamps may be extended in length up to 3/4 inch. Jaws can be securely tightened at any angle and will not swivel under strain. These clamps will grip rods up to 3/4" diameter and hold objects up to 2 1/4" diameter.

Cat. No. Each

21573-606 12.50

Clamp with Fiberglass Sleeves

Identical to 21573-606, except fiberglass jaw sleeves.

21573-650 12.50

Just like the catalog says, useful for small round objects, like loose lenses.

MISCELLANEOUS CLAMPS



A **Thermometer Clamp** is good for holding glass rods to be used a one-dimensional beam expanders, and it is adjustable rotationally to orient the rod for horizontal or vertical divergence.

Thermometer Clamps

Hold 1/4 to 1/2" dia. (6 to 13mm) glass tubes and thermometers. Adjust to any angle. Won't rust. Jaws are nickel-plated phosphor-bronze.

Standard clamp. Holds thermometers 3 7/8" (10cm) from support rod. Integral clamp holder. Large thumbscrew holds clamp securely to support rod.

Extension Clamp. Holds thermometers up to 7" (18cm) from support rod. Overall L, 7 3/4" (20cm). Extension arm is 7/16" dia. (11mm). Use with 05-754 clamp holder on p. 491.

Clamp Type	Cat. No.	Each
Standard	05-809	12.50
Extension	05-809-10	12.50



Clothespins are useful for hanging film up to dry. They are found in the **Film Drying Cabinet** or hanging on a wire over the **Darkroom Sink**.



We have some big **C-Clamps**, useful for attaching big things together, like **Drill Press Vices** onto table tops for displaying holograms. Please return them to their **Storage Place** on the **West Wall of the PRINTER ROOM**.

t information.



Enco ON-OFF MAGNETIC BASE INDICATOR HOLDER KING SIZE

- Powerful 175 lb. pull.
- 14" tall.
- 8" 3-diameter fine adjustment rod.

MODEL 625-0360
List Price \$66.03
YOUR COST
\$49.99

EXCLUSIVE
Fine Adjustment
U.S. Patent No. 3367612
Gives rigid sensitive control of indicator on any plane, making difficult setups easy.

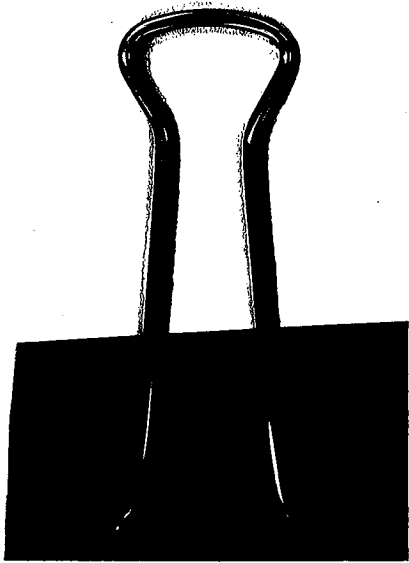


(I-0450)

ODDBALL CLAMPS

In a bin to the left of the big bin of clamps are contained the clamps and rods that came with **Enco Model 625-0340 ON-OFF MAGNETIC BASE INDICATOR HOLDERS.** (See the Handout, **MAGNETIC BASES.**) The pieces, if you can figure them out, can come in quite handy, as evidenced by the ingenious cylindrical lens holder the **ONE STEP RAINBOW SHADOWGRAM.**

Drill Press Vices are handy for holding Objects in the ONE-STEP RAINBOW SHADOWGRAM SET-UP.



Enco HORIZONTAL/VERTICAL DRILL PRESS VISES

3" MODEL 426-8050
YOUR COST **\$10.50**

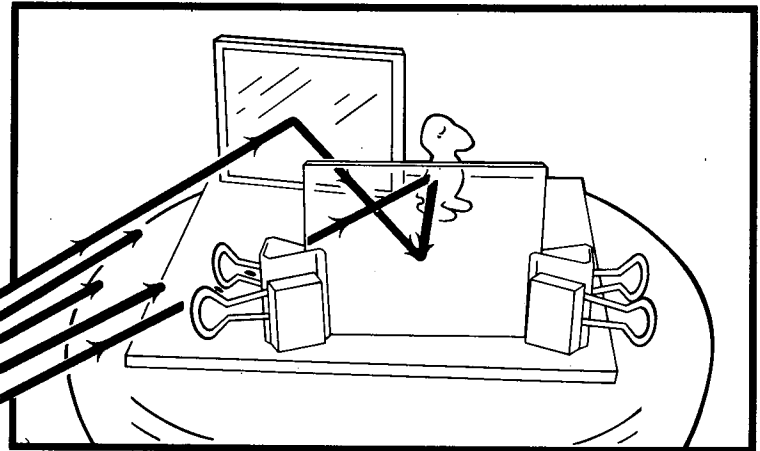
(K-0039)

* Horizontal Only

Fast Position Hinged Handle

- High tensile Iron casting.
- Steel jaws.
- Ground bases for use horizontal or vertical.

Jaw Width	Base Length	Base Width	MODEL	YOUR COST	WT. Lbs.
3"	6.4"	5.5"	426-8050*	\$10.50	5.12
4"	7.8"	7"	426-8055	13.50	5.74
5"	8.5"	7.5"	426-8060	22.75	10.26
5.875"	9.750"	8.6"	426-8065	29.18	13.44

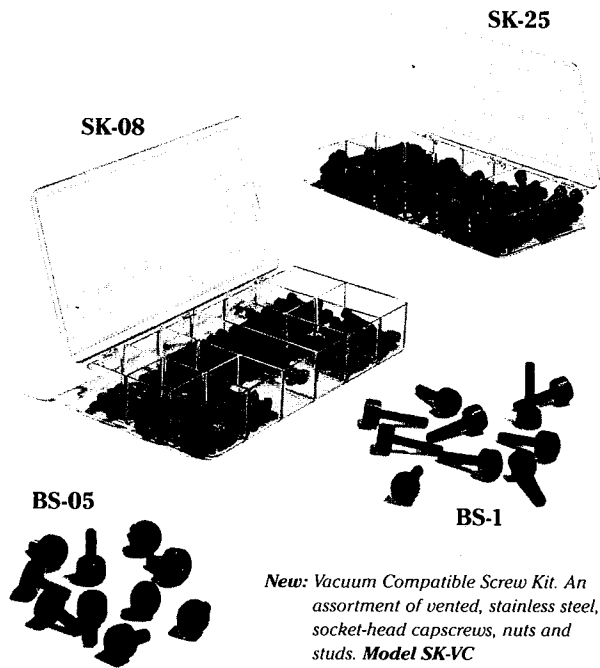


The venerable **Bulldog Clamp** can be pressed into service as a quick and dirty **Holographic Plateholder** with a bunch of **Magnets** or **Magnetic Bases.**

SCREW KITS

We have three of the **English Kits**, stored in the **PRINTER ROOM** on the middle shelf along the West wall. Besides the Newport contents, various small **Allen Head Cap Screws**, **Set Screws**, and **Newport Model BC-2 Base Clamps** are stored in them. Whenever you find small, important looking nuts and bolts, please deposit them in here, so that the minimal amount of time can be spent looking for that one special something.

Screw Kits



These kits are convenient assortments of the most-needed socket-head capscrews and thumbscrews for the laser/optical laboratory. **SK Series Kits** contain an assortment of corrosion-resistant black-oxide coated screws, studs, washers and nuts, conveniently stored in a durable, clear plastic case. Four kits are available consisting of hardware for 1/4-20 or 8-32 English threads or M4 or M6 metric threads. **BS Series Kits** feature ten 1/4-20 or M6 socket-head thumb-screws of the type used in **Mini Series** bases.

Screw Kits

English Kit	Thread	Metric Kit	Thread
SK-08	8-32	M-SK-M4	M4
SK-25	1/4-20	M-SK-M6	M6
BS-05	1/4-20	M-BS-05	M6
BS-1	1/4-20	M-BS-1	M6

Contents

Socket-Head Capscrew Kits:

SK-08 (M-SK-M4):

Qty	Length
15	.375 in. (10 mm)
15	.500 in. (12 mm)
15	.625 in. (16 mm)
15	.750 in. (20 mm)
12	1.000 in. (25 mm)
12	1.250 in. (30 mm)
12	1.500 in. (40 mm)
12	1.750 in. (45 mm)
12	2.000 in. (50 mm)
18	Socket-head Studs .625 in. (16 mm)
18	Nuts
25	Flat Washers

SK-25 (M-SK-M6):

Qty	Length
15	.375 in. (10 mm)
15	.500 in. (12 mm)
15	.625 in. (16 mm)
15	.750 in. (20 mm)
12	1.000 in. (25 mm)
12	1.250 in. (30 mm)
12	1.500 in. (40 mm)
12	1.750 in. (45 mm)
12	2.000 in. (50 mm)
18	Socket-head Studs .625 in. (16 mm)
18	Nuts
25	Flat Washers

Socket-Head Thumbscrew Kits:

BS-05 (M-BS-05):

Qty	Length
10	0.75 in. (20 mm)

BS-1 (M-BS-1):

Qty	Length
10	1.25 in. (30 mm)