

gSource™

Orthopedic reSource
for Surgical Instruments



gSource[™]

gSource

gSource is committed to putting the finest instruments into the hands of surgeons and their teams.

Not all instruments are created equal. Adequate for the job is, in reality, inadequate. A better instrument reduces distractions and facilitates operations. A better instrument helps a surgeon perform at his/her best. A better instrument leads to better results. gSource provides better instruments.

Orthopedic Focus

We are more than a source for quality instrumentation. gSource is an advocate for the orthopedic community. We can be relied upon to provide superior instrumentation for spinal and orthopedic procedures, and do so in a time-critical fashion.

gSource Attributes

Crafted from German surgical stainless steel, and recognized by their finely finished surface, our instruments are designed to perform with precise surgical function. They are also conceived to be affordable. It is this combination that distinguishes the gSource brand.

Service First

Your inquiries will be answered quickly and accurately by knowledgeable professionals. We are committed to being a valuable business partner...and to always provide real return on investment.

Instrument reSource

This 2006 edition contains 3,500 instruments primarily used in orthopedic and spinal procedures. For a quick answer on availability of other patterns, refer to our web cross reference at www.gSource.us or email/fax us a copy of the instrument or brand-name part number.



gSource, LLC Emerson, NJ USA

Trusted Supplier to World Leaders

Many world leaders and innovators in orthopedics and spine have found in gSource a trusted and reliable partner. Contact us the next time you require an off-the-shelf or custom instrument.

Custom Instrumentation

We will create entirely new instruments in a timely and economical manner. For an accurate quotation and delivery schedule, send us a sample, sketch or drawing.

Guarantee

All standard instruments are guaranteed for life against manufacturing defects of material and workmanship. Any instrument proving to be defective will be replaced or the purchase price refunded.

1. Tungsten carbide inserts are guaranteed for three years. Replaceable parts, such as springs, are guaranteed for one year.
2. This guarantee is void if instruments are altered or not maintained or repaired properly or if they are not used for their intended surgical purpose.
3. Any unused instrument may be returned for full credit within 90 days of invoice date.

Returns

Contact your gSource distributor to confirm address for returns. Be sure to package instruments securely to protect against damage during transit.

We cannot accept the following for credit or refund:

1. Instruments not in original condition.
2. Instruments which have been used in surgery.
3. Instruments with an invoice date of more than 180 days.
4. Custom-made, custom-marked, special orders or altered instruments.
5. K-Wires, Steinmann Pins, Cerclage Wire.



gSource, GmbH Tuttlingen, Germany

01/2 - introduction to gSource

gSource Verified Quality

Every gSource instrument must pass detailed Quality Assurance (QA) tests before it can be sold.

Instruments are tested for:

- Material
- Workmanship
- Function
- Pattern Consistency
- Critical Dimensions

We perform the following QA tests to ensure that every instrument we sell will perform its function during critical surgical procedures.

Surface inspection

All instruments are visually inspected for defects in material and surface finish. They must have a flawless satin finish and be free of excess lubricants and foreign substances.

Dimensions verified

Critical dimensions are measured with calipers, micrometers, or other specialty gauges and compared to technical drawings or gSource catalog descriptions. To ensure pattern consistency selected instruments are compared to inspection samples.

gSource Quality Testing

In addition to general inspections, function tests are used to verify instrument quality.

Scissors

Cutting tests are performed on testing material. Scissors must not snag or bind when cutting appropriate layers of material. The heavier the scissors, the more layers of material they must cut. Blades must close smoothly without hesitation. Visual inspection is performed for burrs, especially on the cutting edge. Screw lock must be secure and a slight amount of hinge play should exist when opened.

Forceps

Closed jaws are checked against a light source to ensure that no substantial amount of light passes through. Jaws are clamped on plastic testing material. The impression should be clean and consistent. Teeth must mesh together closely. Jaws must be properly aligned. Ratchets must engage crisply and smoothly. While engaged at the first ratchet tooth, instruments should not open when tapped lightly against the edge of a table.

Needle Holders

Jaws must close tightly so that little or no light shines through the front 2/3 of closed jaws when tested against a light source. Must hold suture material, and pass similar

tests as outlined under forceps.

Retractors

Ratchets are checked for proper holding action. Tips are verified as either sharp, blunt or semi-sharp. Ratchet mechanisms must close smoothly. Holding power is tested to make sure ratchets remain engaged during use. Ratchet teeth must align properly.

Cutting Forceps

Cutting tests are performed with the appropriate test material. Forceps must cut cleanly with the front half of the jaws. Tips must close properly from the top to the middle of the jaws.

Pin and Wire Cutters

Cutting tests are performed according to the recommended maximum capacity of each instrument.

Only after an instrument has passed our QA inspection criteria will it be released to the market.

gSource Manufacturing

gSource instruments are manufactured from stainless steel. Stainless steel, though not truly stainless, is a highly corrosion and rust-resistant material. The metal is extremely strong and durable and has the ability to form protective or "passivation" layers.

Most gSource surgical instruments are made from German stainless steel type 1.4021 - equivalent to American steel type 420. This steel is highly corrosion resistant and has excellent longevity when properly maintained.

Heat Treatment

Heat treating makes the instruments hard and enables them to withstand rigorous use. Stainless steel is brought to a very high temperature and then cooled until it has reached the proper hardness.

Hardness is measured in units called Rockwell Hardness (HRc). A typical hardness range for needle holders is HRc 40-48. For scissors, the range is HRc 50-58.

Heat treating and steel selection are just two of the more than 80 steps required to produce surgical instruments to gSource standards. We monitor and verify the accuracy of our manufacturing process through frequent audits.

About the gSource Catalog

The gSource catalog is arranged in order by instrument family. The first two digits of part numbers correspond to a general instrument group. Each page is marked with an instrument group # followed by page #.

This 2006 edition includes 3,500 specially selected instruments that are used mainly in orthopedic and spinal procedures.

We have made every effort to represent this hand-selected collection with accurate pictures and detailed tip illustrations.

Instrument making is still a fine art done by master craftsmen in our German facilities. As such, slight variations in pattern, overall length and style may occur.

gSource Advantages

- Realistic price
- Verified quality
- On-time delivery
- Orthopedic and spinal focus
- On-site product development
- German craftsmanship
- Adaptability/flexibility
- Superior customer service
- Full satisfaction guarantee

Ordering gSource Instruments

gSource is represented by a select group of distributors located worldwide.

Apiary Medical, Inc.
177 Bearfort Road
West Milford, NJ 07480
U.S.A.

800.561.6692 phone
800.561.2160 fax

email@apiarymedical.com

www.apiarymedical.com

diagnostic & probes/scalpel hdls	11,12
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super-cut scissors	16
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Our **gS** logo is a symbol for Verified Quality. This mark is proof of a lifetime guarantee.

Oxidation of lead surface is a normal process.

Autoclave temperatures should not exceed 248°F (120°C).

Avoid chemical sterilization.



gS 11.1900 14" Adult
gS 11.1920 9 1/2" Child

Lead Hand
with tabs



gS 11.4128 8" C-128
gS 11.4256 6 1/2" C-256

Tuning Fork
aluminum



gS 11.4512 C-512

Tuning Fork
aluminum



gS 11.6140 7"
Wartenberg Pin Wheel

1 1/2 - diagnostic



gS 11.7110	4 1/2"
gS 11.7111	5"
gS 11.7112	5 1/2"
gS 11.7113	6 1/4"
gS 11.7114	7"
gS 11.7115	8"
gS 11.7116	10"

Probe with Eye
malleable stainless steel
2mm diameter probe end



gS 11.7132	4 1/2"
gS 11.7133	5"
gS 11.7134	5 1/2"
gS 11.7135	6"
gS 11.7136	7"
gS 11.7137	8"

Grooved Director
with tongue tie



gS 11.7140	4 1/2"
gS 11.7141	5"
gS 11.7142	5 1/2"
gS 11.7143	6"
gS 11.7144	7"
gS 11.7145	8"

Grooved Director
with tongue tie and probe



gS 11.7211	4 1/2"
gS 11.7213	5"
gS 11.7214	5 1/2"
gS 11.7216	6 1/4"
gS 11.7218	7"
gS 11.7220	8"
gS 11.7225	10"

Double Ended Probe
stainless steel
2mm diameter probe end



To check fracture and
remove ingrown tissue.

gS 11.9500 6"

Sharp Hook



gS 11.9116 6 1/2"

Farrell Cotton Applicator
triangle end



Includes brush and needle.

gS 11.5920 7 3/4"

**Buck Neurological
Hammer**
stainless steel



gS 11.5600 7"
gS 11.5680 8"

**Taylor Percussion
Hammer**



11/4 - diagnostic

gS 11.5300 6 1/2"
gS 11.5340 blade only

Finger Ring Cutter
hollow handle



TiN coated blade stays sharp longer.

Plier handle provides strong, secure grip for better control.

gS 11.5360 6 1/2"
gS 11.5362 blade only

Finger Ring Cutter
plier handle



scalpel handles - 12/1

- gS 12.1580** standard 5"
- gS 12.1590** graduated in mm 5"
- gS 12.1610** long 8"
- gS 12.1615** long angled 8 1/2"

Scalpel Handle #3
for blades 10 through 15



- gS 12.1600** 5 1/4"
- gS 12.1602** long 8 1/2"
- gS 12.1603** long angled 8 1/2"

Scalpel Handle #4
for blades 20 through 25



- gS 12.1605** 4"
- gS 12.1604** 5"
- gS 12.1606** 6"

Scalpel Handle 3K Beaver
for blades 61 through 67



- gS 12.1620** 6 1/2"

Scalpel Handle #7
for blades 10 through 15



12/2 - scalpel handles

gS 12.1640 5"

Scalpel Handle #7K
for blades 10 through 15



gS 12.1700 6"

Seigel Scalpel Handle
for blades 10 through 15
round handle



Makes it easier to remove
blades from all handle
styles.

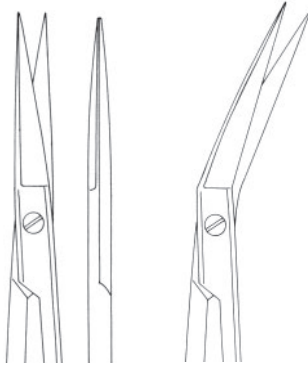
gS 12.1000 2 1/2"

Blade Safe
surgical blade remover

gS 12.4200 5"

Soft Corn Knife
slightly curved oval blade





4" straight 4 1/2" angled

- gS 13.1640** 3 1/2" str
- gS 13.1660** 3 1/2" cvd
- gS 13.1670** 4" str
- gS 13.1672** 4" cvd
- gS 13.1680** 4 1/2" str
- gS 13.1720** 4 1/2" cvd
- gS 13.2380** 4 1/2" angled
- gS 13.1842** 4 1/2" str TC
- gS 13.1844** 4 1/2" cvd TC

Iris Scissors
sharp points



- gS 13.2381** 4 1/2" str
- gS 13.2382** 4 1/2" cvd

Iris Scissors
ribbon handles
sharp points



b/b = blunt/blunt
s/s = sharp/sharp

- gS 13.2384** 4" str b/b
- gS 13.2385** 4" cvd b/b
- gS 13.2386** 4" str s/s
- gS 13.2390** 4" cvd s/s

Knapp Iris Scissors

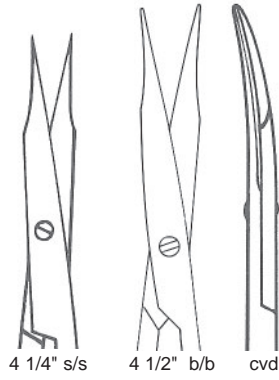


- gS 13.2392** 4 1/2" str
- gS 13.2393** 4 1/2" cvd

Fine Scissors
round shank
sharp points



13-14/2 - scissors



4 1/4" s/s 4 1/2" b/b c/d

b/b = blunt/blunt
s/s = sharp/sharp

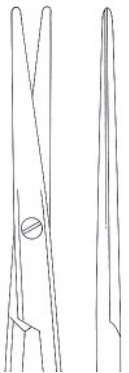
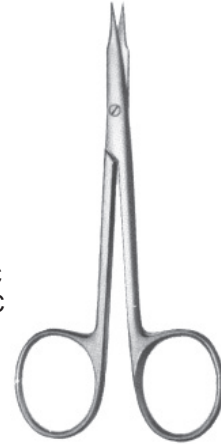
- gS 13.2680** 4 1/4" str b/b
- gS 13.2720** 4 1/4" c/d b/b
- gS 13.2740** 4 1/4" str s/s
- gS 13.2760** 4 1/4" c/d s/s
- gS 13.2770** 5 1/2" str b/b
- gS 13.2772** 5 1/2" c/d b/b
- gS 13.2816** 4 1/2" c/d s/s TC
- gS 13.2830** 4 1/2" c/d b/b TC

gS 13.4160 3 3/4" c/d

Gradle Scissors
sharp points



Stevens Tenotomy Scissors
fine blades



4 1/2" straight

- gS 13.2600** 4 1/2" str
- gS 13.2640** 4 1/2" c/d
- gS 13.2642** 4" str TC
- gS 13.2644** 4" c/d TC

Strabismus Scissors
blunt points

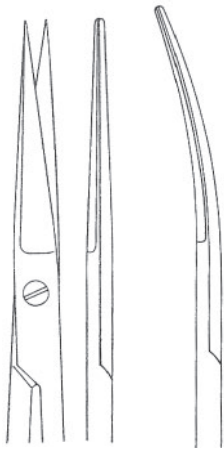


b/b = blunt/blunt
s/b = sharp/blunt
s/s = sharp/sharp

- gS 13.6320** 4 3/4" str s/s
- gS 13.6340** 4 3/4" str s/b
- gS 13.6360** 4 3/4" str b/b
- gS 13.6380** 4 3/4" c/d s/s
- gS 13.6400** 4 3/4" c/d s/b
- gS 13.6420** 4 3/4" c/d b/b
- gS 13.6440** 4 3/4" ang s/s

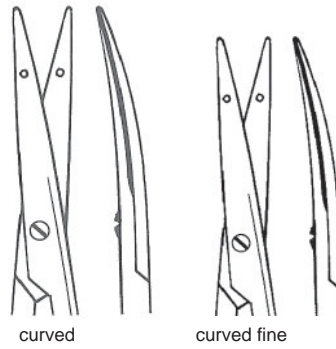
Plastic Surgery Scissors





gS 13.2580 4 3/4" str
gS 13.2590 4 3/4" cvd

Wagner Scissors
 sharp points



gS 13.3011 4 3/4" cvd
gS 13.3012 4 3/4" cvd fine

Suture holes in blade align when closed. Scissors may be used to draw suture through.

Little Scissors
 with eye for suture
 blunt points



gS 13.3150 4 3/4" str
gS 13.3152 4 3/4" cvd

Wutzler Scissors
 28mm blades
 sharp points



gS 13.4172 4" cvd

Nail Scissors
 sharp points



13-14/4 - scissors

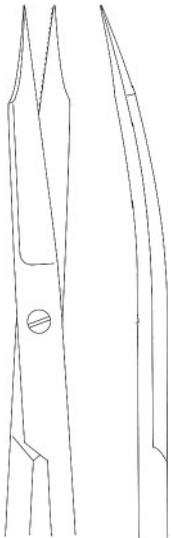
gS 13.6600 5" cvd

Ragnell Scissors
flat blades
blunt points



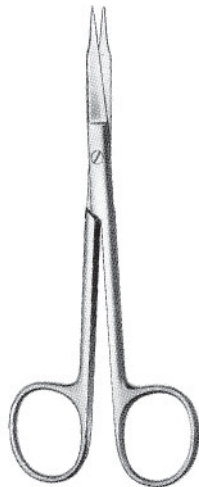
gS 13.4180 5 1/2" str
gS 13.4182 5 1/2" cvd

Sistrunk Scissors
blunt points



gS 13.7200 5" cvd

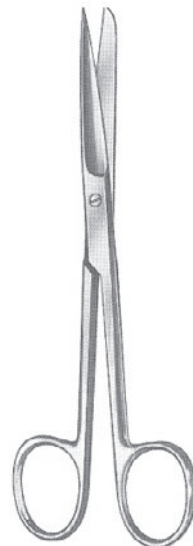
Goldman-Fox Scissors
serrated blade
sharp points



s/b = sharp/blunt
s/s = sharp/sharp

gS 13.2400 5 1/2" str s/b
gS 13.2420 5 1/2" str s/s
gS 13.2500 5 1/2" cvd s/b
gS 13.2520 5 1/2" cvd s/s

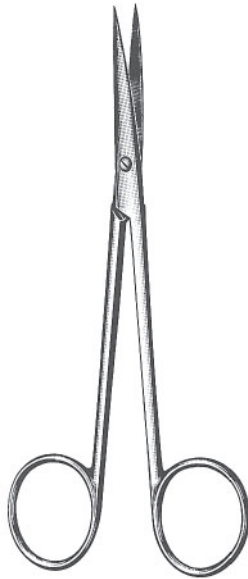
Deaver Scissors





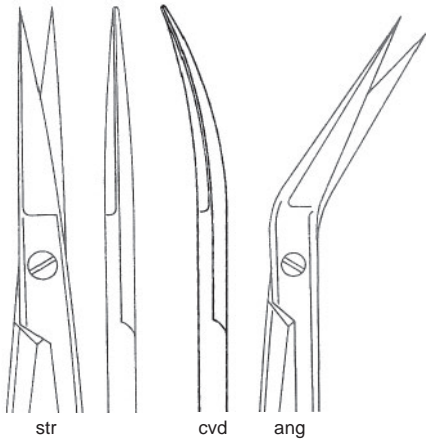
gS 13.7250 5 1/2" cvd

Jones Dissecting Scissors
delicate blades, sharp points
a.k.a. Sullivan



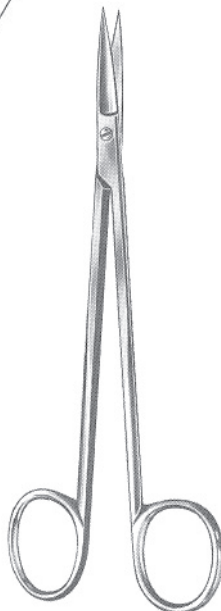
gS 13.3114 5 1/2" cvd

Joseph Scissors
sharp points



gS 13.7060 6 1/4" str
gS 13.7070 6 1/4" cvd
gS 13.7120 6 1/4" ang
gS 13.7140 6 1/4" str TC
gS 13.7145 6 1/4" cvd TC

Kelly Scissors
sharp points



gS 13.2780 6" str
gS 13.2782 6" cvd
gS 13.2800 7" str
gS 13.2802 7" cvd

Reynolds Scissors
blunt points



13-14/6 - scissors

- gS 13.3560** 5 1/2" str
- gS 13.3580** 5 1/2" cvd
- gS 13.3585** 6" str
- gS 13.3590** 6" cvd
- gS 13.3600** 6 3/4" str
- gS 13.3620** 6 3/4" cvd
- gS 13.3920** 9" str
- gS 13.3940** 9" cvd

tungsten carbide

- gS 13.3971** 5 1/2" str TC
- gS 13.3972** 5 1/2" cvd TC
- gS 13.3975** 6 3/4" str TC
- gS 13.3976** 6 3/4" cvd TC
- gS 13.3977** 9" str TC
- gS 13.3978** 9" cvd TC



Mayo Scissors

blunt beveled blades

- gS 13.3950** 5 1/2" str
- gS 13.3951** 5 1/2" cvd
- gS 13.3952** 6 3/4" str
- gS 13.3954** 6 3/4" cvd
- gS 13.3966** 9" cvd

tungsten carbide

- gS 13.3961** 6" cvd TC
- gS 13.3996** 6 3/4" cvd TC

Mayo-Stillie Scissors

blunt rounded blades



- gS 13.4250** 6 1/2" str
- gS 13.4270** 6 1/2" cvd

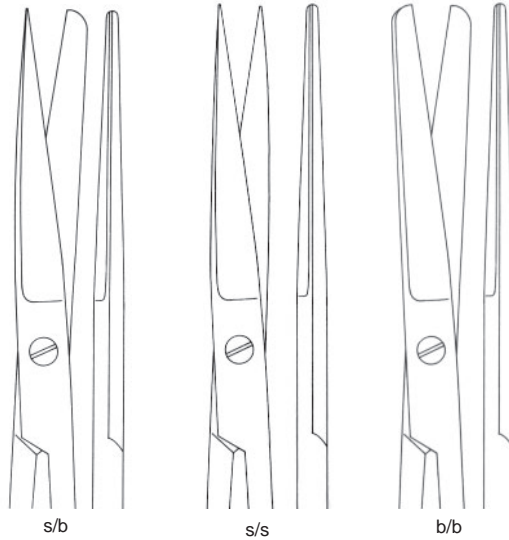
Mayo Noble Scissors

beveled blades



s/b = sharp/blunt
 b/b = blunt/blunt
 s/s = sharp/sharp

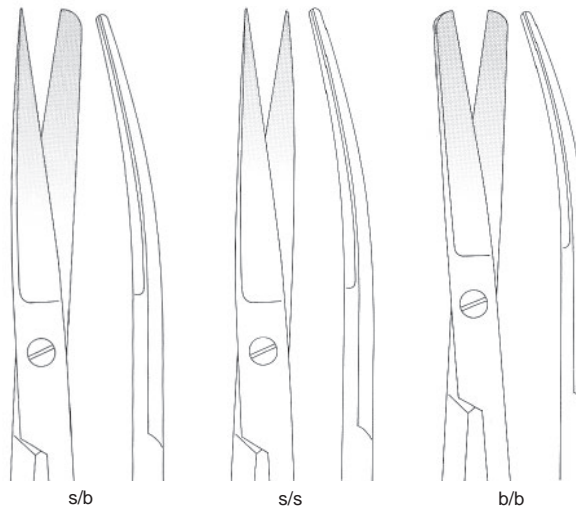
- gS 13.4001** 4 1/2" s/b
- gS 13.4002** 4 1/2" s/s
- gS 13.4003** 4 1/2" b/b
- gS 13.4011** 5" s/b
- gS 13.4012** 5" s/s
- gS 13.4013** 5" b/b
- gS 13.4021** 5 1/2" s/b
- gS 13.4022** 5 1/2" s/s
- gS 13.4023** 5 1/2" b/b
- gS 13.4031** 6 1/2" s/b
- gS 13.4032** 6 1/2" s/s
- gS 13.4033** 6 1/2" b/b



Operating Scissors
 straight blades

s/b = sharp/blunt
 b/b = blunt/blunt
 s/s = sharp/sharp

- gS 13.4004** 4 1/2" s/b
- gS 13.4005** 4 1/2" s/s
- gS 13.4006** 4 1/2" b/b
- gS 13.4014** 5" s/b
- gS 13.4015** 5" s/s
- gS 13.4016** 5" b/b
- gS 13.4024** 5 1/2" s/b
- gS 13.4025** 5 1/2" s/s
- gS 13.4026** 5 1/2" b/b
- gS 13.4034** 6 1/2" s/b
- gS 13.4035** 6 1/2" s/s
- gS 13.4036** 6 1/2" b/b



Operating Scissors
 curved blades

13-14/8 - scissors

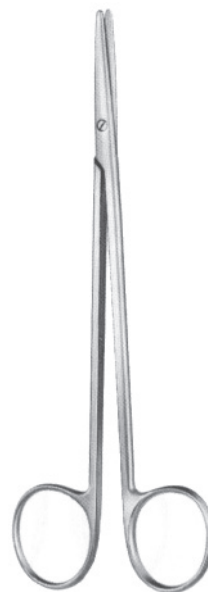
- gS 13.5360 4 1/2"
- gS 13.5430 5"
- gS 13.5580 6"
- gS 13.5660 7"
- gS 13.5930 7" delicate
- gS 13.5720 8"
- gS 13.5760 9"
- gS 13.5820 10"
- gS 13.5860 11"

tungsten carbide

- gS 13.7436 5 1/2" TC delicate
- gS 13.7438 7" TC
- gS 13.7440 7" TC delicate
- gS 13.7480 8" TC
- gS 13.7505 9" TC
- gS 13.7525 9" TC delicate

Metzenbaum Scissors

straight blunt points



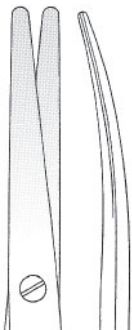
- gS 13.5380 4 1/2"
- gS 13.5450 5"
- gS 13.5920 5 1/2" delicate
- gS 13.5620 6"
- gS 13.5700 7"
- gS 13.5940 7" delicate
- gS 13.5740 8"
- gS 13.5780 9"
- gS 13.5840 10"
- gS 13.5880 11"

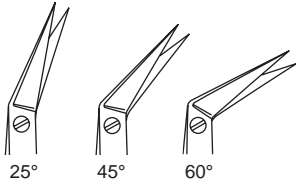
tungsten carbide

- gS 13.7433 5 3/4" TC
- gS 13.7437 5 1/2" TC delicate
- gS 13.7439 7" TC
- gS 13.7460 7" TC delicate
- gS 13.7485 8" TC
- gS 13.7520 9" TC
- gS 13.7535 9" TC delicate
- gS 13.7466 10" TC
- gS 13.7545 11" TC

Metzenbaum Scissors

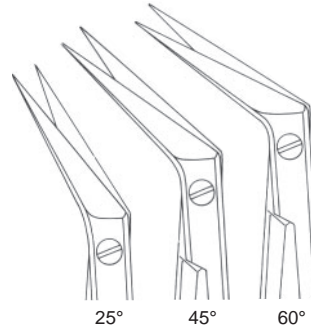
curved blunt points





- gS 14.0525** 6 3/4" 25° ang
- gS 14.0545** 6 3/4" 45° ang
- gS 14.0560** 6 3/4" 60° ang

Diethrich Scissors
18mm blades
delicate sharp points



- gS 14.0000** 7 1/2" 25° ang
- gS 14.0001** 7 1/2" 45° ang
- gS 14.0002** 7 1/2" 60° ang

Potts-Smith Scissors
delicate sharp points



- gS 14.7500** 6 3/4"

Dean Dissecting Scissors
blades angled on flat
one serrated blade, sharp



- gS 14.7125** 6 3/4"

Knight Nasal Scissors
angled on side
blunt points



13-14/10 - scissors

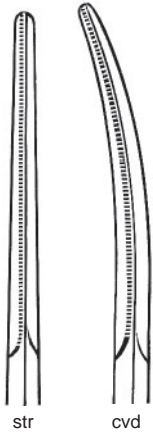
gS 13.4340 7" str
gS 13.4360 7" cvd

Doyen Scissors
blunt points



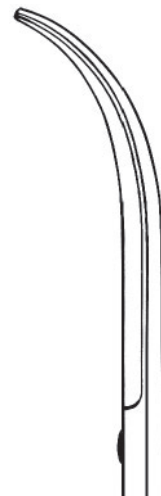
gS 13.4406 8" str

Sims Scissors
sharp/blunt points



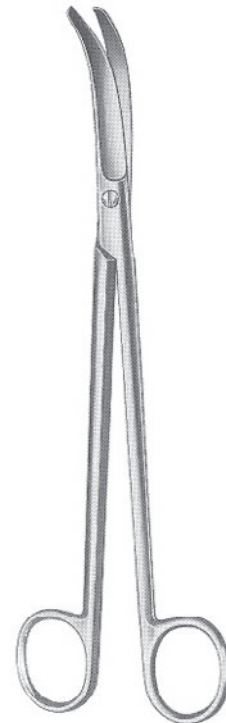
gS 13.3540 8" str
gS 13.3542 8" cvd

Gorney Scissors
one serrated blade
blunt points



gS 13.4290 8 1/2"

Jorgenson Scissors
heavy curve
blunt points



gS 15.1680 3 1/2"
gS 15.1920 5"

Spencer Stitch Scissors
delicate hooked blade



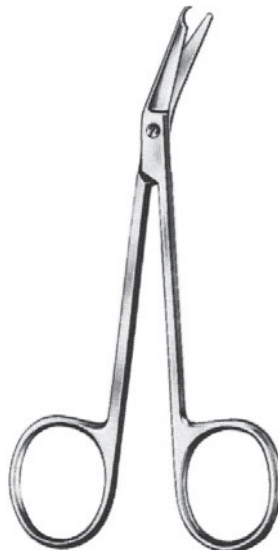
gS 15.1800 3 1/2"

Shortbent Stitch Scissors
delicate hooked blade



gS 15.1950 4 1/2"

Angled Stitch Scissors
angled delicate hooked blade



gS 15.2040 4 3/4"

Northbent Stitch Scissors
delicate hooked blade



15/2 - stitch scissors

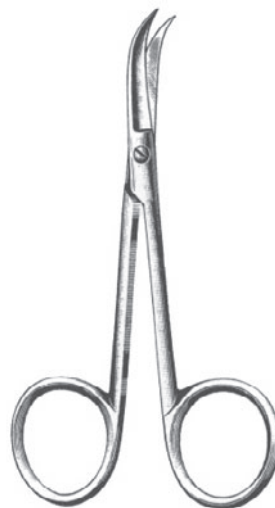
gS 15.2200 5 1/2"

Littauer Stitch Scissors
delicate hooked blade



gS 15.2400 4 1/4"

Hill Stitch Scissors
heavy curve sharp points



gS 15.6600 6"

Ingrown Nail Splitting Scissors
one serrated blade



bandage scissors - 15/3

Most popular scissors for bandage and dressing removal.

- gS 15.7680** 3 1/2"
- gS 15.7800** 4 1/2"
- gS 15.7920** 5 1/2"
- gS 15.8040** 7 1/4"
- gS 15.8041** 7 1/4" serrated upper blade
- gS 15.8070** 8"

Lister Bandage Scissors
angled blade



Oversize finger ring helps relieve pressure on third metacarpal.

gS 15.8080 8"

Lister Bandage Scissors
one large ring



Delicate angled shank is ergonomically designed to cut finger and toe bandages.

Keeps hands away from material being cut.

gS 15.8920 5 1/2"

Hi-Level Bandage Scissors (Knowles)
one serrated blade angled



gS 15.9040 5 1/2"

Knowles Bandage Scissors
one serrated blade straight



15/4 - bandage scissors

For cutting tape and bandages.

gS 15.1600 8"

Esmarch Shears
heavy blades



For cutting plaster casting material.

gS 15.9250 9"

Bruns Shears
one serrated blade
heavy blades



For cloth, bandages,
and light plaster.

gS 15.9299 5 1/2" black
gS 15.9300 7 1/2" black
gS 15.9301 7 1/2" blue
gS 15.9302 7 1/2" green
gS 15.9303 7 1/2" red

Utility Scissors
autoclavable
plastic handle



gS 15.9200 7" str
gS 15.9202 7" cvd

Moleskin Scissors
one serrated blade
sharp/blunt points



bandage scissors - 15/5

For lightweight plaster casting material.

Angled blade keeps hands away from cutting material.

gS 15.9340 7 1/2"

Hercules Scissors
one serrated blade heavy



Notch on opposite side of scissor edge can be used to cut cerclage wire. (17 gauge/ø1.5mm max)

gS 15.9360 8"

Utility Shears
one serrated blade locking clip



Useful for plaster, cotton padding, and bandages.

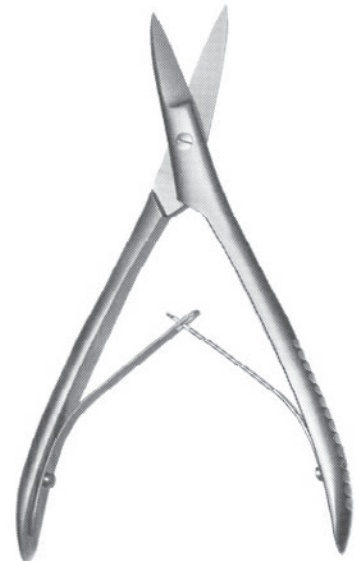
gS 15.9370 9" (Seutin)

Utility Shears



gS 15.9400 6 1/4"

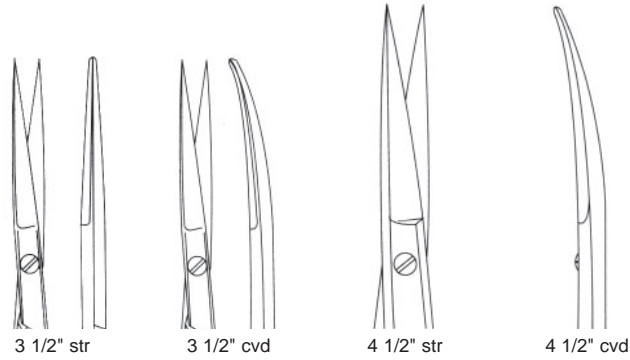
Scissor Forceps
plier handle with springs sharp points



15/6 - bandage scissors

Fine blades for cutting delicate tissue.

- gS 16.5415** 3 1/2" str
- gS 16.5420** 3 1/2" cvd
- gS 16.5440** 4 1/2" str
- gS 16.5600** 4 1/2" cvd



- gS 16.5430** 4" str serrated lower blade
- gS 16.5432** 4" cvd serrated lower blade

Super-Cut Iris Scissors
sharp/sharp points



Delicate short, narrow tips for fine tissue dissection.

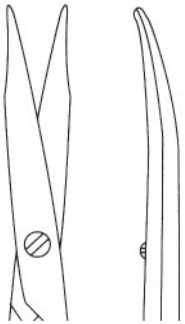
- gS 16.5840** 4 1/2" str
- gS 16.5900** 4 1/2" cvd
- gS 16.5940** 5 1/4" cvd



Super-Cut Stevens Tenotomy Scissors
blunt/blunt points



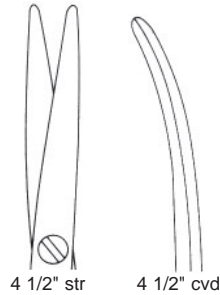
16/2 - super-cut scissors



Long handles and very delicate blades for fine tissue dissection.

gS 16.5960 6 1/4" cvd

Super-Cut Jamison Scissors (Stevens)
blunt/blunt points

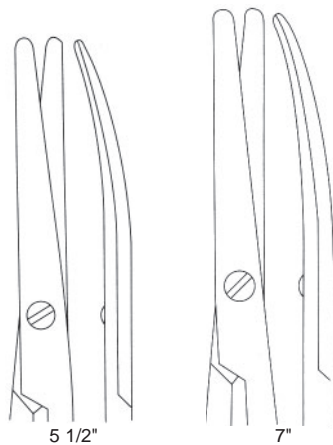


gS 16.4640 4 1/2" str
gS 16.4700 4 1/2" cvd

Super-Cut Baby Metzenbaum Scissors
blunt/blunt points



gS 16.4800 5 1/2" str
gS 16.4820 5 1/2" cvd
gS 16.4920 7" str
gS 16.4940 7" cvd
gS 16.4960 7" cvd delicate
gS 16.5018 8" str
gS 16.5020 8" cvd
gS 16.5180 9" cvd
gS 16.5300 11" cvd
gS 16.5350 12" cvd



Super-Cut Metzenbaum Scissors
blunt/blunt points



- gS 16.3200** 5 1/2" str
- gS 16.3202** 5 1/2" cvd

Super-Cut Operating Scissors
sharp/blunt points



5" str



5" cvd

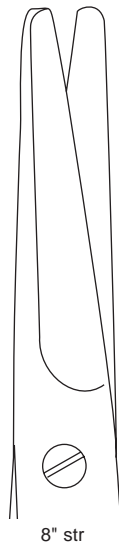


- gS 16.3800** 5 1/2" str
- gS 16.3802** 5 1/2" cvd
- gS 16.3920** 6 3/4" str
- gS 16.3980** 6 3/4" cvd
- gS 16.4180** 7 1/2" str
- gS 16.4185** 7 1/2" cvd
- gS 16.4190** 8" str
- gS 16.4195** 8" cvd
- gS 16.4210** 9" str
- gS 16.4220** 9" cvd
- gS 16.4225** 11" cvd
- gS 16.4230** 12" cvd serr

Super-Cut Mayo Scissors
beveled blades, blunt points



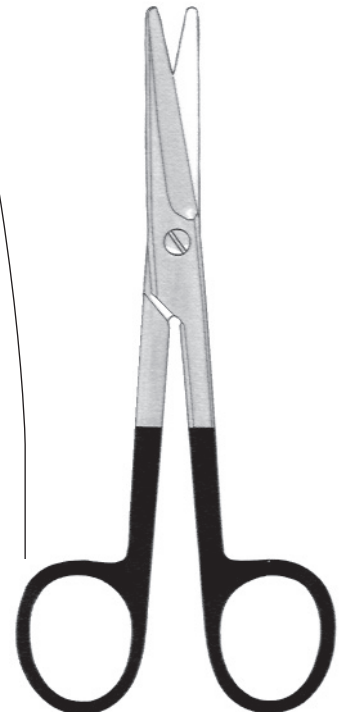
5 1/2" str



8" str



11" cvd



16/4 - super-cut scissors

Super-Cut Scissors are renowned for their unsurpassed sharpness.

The stainless steel used to manufacture our Super-Cuts has been specially heat-treated to achieve a long-lasting razor sharp edge.

Our Super-Cuts:

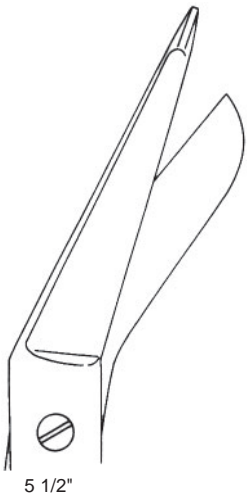
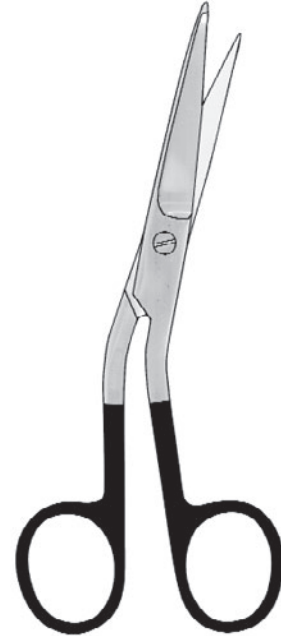
- Offer superb control.
- Reduce hand fatigue.
- Cut through multiple layers with precision and ease.
- Retain sharp edges longer than ordinary scissors.



Delicate angled shaft is ideal for finger and toe bandage removal. Fine knob slides easily under bandages.

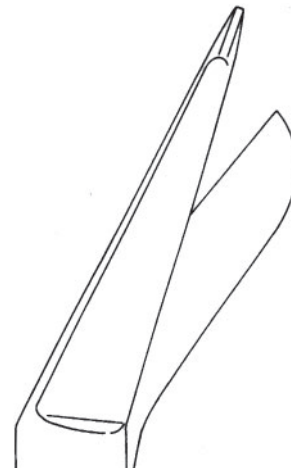
gS 16.3020 5 1/2"

Super-Cut Hi-Level Scissors
delicate blades



gS 16.3100 5 1/2"
gS 16.3120 7 1/4"

Super-Cut Lister Scissors

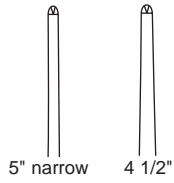


Oversize ring helps relieve pressure on third metacarpal.

gS 16.3140 8"
gS 16.3141 8" serrated front blade

Super-Cut Lister Scissors
one large ring



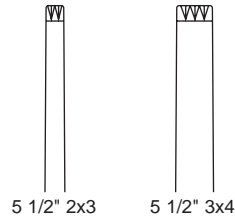


- gS 17.3513** 5" narrow
- gS 17.3514** 5 1/2" narrow
- gS 17.3516** 6" narrow
- gS 17.3518** 7" narrow
- gS 17.3520** 8" narrow
- gS 17.3640** 4 1/2"
- gS 17.3680** 5"
- gS 17.3720** 5 1/2"
- gS 17.3760** 6"
- gS 17.3780** 7"
- gS 17.3800** 8"
- gS 17.3860** 10"
- gS 17.3900** 12"

gS 17.3416 6 1/2" TC

Tissue Forceps

1x2 teeth



- gS 17.3920** 5" 2x3 teeth
- gS 17.3960** 5 1/2" 2x3 teeth
- gS 17.3970** 6 1/4" 2x3 teeth
- gS 17.3980** 10" 2x3 teeth
- gS 17.4040** 5 1/2" 3x4 teeth
- gS 17.4042** 6 1/4" 3x4 teeth

Tissue Forceps



- gS 17.4100** 4 1/2"
- gS 17.4140** 5"
- gS 17.4180** 5 1/2"
- gS 17.4220** 6"
- gS 17.4222** 7"
- gS 17.4226** 8"
- gS 17.4228** 10"

Tissue Forceps

fluted handle
1x2 teeth



- gS 17.1800** 5"
- gS 17.1880** 6"

Semken Tissue Forceps

1x2 teeth



17/2 - tissue forceps



gS 17.2010 6"
gS 17.2012 6" TC

Gillies Forceps
 serrated with 1x2 teeth



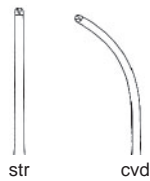
gS 17.4070 7"
gS 17.4072 8"
gS 17.4074 10"
gS 17.4076 12"

Potts-Smith Forceps
 serrated with 1x2 teeth



gS 17.1690 6 3/4" str
gS 17.1692 6 3/4" cvd
gS 17.1693 6 3/4" str TC

Cushing Tissue Forceps
 1x2 teeth



gS 17.0430 7" str
gS 17.0450 6 3/4" cvd
gS 17.0440 6 3/4" str TC

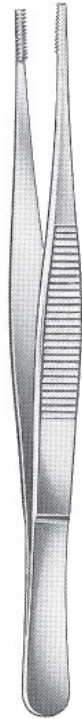
Gerald Tissue Forceps
 1x2 teeth
 delicate





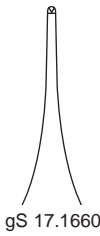
- gS 17.1973** 6"
- gS 17.1974** 8"
- gS 17.1975** 10"

Brown Forceps
side grasping 9x9 teeth

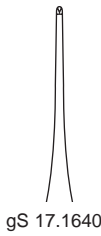


- gS 17.1920** 4 3/4" 7x7 teeth
- gS 17.1929** 4 3/4" 9x9 teeth

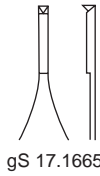
Adson Brown Forceps
side grasping teeth



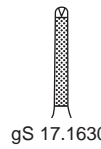
gS 17.1660



gS 17.1640



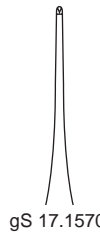
gS 17.1665



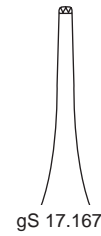
gS 17.1630



gS 17.1500



gS 17.1570



gS 17.1670

- gS 17.1660** 4 3/4" 1x2 teeth 1.3mm
- gS 17.1640** 4 3/4" 1x2 teeth delicate 0.9mm
- gS 17.1665** 4 3/4" 1x2 teeth deli tying platform smooth 0.9mm
- gS 17.1630** 4 3/4" 1x2 teeth serrated 1.3mm
- gS 17.1500** 6" 1x2 teeth 1.3mm
- gS 17.1570** 6" 1x2 teeth delicate 0.9mm
- gS 17.1670** 4 3/4" 2x3 teeth 1.7mm
- gS 17.1632** 4 3/4" 1x2 teeth TC serrated 1.6mm
- gS 17.1634** 6" 1x2 teeth TC serrated 2.0mm



gS 17.1632



gS 17.1634

Adson Tissue Forceps



17/4 - tissue forceps



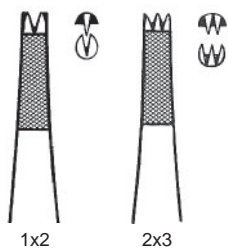
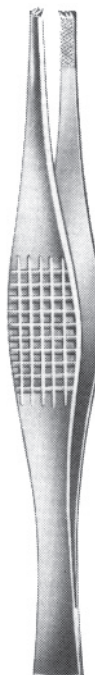
gS 17.4302 6 3/4"

Bonney Tissue Forceps
1x2 teeth with serrations



gS 17.4238 7" 1x2 teeth
gS 17.4240 7" 2x3 teeth

Ferris Smith Tissue Forceps
with tying platform



gS 17.4230 5 1/2" 1x2 teeth
gS 17.4231 5 1/2" 2x3 teeth

Lane Forceps
with tying platform

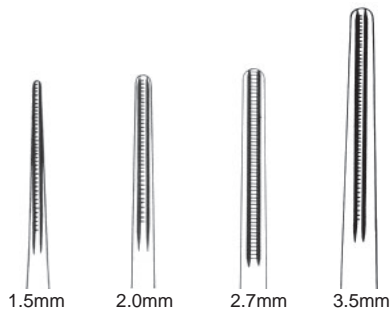


gS 17.2860 7 1/4"

Cushing Forceps
bayonet
1x2 teeth

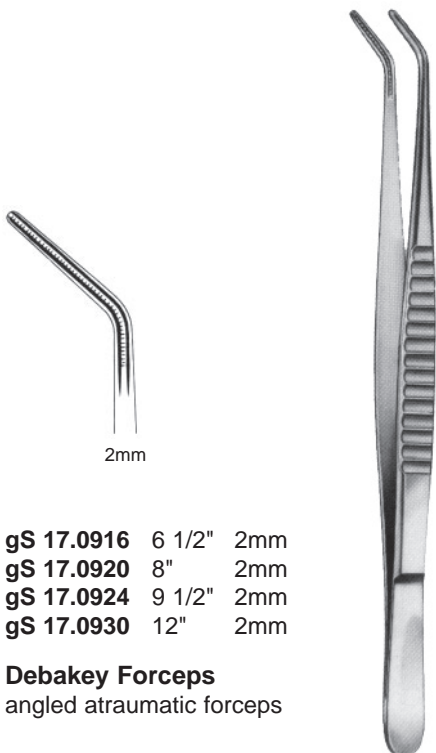


tissue forceps - 17/5



gS 17.0616	6 1/2"	1.5mm	gS 17.0832	6 1/2"	2.7mm
gS 17.0620	8"	1.5mm	gS 17.0833	8"	2.7mm
gS 17.0624	9 1/2"	1.5mm	gS 17.0834	9 1/2"	2.7mm
gS 17.0626	12"	1.5mm	gS 17.0835	12"	2.7mm
gS 17.0816	6 1/2"	2mm	gS 17.1016	6 1/2"	3.5mm
gS 17.0820	8"	2mm	gS 17.1020	8"	3.5mm
gS 17.0824	9 1/2"	2mm	gS 17.1024	9 1/2"	3.5mm
gS 17.0830	12"	2mm	gS 17.1030	12"	3.5mm

Debakey Forceps
atraumatic tissue forceps



gS 17.0916	6 1/2"	2mm
gS 17.0920	8"	2mm
gS 17.0924	9 1/2"	2mm
gS 17.0930	12"	2mm

Debakey Forceps
angled atraumatic forceps

17/6 - tissue forceps



- gS 17.0458 7"
- gS 17.0459 9"
- gS 17.0457 12"

Single Tissue Forceps
fenestrated serrated tips



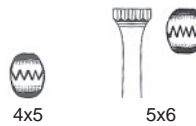
- gS 17.2920 6"
- gS 17.2960 8"
- gS 17.2980 10"

Russian Tissue Forceps
serrated cupped tips



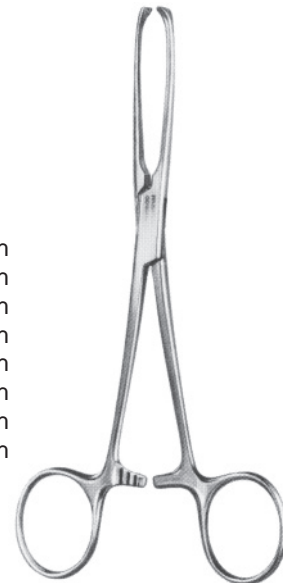
- gS 17.2220 6"
- gS 17.2230 7 1/2"

Judd Allis Tissue Forceps
3x4 teeth



- gS 17.2050 4 3/4" 4x5 teeth
- gS 17.2070 5 1/2" 4x5 teeth
- gS 17.2100 6" 3x4 teeth
- gS 17.2120 6" 4x5 teeth
- gS 17.2160 6" 5x6 teeth
- gS 17.2240 7 1/2" 5x6 teeth
- gS 17.2255 8 1/2" 5x6 teeth
- gS 17.2257 9 1/2" 5x6 teeth

Allis Tissue Forceps



tissue forceps - 17/7



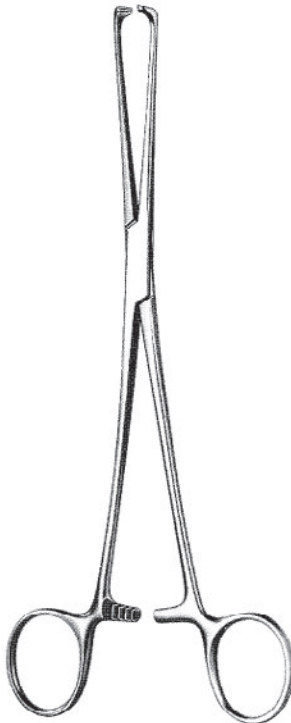
gS 17.2250 6"
Allis Adair Forceps
9x10 teeth



gS 17.2280 8"
Thoms-Allis Forceps
6x7 teeth



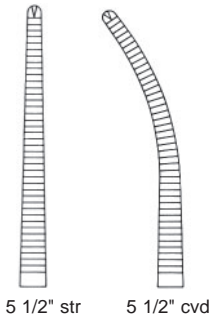
gS 17.2312 10"
Allis Tissue Forceps
atraumatic teeth



gS 17.4250 6 1/4"
gS 17.4255 7"
gS 17.4241 8"
gS 17.4260 9 1/2"
gS 17.4264 12"
Babcock Forceps
fenestrated



17/8 - tissue forceps

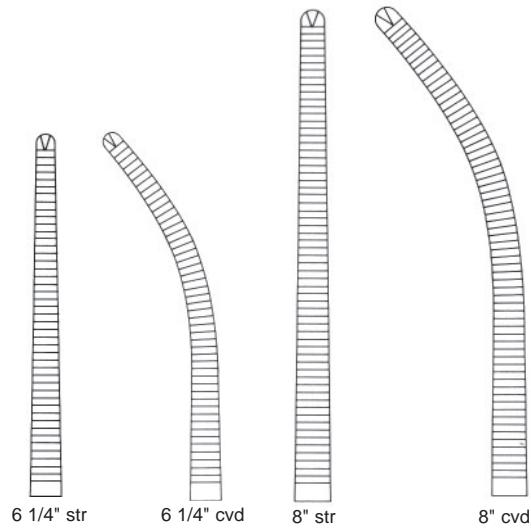


gS 17.5060 5 1/2" str
gS 17.5080 5 1/2" cvd

Kocher Forceps
 serrated
 with 1x2 teeth



gS 17.5150 5 1/4" str
gS 17.5160 6 1/4" str
gS 17.5180 6 1/4" cvd
gS 17.5260 7 1/4" str
gS 17.5280 7 1/4" cvd
gS 17.5360 8" str
gS 17.5380 8" cvd
gS 17.5460 9" str
gS 17.5480 9" cvd
gS 17.5560 10" str
gS 17.5580 10" cvd
gS 17.5586 12" str
gS 17.5587 12" cvd



Rochester Ochsner Forceps
 serrated
 with 1x2 teeth



splinter forceps - 18/1



4 1/2"

gS 18.4640 3 1/2" str
gS 18.4660 4 1/2" str

Plain Splinter Forceps
serrated



3"

gS 18.4860 3" str
gS 18.4900 4 1/2" str

Feilchenfeld Splinter Forceps
serrated



str



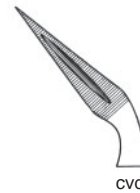
cvd

gS 18.5100 4 1/4" str
gS 18.5120 4 1/4" cvd

Carmalt Splinter Forceps
serrated



str



cvd

gS 18.5780 6" str
gS 18.5785 6" cvd

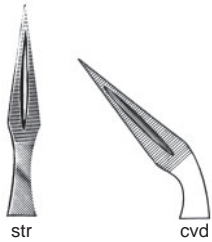
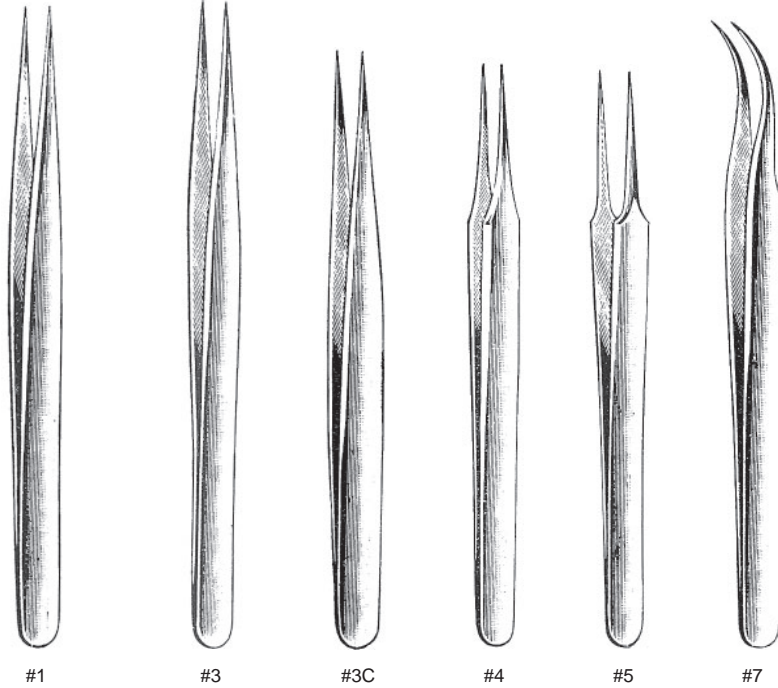
Virtus Splinter Forceps
serrated



18/2 - splinter forceps

- gS 18.5500** 4 3/4" style #1 fine
- gS 18.5502** 4 3/4" style #3 very fine
- gS 18.5504** 4 1/2" style #3C very fine
- gS 18.5506** 4 1/2" style #4 very fine
- gS 18.5508** 4 1/2" style #5 very fine
- gS 18.5510** 4 3/4" style #7 very fine

Swiss Jewelers Forceps
smooth



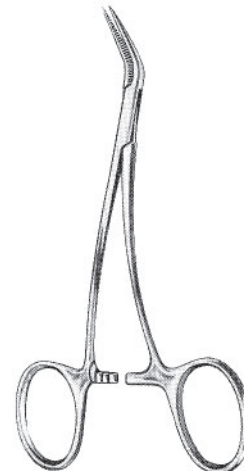
- gS 18.6090** 5 1/2" str
- gS 18.6110** 5 1/4" cvd

Williams Splinter Forceps
serrated

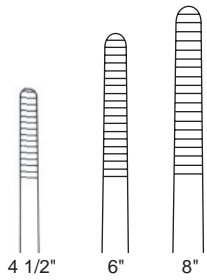


- gS 18.6210** 4 3/4" cvd

Peet Splinter Forceps
double curve

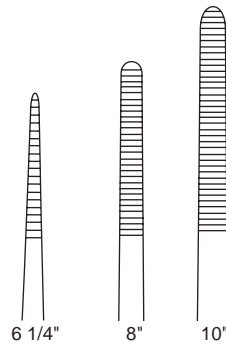


dressing forceps - 19/1



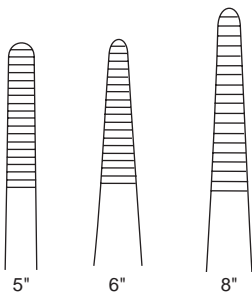
- gS 19.1799** 4 1/2"
- gS 19.1800** 5"
- gS 19.1840** 5 1/2"
- gS 19.1880** 6"
- gS 19.1882** 7"
- gS 19.1884** 8"
- gS 19.1886** 10"
- gS 19.1888** 12"

Dressing Forceps
serrated



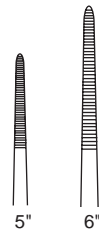
- gS 19.1920** 4 1/2"
- gS 19.1935** 6 1/4"
- gS 19.1937** 7"
- gS 19.1940** 8"
- gS 19.2000** 10"
- gS 19.2060** 12"

Dressing Forceps
narrow, serrated



- gS 19.2280** 4 1/2"
- gS 19.2282** 5"
- gS 19.2284** 5 1/2"
- gS 19.2286** 6"
- gS 19.2288** 7"
- gS 19.2290** 8"
- gS 19.2292** 10"

Dressing Forceps
fluted handle
serrated



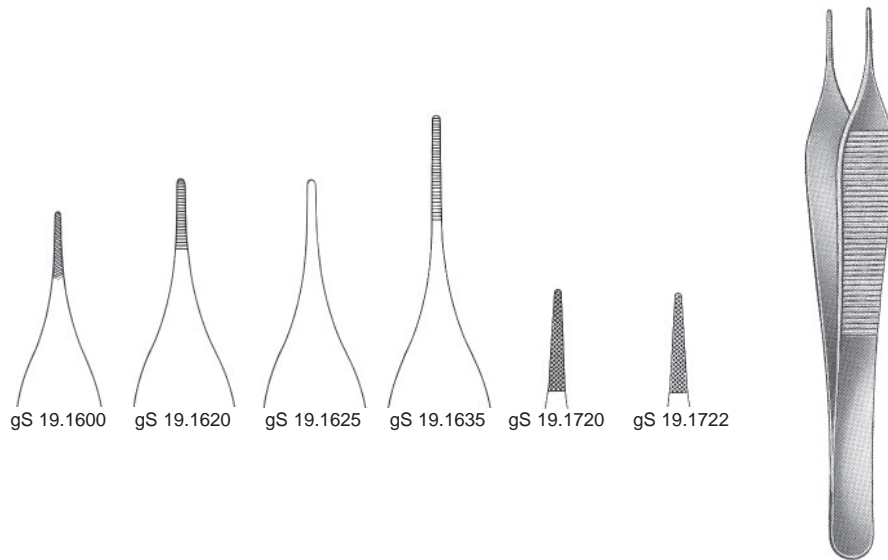
- gS 19.1760** 5"
- gS 19.1761** 6"

Semken Dressing Forceps
delicate, serrated

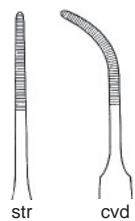


19/2 - dressing forceps

- gS 19.1600** 4 3/4" delicate
- gS 19.1620** 4 3/4" standard
- gS 19.1625** 4 3/4" smooth
- gS 19.1635** 6"
- gS 19.1720** 4 3/4" TC
- gS 19.1722** 6" TC



Adson Dressing Forceps
serrated



- gS 19.2800** 7" str
- gS 19.2802** 9" str
- gS 19.2806** 7" cvd
- gS 19.2810** 6 3/4" str TC 1.0mm
- gS 19.2812** 6 3/4" str TC 1.5mm

Gerald Forceps
delicate
serrated



- gS 19.1750** 6 3/4" str
- gS 19.1756** 6 3/4" str TC

Cushing Forceps
smooth handle
serrated



dressing forceps - 19/3



gS 19.2840 7 1/4"
gS 19.2855 7 1/4" TC

**Cushing Bayonet
Dressing Forceps**
serrated



gS 19.2860 8 1/2"

**Adson Bayonet
Dressing Forceps**
serrated

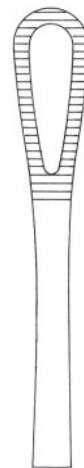
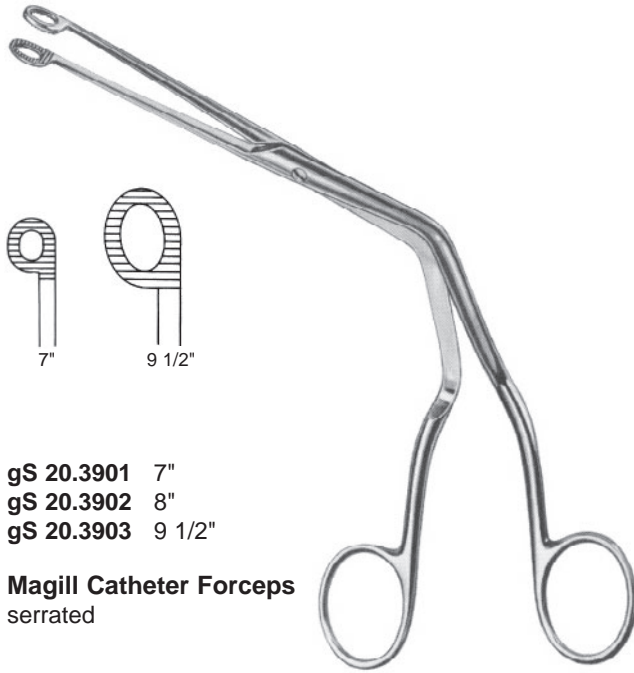


gS 19.1770 6"

**Cotton and Dressing
Forceps**
angled with lock, serrated

19/4 - dressing forceps

sponge and tubing forceps - 20/1



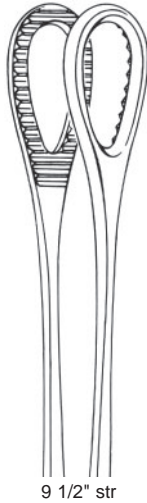
gS 20.4925 7" str
gS 20.4927 10" str

Rampley Sponge Forceps
serrated

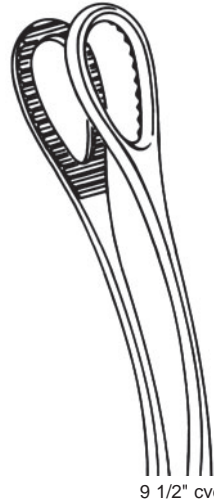


20/2 - sponge and towel forceps

- gS 20.4660** 7" str serr
- gS 20.4680** 7" cvd serr
- gS 20.4700** 7" str smooth
- gS 20.4720** 7" cvd smooth
- gS 20.4860** 9 1/2" str serr
- gS 20.4880** 9 1/2" cvd serr
- gS 20.4900** 9 1/2" str smooth
- gS 20.4920** 9 1/2" cvd smooth
- gS 20.4922** 10" str narrow serr long
- gS 20.4923** 10" cvd narrow serr long



9 1/2" str



9 1/2" cvd

Foerster Sponge Forceps



- gS 20.5700** 3"
- gS 20.5780** 3 1/2"

Jones Towel Forceps

perforating sharp points



- gS 20.5580** 3 1/2"
- gS 20.5620** 5 1/4"

Backhaus Towel Forceps

perforating sharp points



sponge and towel forceps - 20/3

gS 20.5640 5 1/4"

Backhaus Roeder Towel Forceps
perforating, sharp ball tips



gS 20.5660 4"
gS 20.5680 5 1/4"

Lorna Towel Forceps (Edna)
non-perforating fine teeth



gS 20.5560 5 3/4"

Peers Towel Forceps
non-perforating
serrated tips

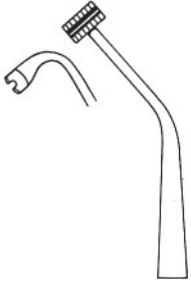


gS 20.5571 5"

Ball and Socket Towel Forceps
non-perforating ball tip



20/4 - sponge and towel forceps



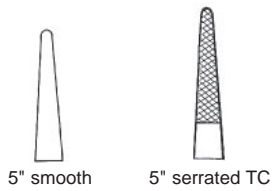
gS 20.5564 4"
gS 20.5565 5 1/4"

**Non-perforating Towel
Forceps**
serrated



needle holders - 21/1

TC = tungsten carbide inserts



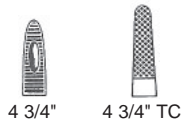
- gS 21.1640** 5" smooth
- gS 21.1660** 5 1/4" serr
- gS 21.1650** 5" smooth TC
- gS 21.1670** 5" serr TC

Halsey Needle Holder

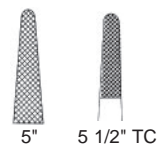


- gS 21.1680** 5" smooth
- gS 21.1712** 4 3/4" smooth TC
extra delicate
- gS 21.1714** 4 3/4" serrated TC
- gS 21.1700** 5" smooth TC

Webster Needle Holder



- gS 21.1920** 4 3/4"
 - gS 21.1940** 4 3/4" TC
- Derf Needle Holder**
serrated



- gS 21.2620** 5"
- gS 21.2640** 5 3/4"
- gS 21.2660** 5 1/2" TC

Hegar-Baumgartner Needle Holder

serrated



21/2 - needle holders

TC = tungsten carbide inserts

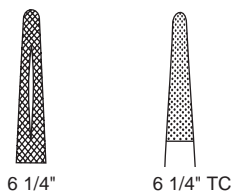


gS 21.2700 6"
gS 21.2710 7"
gS 21.2721 8"
gS 21.2730 9"

tungsten carbide

gS 21.2740 6" TC
gS 21.2750 7" TC
gS 21.2760 8" TC
gS 21.2780 9" TC
gS 21.2782 10" TC
gS 21.2784 12" TC

Crile-wood Needle Holder
serrated



gS 21.4280 6 1/4"
gS 21.4284 7"
gS 21.4288 8"

tungsten carbide

gS 21.4290 6 1/4" TC
gS 21.4294 7" TC
gS 21.4298 8" TC
gS 21.4317 12" TC

Mayo Hegar Needle Holder
delicate, serrated



gS 21.3700 5 1/4"
gS 21.3720 6"
gS 21.3780 7"
gS 21.3840 8"
gS 21.3845 9 1/2"
gS 21.3860 10 1/2"
gS 21.3865 12"

tungsten carbide

gS 21.4000 5" TC
gS 21.4010 5" smooth TC
gS 21.4020 6" TC
gS 21.4080 7" TC
gS 21.4140 8" TC
gS 21.4150 9 1/2" TC
gS 21.4160 10 1/2" TC
gS 21.4170 12" TC

Mayo Hegar Needle Holder
serrated



needle holders - 21/3

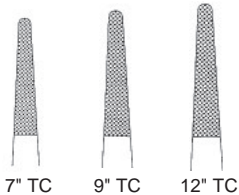
TC = tungsten carbide inserts



gS 21.1850 5" serr TC
Converse Needle Holder

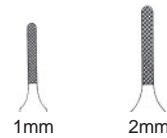


gS 21.2040 5"
Collier Needle Holder
fenestrated jaw
serrated



gS 21.4516 6 1/4" TC
gS 21.4518 7" TC
gS 21.4520 8" TC
gS 21.4523 9" TC
gS 21.4526 10" TC
gS 21.4531 12" TC

Debakey Needle Holder
delicate, serrated



gS 21.3400 5" 1mm TC
gS 21.3420 6" 1mm TC
gS 21.3440 7" 1mm TC
gS 21.3460 8" 1mm TC
gS 21.3480 9" 1mm TC
gS 21.3485 10" 1mm TC
gS 21.3570 5" 2mm TC
gS 21.3640 6" 2mm TC
gS 21.3650 7" 2mm TC
gS 21.3660 8" 2mm TC
gS 21.3670 9" 2mm TC
gS 21.3680 10" 2mm TC

Ryder Needle Holder
delicate, serrated



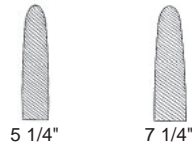
2 1/4 - needle holders

TC = tungsten carbide inserts



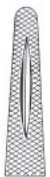
gS 21.2802 7" TC

**New Orleans
Needle Holder**
serrated



gS 21.2300 5 1/4"
gS 21.2320 7 1/4"

Brown Needle Holder
serrated



gS 21.2450 10"

Masson Needle Holder
bulldog jaw
serrated



gS 21.2580 10 1/2" TC

**Wangensteen
Needle Holder**
serrated



needle holders - 21/5

TC = tungsten carbide inserts



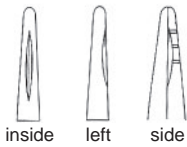
gS 21.2520 7 1/2" TC
gS 21.2540 10 1/2" TC

Sarot Needle Holder
 serrated



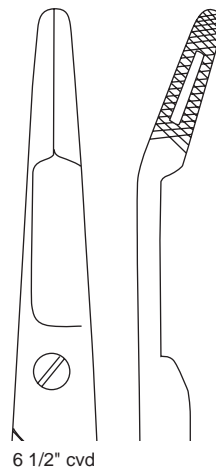
gS 21.2330 8"
gS 21.2332 8" TC
gS 21.2335 10" TC
gS 21.2340 12" TC

Heaney Needle Holder
 curved serrated jaws



gS 21.2060 5"
gS 21.2080 5" TC

Nievert Needle Holder
 one offset ring
 smooth jaw with groove



gS 21.4330 6 1/2" cvd
gS 21.4352 4 1/2" cvd TC
gS 21.4354 5" cvd TC
gS 21.4356 6 1/4" cvd TC

Gillies Needle Holder
 offset rings with
 suture scissors, serrated



21/6 - needle holders

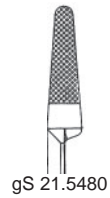
TC = tungsten carbide inserts

Combination needle holder and suture scissors.

- gS 21.5240** 4 1/2" delicate serr
- gS 21.5280** 5 1/2" serr
- gS 21.5320** 6 1/2" serr
- gS 21.5340** 7" serr

tungsten carbide

- gS 21.5400** 4 1/2" delicate serr TC
- gS 21.5420** 4 3/4" delicate smooth TC
- gS 21.5480** 5 1/2" serr TC
- gS 21.5520** 6 1/2" serr TC
- gS 21.5522** 7" serr TC



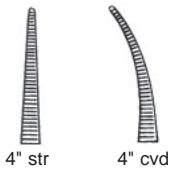
Olsen Hegar Needle Holder



- gS 21.2980** 5 1/2"
- gS 21.2990** 8"
- gS 21.3000** 5 1/2" TC
- gS 21.3020** 8" TC

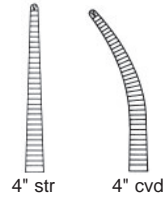
Mathieu Needle Holder

hemostatic forceps - 22/1



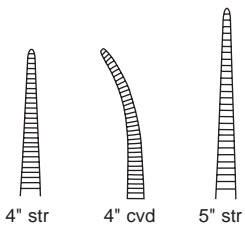
gS 22.1630 4" str
gS 22.1670 4" cvd

Hartmann Mosquito Forceps
serrated



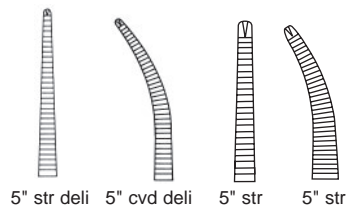
gS 22.1752 4" str
gS 22.1754 4" cvd

Hartmann Mosquito Forceps
serrated 1x2 teeth



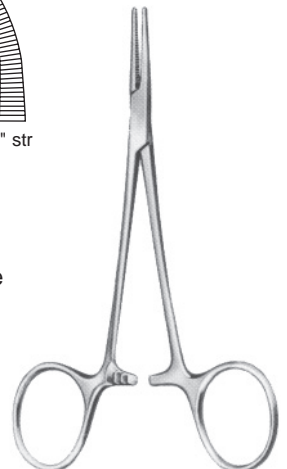
gS 22.1710 4" str
gS 22.1730 4" cvd
gS 22.1750 5" str

Micro Hartmann Forceps
delicate serrated

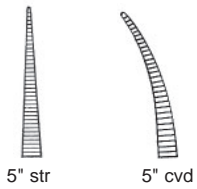


gS 22.1758 5" str delicate
gS 22.1759 5" cvd delicate
gS 22.1760 5" str
gS 22.1780 5" cvd

Mosquito Forceps
serrated 1x2 teeth

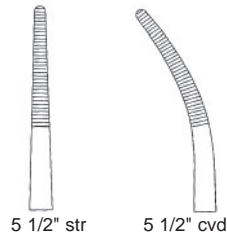


22/2 - hemostatic forceps



gS 22.1812 5" str
gS 22.1813 5" cvd

**Petit-Point Jacobson
 Forceps**
 very delicate serrated

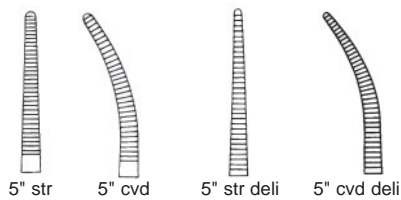


gS 22.2060 5 1/2" str
gS 22.2080 5 1/2" cvd

**Providence Hospital
 Forceps**
 serrated



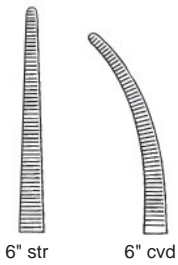
gS 22.2560 5" str
gS 22.2600 5" str delicate
gS 22.2580 5" cvd
gS 22.2620 5" cvd delicate
gS 22.2590 5 1/2" cvd
gS 22.2653 6" cvd delicate
gS 22.2655 7" str
gS 22.2656 7" cvd
gS 22.2657 8" str
gS 22.2658 8" cvd



Mosquito Forceps (Halsted)
 serrated

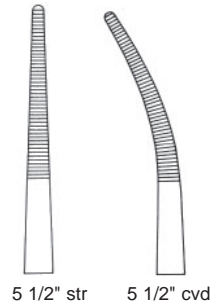


hemostatic forceps - 22/3



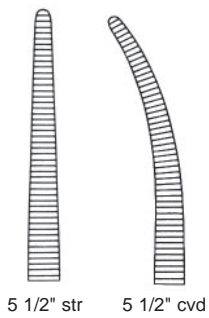
gS 22.8422 6" str
gS 22.8424 6" cvd

Leriche Forceps
 delicate serrated



gS 22.2660 5 1/2" str
gS 22.2680 5 1/2" cvd

Kelly Forceps
 3/4 serrated jaws



gS 22.2760 5 1/2" str
gS 22.2800 5 1/2" str delicate
gS 22.2780 5 1/2" cvd
gS 22.2820 5 1/2" cvd delicate

Crile Forceps
 fully serrated jaws

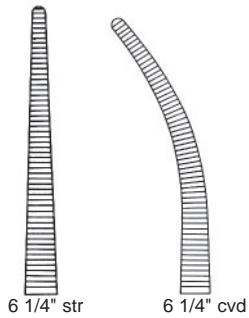


gS 22.2690 5 1/2" str
gS 22.2691 5 1/2" cvd
gS 22.2692 6 1/4" str
gS 22.2693 6 1/4" cvd
gS 22.2694 7 1/4" str
gS 22.2695 7 1/4" cvd

Collier Forceps
 delicate serrated

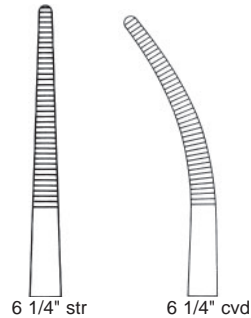


22/4 - hemostatic forceps



gS 22.2860 6 1/4" str
gS 22.2880 6 1/4" cvd

Rankin-Crile Forceps
 fully serrated jaws



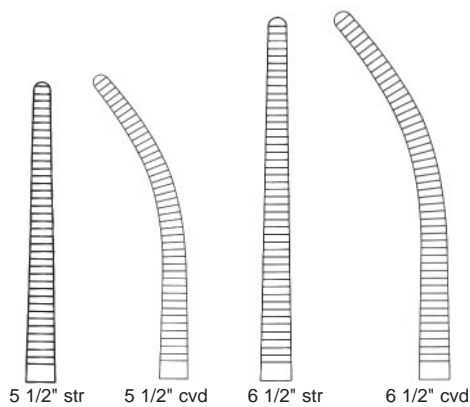
gS 22.2960 6 1/4" str
gS 22.2980 6 1/4" cvd

Rankin-Kelly Forceps
 3/4 serrated jaws

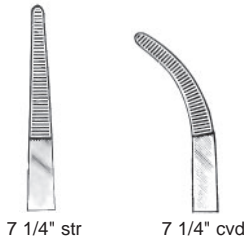


gS 22.4060 5 1/2" str
gS 22.4080 5 1/2" cvd
gS 22.4160 6 1/2" str
gS 22.4180 6 1/2" cvd
gS 22.4260 7 1/4" str
gS 22.4280 7 1/4" cvd
gS 22.4360 8" str
gS 22.4380 8" cvd
gS 22.4460 9" str
gS 22.4480 9" cvd
gS 22.4560 10" str
gS 22.4580 10" cvd
gS 22.4600 12" str
gS 22.4620 12" cvd

Rochester Pean Forceps
 serrated



hemostatic forceps - 22/5

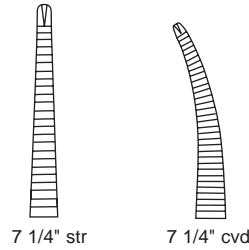


7 1/4" str

7 1/4" cvd

gS 22.8440 7 1/4" str
gS 22.8460 7 1/4" cvd

Adson Forceps
 serrated

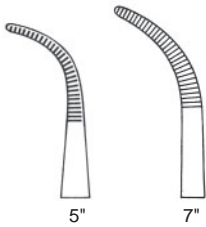


7 1/4" str

7 1/4" cvd

gS 22.8470 7 1/4" str
gS 22.8472 7 1/4" cvd

Adson Artery Forceps
 serrated 1x2 teeth

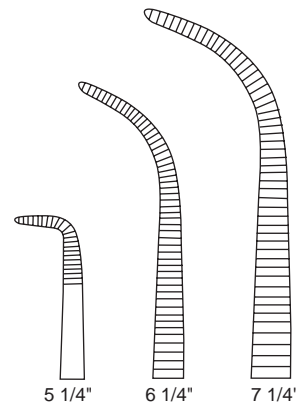


5"

7"

gS 22.6550 5"
gS 22.6560 7"

Mixer Baby Forceps
 curved serrated



5 1/4"

6 1/4"

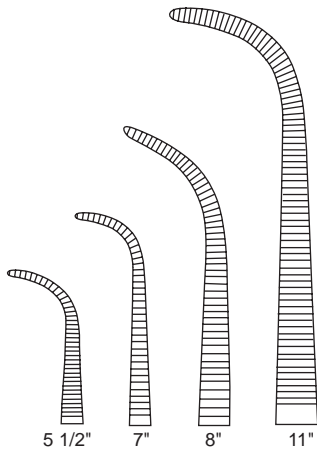
7 1/4"

gS 22.6570 5 1/4" delicate
gS 22.6620 6 1/4"
gS 22.6640 7 1/4"

Mixer Forceps
 full curve serrated

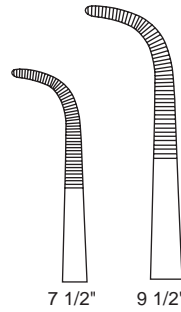
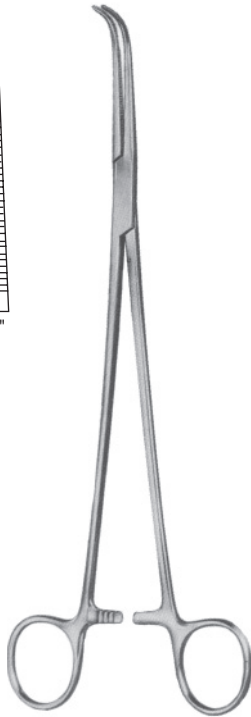


22/6 - hemostatic forceps



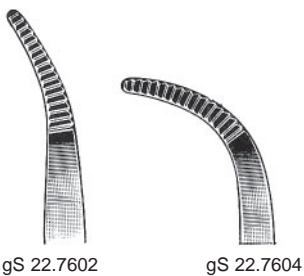
- gS 22.2710** 5 1/2"
- gS 22.2712** 7"
- gS 22.2713** 8"
- gS 22.2714** 9"
- gS 22.2715** 10"
- gS 22.2725** 11" light model

Gemini Forceps
curved serrated



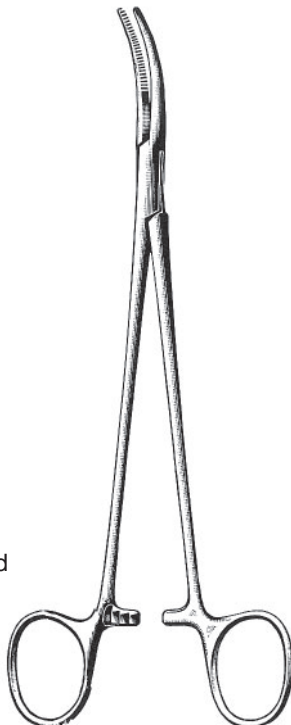
- gS 22.6680** 7 1/2"
- gS 22.6682** 9 1/2"

Kantrowitz Forceps
right angle
serrated



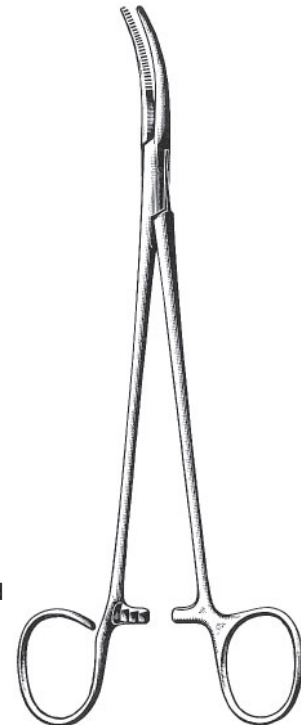
- gS 22.7602** 7 1/2" slight cvd
- gS 22.7604** 7 1/2" full cvd

Schmidt Forceps
curved serrated

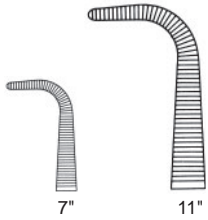


- gS 22.7606** 7 1/2" slight cvd

Schmidt Forceps
one open ring
curved serrated

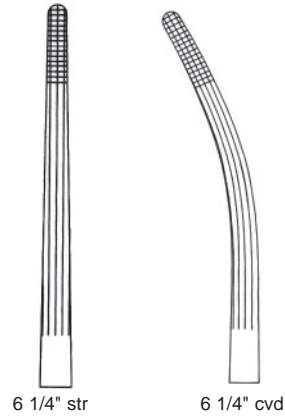


hemostatic forceps - 22/7



gS 22.6670 7"
gS 22.6671 11"

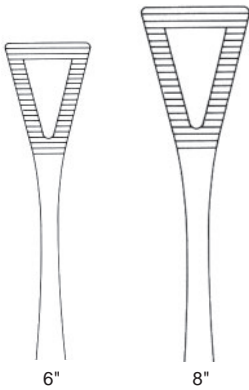
Meeker Artery Forceps
 right angle serrated



6 1/4" str 6 1/4" cvd

gS 22.6160 6 1/4" str
gS 22.6180 6 1/4" cvd
gS 22.6360 8" str
gS 22.6380 8" cvd

Rochester-Carmalt Fcps
 cross serrated tip
 longitudinally serrated jaws



gS 22.8660 6"
gS 22.8662 8"

Pennington Tissue Forceps
 serrated jaw



gS 22.7960 6 1/4"

Lahey Traction Forceps
 3x3 sharp

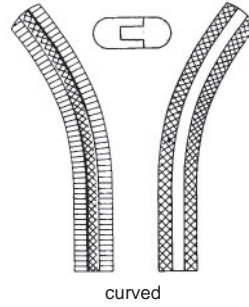


22/8 - hemostatic forceps



gS 22.8715 6"

Pratt Scalp Forceps
fine teeth



gS 22.9160 6 1/4" str
gS 22.9180 6 1/4" cvd
gS 22.9260 7 3/4" str
gS 22.9280 7 3/4" cvd

Fergusson Forceps
serrated 1x2 jaws



micro needle holders - 24/1



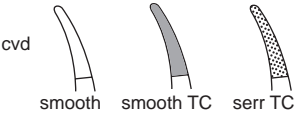
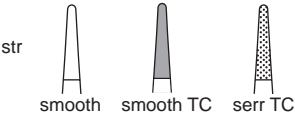
gS 24.1320 5 1/2" cvd

Barraquer Needle Holder
with lock



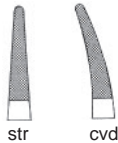
gS 24.1618 7" str
gS 24.1718 7" cvd

Barraquer Needle Holder
with lock



gS 24.2860 5 1/2" str smooth
gS 24.2880 5 1/2" cvd smooth
gS 24.2882 5 1/2" str smooth TC
gS 24.2884 5 1/2" cvd smooth TC
gS 24.2886 5 1/2" str serr TC
gS 24.2887 5 1/2" cvd serr TC

Castroviejo Needle Holder
with lock



gS 24.2892 7" str serr TC
gS 24.2893 7" cvd serr TC

Castroviejo Needle Holder
with lock



24/2 - micro needle holders

skin & nerve hooks - 25/1



gS 25.2312 5" sharp
gS 25.2313 5" blunt

Tyrell Hook
1.5mm diameter



gS 25.1980 5" sharp

Skin Hook
one fine sharp prong
2mm diameter



gS 25.2575 5 1/2" sharp

Cushing Dural Hook
2mm diameter



sharp



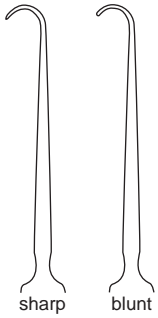
blunt

gS 25.2561 5" sharp
gS 25.2562 5" blunt

Frazier Hook
2.5mm diameter



25/2 - skin & nerve hooks



gS 25.1990 5" sharp
gS 25.1992 5" blunt

Wiener Skin Hook
3.5mm diameter



gS 25.1212 4 3/4" sharp

O'Connor Skin Hook
5mm diameter



gS 25.2413 5 1/2" sharp

Straights Hook
2mm diameter



gS 25.1600 3mm
gS 25.1640 5mm
gS 25.1680 7mm

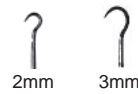
Kleinert-Kutz Hook
6" sharp prong





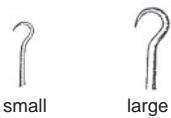
- gS 25.1101** size #1
- gS 25.1102** size #2
- gS 25.1103** size #3
- gS 25.1104** size #4

Niro Skin Hook
6 3/4" sharp prong



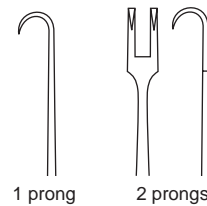
- gS 25.1770** 2mm
- gS 25.1830** 3mm

Gillies Hook
7" sharp prong



- gS 25.1450** small 2.5mm
- gS 25.1455** large 4mm

Converse Skin Hook
7" delicate sharp prong

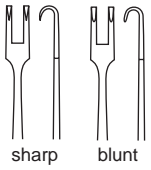


- gS 25.1351** 1 prong
- gS 25.1352** 2 prongs

Lahey Hook
4 3/4" sharp prong
4mm



25/4 - skin & nerve hooks



gS 25.1400 sharp
gS 25.1402 blunt

Freer Skin Hook
6"
2 prongs



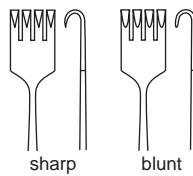
gS 25.4490 1.5mm
gS 25.4500 2.5mm

Guthrie Hook
5" sharp
2 prongs



gS 25.4600 8 1/2"

Boyes-Goodfellow Hook
sharp
2 prongs

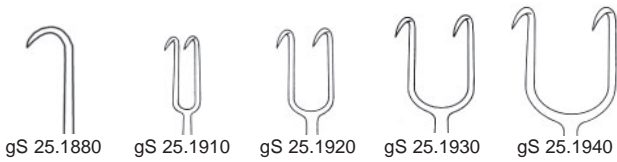


gS 25.2595 sharp
gS 25.2596 blunt

Rollet Retractor
5 1/2"
4 prongs



skin & nerve hooks - 25/5

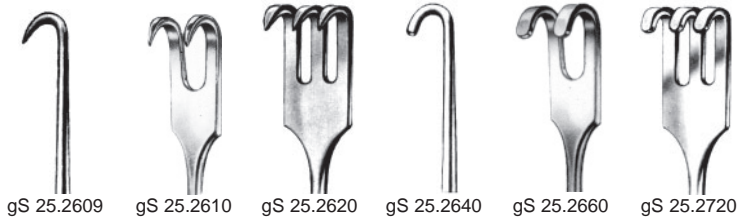


- gS 25.1880** 1 prong
- gS 25.1910** 2 prongs 2mm apart
- gS 25.1920** 2 prongs 5mm apart
- gS 25.1930** 2 prongs 7mm apart
- gS 25.1940** 2 prongs 10mm apart

Joseph Hook
6 1/4"
sharp prongs



25/6 - skin & nerve hooks

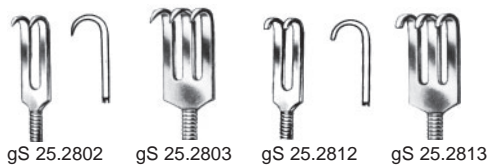


gS 25.2609 1 prong sharp
gS 25.2610 2 prongs sharp
gS 25.2620 3 prongs sharp

gS 25.2640 1 prong blunt
gS 25.2660 2 prongs blunt
gS 25.2720 3 prongs blunt

Rigid Retractor

6 1/2"



gS 25.2801 1 prong sharp
gS 25.2802 2 prongs sharp
gS 25.2803 3 prongs sharp
gS 25.2804 4 prongs sharp

gS 25.2811 1 prong blunt
gS 25.2812 2 prongs blunt
gS 25.2813 3 prongs blunt
gS 25.2814 4 prongs blunt

Flexible Retractor

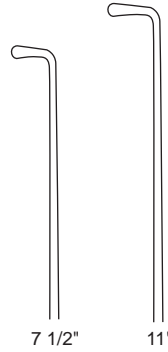
6 1/4"
flexible shaft





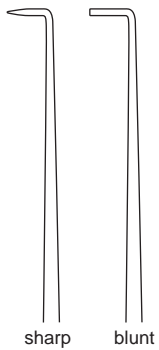
gS 25.2580 6"

Hoen Dural Separator
blunt, right angle
3mm



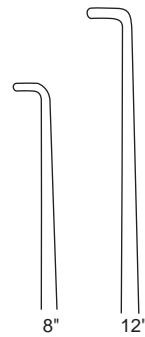
gS 25.1870 7 1/2" 5mm
gS 25.1874 11" 6mm

Cushing Nerve Hook
blunt, right angle



gS 25.2570 8" sharp
gS 25.2571 8" blunt

Adson Dural Hook
right angle
5mm

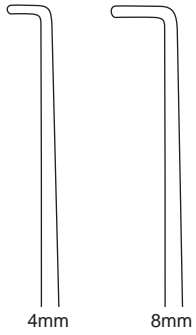


gS 25.1865 8"
gS 25.1869 12"

Adson Nerve Hook
blunt, right angle
4mm



25/8 - skin & nerve hooks



gS 25.1860 9" 4mm
gS 25.1862 9" 8mm

Hoehn Nerve Hook
blunt
right angle



gS 25.1851 9"

Dandy Nerve Hook
blunt, straight
right angle tip



gS 25.1852 9"

Dandy Nerve Hook
blunt, angled right
right angle tip



gS 25.1850 9"

Dandy Nerve Hook
blunt, angled left
right angle tip



skin & nerve hooks - 25/9



gS 25.1840 6 1/2"

Graham Hook
blunt
1 prong



gS 25.1845 8"

Smithwick Button Hook
blunt
1 prong



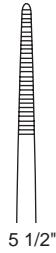
25/10 - skin & nerve hooks



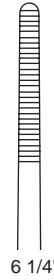
gS 26.0150 4 3/4"

Wilde Ear Dressing Forceps

angled, delicate, serrated



5 1/2"



6 1/4"

gS 26.0175 5 1/2"

gS 26.0177 6 1/4"

Lucae Ear Dressing Forceps

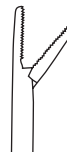
bayonet handle, serrated



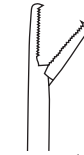
gS 26.0220 8"

Jansen Ear Dressing Forceps (Gruenwald)

bayonet handle, serrated



serrated



serrated 1x2 teeth



gS 26.7652 3 1/2" serr

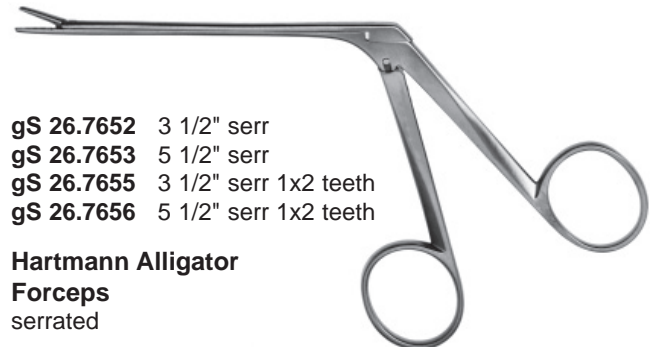
gS 26.7653 5 1/2" serr

gS 26.7655 3 1/2" serr 1x2 teeth

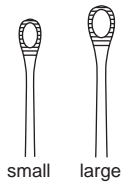
gS 26.7656 5 1/2" serr 1x2 teeth

Hartmann Alligator Forceps

serrated

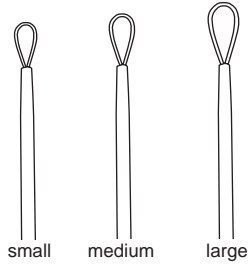


26/2 - ear, nose, and throat



gS 26.0480 5" small
gS 26.0482 5" large

Shapleigh Ear Curette
 straight



gS 26.1960 small
gS 26.1980 medium
gS 26.2000 large

Billeau Ear Loop
 6 1/2"



straight blunt

gS 26.0590 #00
gS 26.0610 #0
gS 26.0630 #1
gS 26.0650 #2
gS 26.0670 #3
gS 26.0680 #4
gS 26.0690 #5

straight sharp

gS 26.0701 #00
gS 26.0702 #0
gS 26.0703 #1
gS 26.0704 #2
gS 26.0705 #3
gS 26.0706 #4
gS 26.0707 #5

angled blunt

gS 26.0740 #00
gS 26.0760 #0
gS 26.0780 #1
gS 26.0800 #2
gS 26.0820 #3
gS 26.0840 #4
gS 26.0860 #5

angled sharp

gS 26.0910 #00
gS 26.0920 #0
gS 26.0930 #1
gS 26.0940 #2
gS 26.0950 #3
gS 26.0960 #4
gS 26.0970 #5

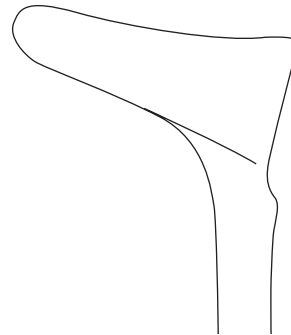
Buck Ear Curette
 6"



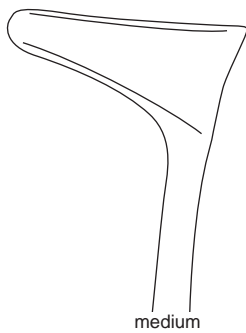
- ①
- ②
- ③
- ④

gS 26.2680 #1 4x5mm
gS 26.2700 #2 5x6mm
gS 26.2720 #3 6x7mm
gS 26.2740 #4 7x8mm

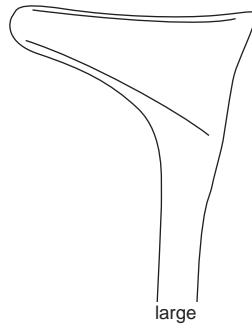
Gruber Specula
oval, chrome



gS 26.2160 5 3/4" light, adult
Vienna Specula



medium



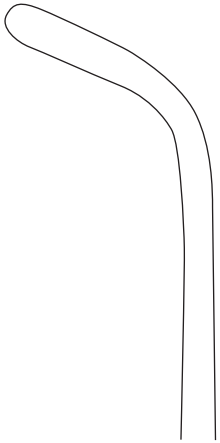
large

gS 26.2120 5 3/4" medium
gS 26.2140 5 3/4" large

Vienna Specula
with spring



26/4 - ear, nose, and throat



gS 26.2930 5" child
gS 26.2932 5 1/2" adult

Trousseau Dilator
bi-valve



gS 26.2910 6"

Laborde Tracheal Dilator
3 blades



gS 26.8095 4 3/4"
gS 26.8097 5 1/2"

Sluder-Jansen
Mouth Gag (Molt)



- gS 27.9700** 5" 000/00
- gS 27.9702** 5" 00/0
- gS 27.9704** 5" 0/1
- gS 27.9706** 5" 1/2
- gS 27.9708** 5" 2/3
- gS 27.9710** 5" 3/4
- gS 27.9712** 5" 4/5
- gS 27.9714** 5" 5/6
- gS 27.9716** 5" 6/7
- gS 27.9718** 5" 7/8

Bowman Probe



gS 27.7325 4 3/4"

Davis Foreign Body Spud



gS 27.7331 4 3/4"

Ellis Foreign Body Spud



gS 27.7334 4 3/4"

Dix Foreign Body Spud



27/2 - eye instruments

gS 27.7546 4 3/4"

Dix Spud and Needle
double ended
invertable



• 1.0 • 1.5 • 1.8 • 2.0 • 2.5

gS 27.7610 5" 1.0mm
gS 27.7615 5" 1.5mm
gS 27.7618 5" 1.8mm
gS 27.7620 5" 2.0mm
gS 27.7625 5" 2.5mm

Meyhoefer Curette



half cvd full cvd

gS 27.5280 4" str
gS 27.5282 4" half cvd
gS 27.5284 4" full cvd

Eye Dressing Forceps
delicate
serrated



half cvd full cvd

gS 27.5290 4" str
gS 27.5292 4" half cvd
gS 27.5294 4" full cvd

Iris Forceps
1x2 teeth



- gS 27.1501** 4 1/4" 0.12mm
- gS 27.1503** 4 1/4" 0.3mm
- gS 27.1505** 4 1/4" 0.5mm
- gS 27.1507** 4 1/4" 1.0mm
- gS 27.1509** 4 1/4" 1.5mm

Castroviejo Suture Forceps
with tying platform
1x2 teeth



- gS 27.5260** 3 1/2" serr 0.5mm
- gS 27.5262** 3 1/2" serr 0.8mm
- gS 27.5264** 3 1/2" 1x2 0.5mm
- gS 27.5266** 3 1/2" 1x2 0.8mm

Bishop Harmon Forceps



gS 27.6640 3 1/4"

Littauer Cilia Forceps
straight
smooth



gS 27.6600 3 1/2"

Douglas Cilia Forceps
straight
serrated



27/4 - eye instruments

gS 27.6680 3 1/2"

Bergh Cilia Forceps
angled
serrated



gS 27.6690 4 1/2"

**Barraquer Cilia and
Suture Forceps**
angled, smooth



gS 29.0022 4 3/4"
Vasectomy Forceps



gS 29.0020 5 1/2"
Vasectomy Forceps
3mm curved end



gS 29.0010 3"
Mogen Circumcision
Clamp



gS 29.4650 4 1/4"
Umbilical Scissors



gS 29.0050 7 3/4"

Adair Breast Clamp
curved



gS 29.4310 8"

Snook Hook





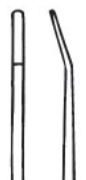
gS 33.0201
gS 33.0202
gS 33.0203



gS 33.0210



gS 33.0211



gS 33.0216
gS 33.0217
gS 33.0218



gS 33.0220



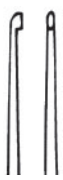
gS 33.0221



gS 33.0222



gS 33.0225



gS 33.0227
gS 33.0228



gS 33.0230



gS 33.0233
gS 33.0235



gS 33.0237
gS 33.0238

Note: Tip details not to scale.

- gS 33.0201** Round Dissector 7 1/2" 1mm angled
- gS 33.0202** Round Dissector 7 1/2" 2mm angled
- gS 33.0203** Round Dissector 7 1/2" 3mm angled

- gS 33.0210** Elevator 7 1/2" curved
- gS 33.0211** Elevator 7 1/2" angled

- gS 33.0216** Spatula Dissector 7 1/2" #6 small angled
- gS 33.0217** Spatula Dissector 7 1/2" #7 med angled
- gS 33.0218** Spatula Dissector 7 1/2" #8 large angled

- gS 33.0220** Hook 7 1/2" angled 90° sharp
- gS 33.0221** Hook 7 1/2" angled 90° blunt
- gS 33.0222** Hook 7 1/2" angled 45° sharp

- gS 33.0225** Needle 7 1/2" straight sharp

- gS 33.0227** Curette 7 1/2" straight 1mm
- gS 33.0228** Curette 7 1/2" angled 1mm

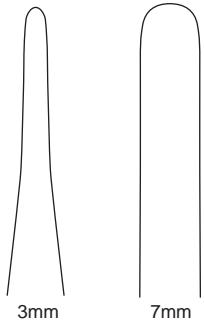
- gS 33.0230** Ball Dissector 7 1/2" 0.8mm
- gS 33.0233** Ball Dissector 7 1/2" angled 90° 3mm
- gS 33.0235** Ball Dissector 7 1/2" angled 90° 5mm
- gS 33.0237** Ball Dissector 7 1/2" angled 40° 4mm
- gS 33.0238** Ball Dissector 7 1/2" angled 40° 8mm

Rhoton-Style Micro Dissector Instruments



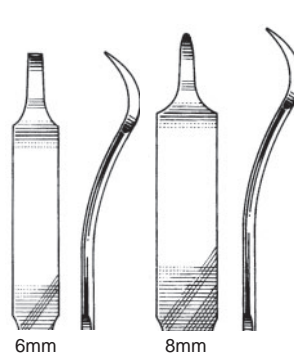
33/2 - micro

hand-held retractors - 34-37/1



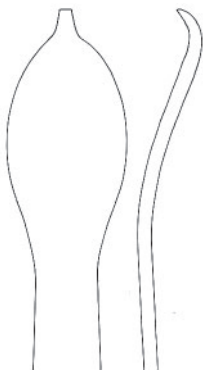
gS 34.9230 5 1/2" 3mm wide tip
gS 34.9240 6" 7mm wide tip

Hayes Hand Retractor



gS 36.9300 6mm wide blade
gS 36.9320 8mm wide blade

Hohmann Retractor Mini
6 1/2"



gS 34.9260
Hohmann Retractor
4 3/4" with finger ring
15mm wide blade



gS 36.9270
Hohmann Retractor
6"
15mm wide blade



34-37/2 - hand-held retractors

- gS 37.0022** 7" x 1/4"
- gS 37.0023** 7" x 3/8"
- gS 37.0024** 7" x 1/2"
- gS 37.0025** 7" x 5/8"
- gS 37.0026** 7" x 3/4"
- gS 37.0027** 7" x 1"
- gS 37.0028** 7" x 1 1/4"
- gS 37.0029** 7" x 1 1/2"

Davis Brain Spatula
malleable nickel silver



- gS 36.8518** 6" x 1/4"
- gS 36.8520** 6" x 1/2"
- gS 36.8522** 6" x 3/4"
- gS 36.8524** 6 3/4" x 5/8"
- gS 36.8550** 7 1/2" x 1"
- gS 36.8560** 8" x 1/4"
- gS 36.8561** 8" x 3/8"
- gS 36.8563** 8" x 1/2"
- gS 36.8564** 8" x 5/8"
- gS 36.8565** 8" x 3/4"

Ribbon Retractor
malleable
stainless steel



gS 34.1960

Jackson Tracheal Hook
5 3/4" one sharp hook



- gS 34.1934** 4x14mm, 7x22mm
- gS 34.1935** 5x19mm, 8x22mm

Crile Retractor
4" double ended



hand-held retractors - 34-37/3

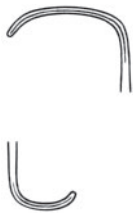
gS 36.6140 5 1/4" 5mm and 13mm
gS 36.6160 5 3/4" 6mm and 9mm

Luer "S" Retractor
double ended



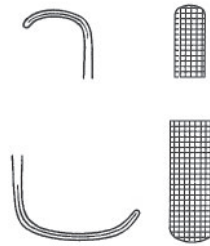
gS 34.1760 6"

Davis Retractor
6mm wide x 17mm deep blade
9mm wide x 20mm deep blade



gS 34.1940 5 3/4"

Ragnell Retractor
4mm wide x 8mm deep blade
6mm wide x 15mm deep blade



Fine cross serrations on
inside blades help prevent
slippage.

gS 34.1942 5 3/4"

Ragnell-Linde Retractor
4mm wide x 8mm deep blade
6mm wide x 15mm deep blade



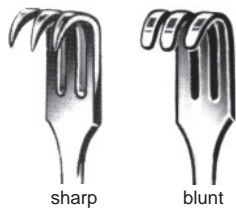
34-37/4 - hand-held retractors



- gS 34.2980** 2 prongs sharp
- gS 34.3020** 3 prongs sharp
- gS 34.3040** 4 prongs sharp
- gS 34.3060** 6 prongs sharp
- gS 34.3080** 2 prongs blunt
- gS 34.3120** 3 prongs blunt
- gS 34.3140** 4 prongs blunt
- gS 34.3160** 6 prongs blunt

Volkman Retractor

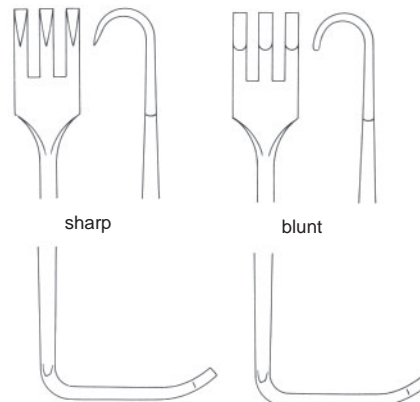
4 1/2"
ring handle



- gS 34.1920** sharp
- gS 34.1930** blunt

Mathieu Retractor

6 1/4"



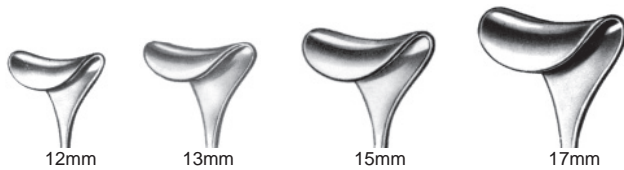
- gS 34.1845** 3 prongs sharp
- gS 34.1855** 3 prongs blunt
- gS 34.1865** 2 blunt prongs
1 sharp middle

Senn Retractor

6 1/4"



hand-held retractors - 34-37/5

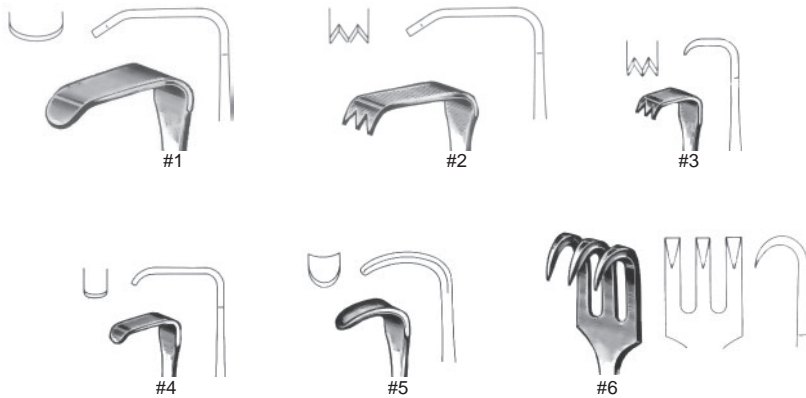


- gS 34.4580** #1 12mm wide
- gS 34.4600** #2 13mm wide
- gS 34.4620** #3 15mm wide
- gS 34.4640** #4 17mm wide

Desmarres Lid Retractor

5 1/2"

all blades 10mm deep



- gS 34.2160** #1 7mm wide x 18mm deep blade
- gS 34.2180** #2 6mm wide x 17mm deep blade
- gS 34.2220** #3 4mm wide x 8mm deep blade
- gS 34.2280** #4 4mm wide x 10mm deep blade
- gS 34.2240** #5 4mm wide x 7mm deep blade
- gS 34.2300** #6 8mm wide x 7mm deep prongs

Meyerding Finger Retractor

7"

with single finger ring



34-37/6 - hand-held retractors

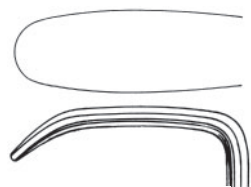
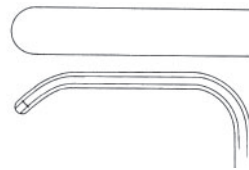
gS 36.6200 7 3/4"

Little Retractor
13mm wide x 15mm deep



gS 36.6280 7 3/4"

Lahey Retractor
6mm wide x 26mm deep



gS 36.2000

gS 36.2000 3/8" x 1 1/4"
gS 36.2040 3/8" x 1 1/2"
gS 36.2080 1/2" x 1 1/2"
gS 36.2120 5/8" x 1 1/2"

Langenbeck Retractor
8 1/2"
hollow handle



gS 36.2130 3/8" x 1 1/8"
gS 36.2132 1/2" x 1 1/8"
gS 36.2134 5/8" x 1 1/8"
gS 36.2136 1/2" x 1 5/8"
gS 36.2138 5/8" x 1 5/8"

Langenbeck Retractor
8 1/2"
ring handle



hand-held retractors - 34-37/7



gS 36.6380 8 1/2"

Nerve Root Retractor
bayonet handle
4mm blade



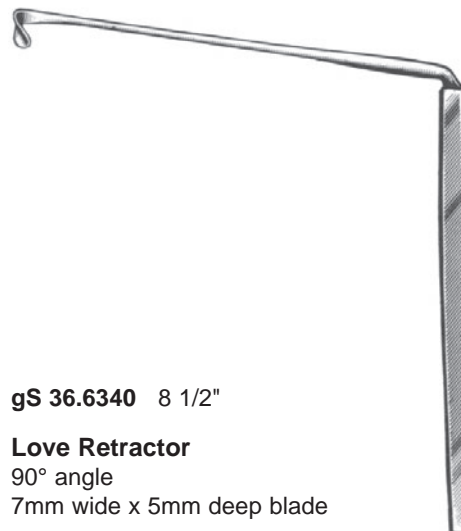
gS 36.6300 8 1/2"

Love Retractor
straight
7mm wide x 5mm deep blade



gS 36.6320 8 1/2"

Love Retractor
45° angle
7mm wide x 5mm deep blade



gS 36.6340 8 1/2"

Love Retractor
90° angle
7mm wide x 5mm deep blade

34-37/8 - hand-held retractors



gS 36.6360 8" 8mm blade
gS 36.6362 8" 13mm blade

Scoville Nerve Retractor
angled



gS 36.6507 9 1/2" 7mm blade
gS 36.6509 9 1/2" 9mm blade
gS 36.6513 9 1/2" 13mm blade

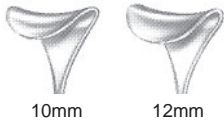
Holsher Retractor



gS 36.6410 8 1/2"

Campbell Nerve Root
Retractor
malleable, 10mm blade

hand-held retractors - 34-37/9



gS 36.6230 8" 10mm blade
gS 36.6232 8" 12mm blade

Cushing Vein Retractor



gS 36.6210 9" 12mm blade

Cushing Vein Retractor
ring handle



gS 36.6238 8 1/2"

Cushing Decompression Retractor
fenestrated handle and blade

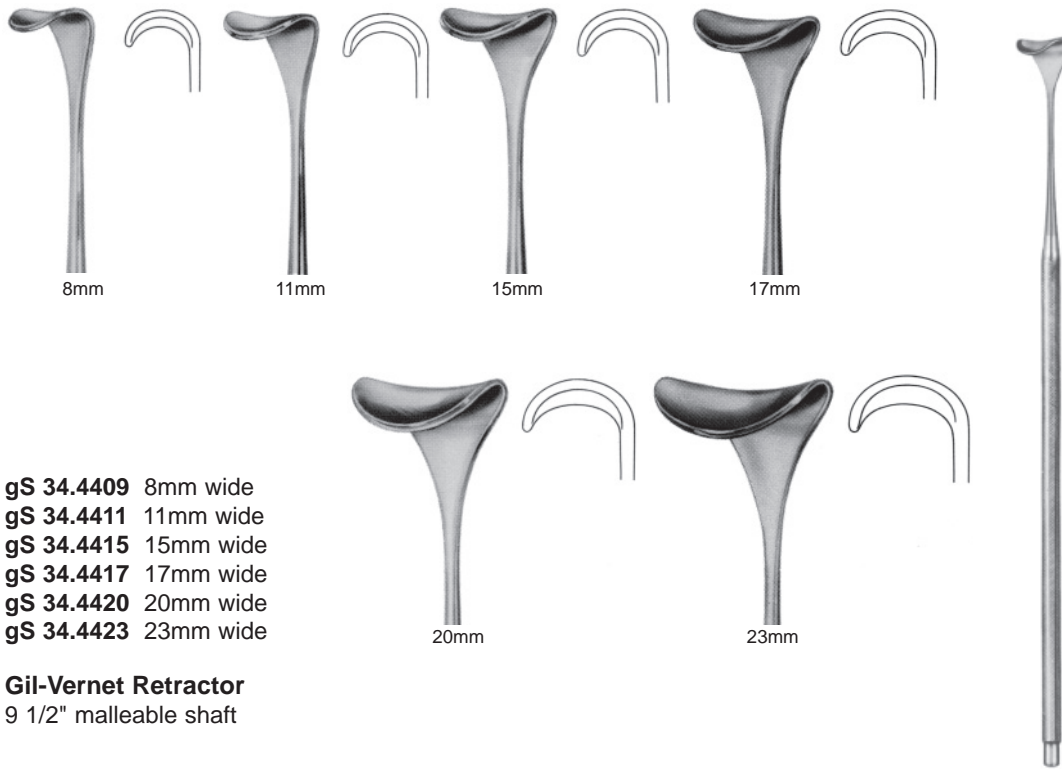


gS 36.6240 8 1/2"

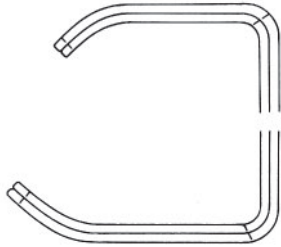
Green Retractor
fenestrated handle and blade
20mm wide x 23mm deep



34-37/10 - hand-held retractors



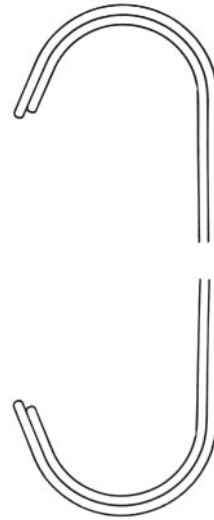
hand-held retractors - 34-37/11



4 3/4"

gS 36.6030 4 3/4" set of 2
gS 36.6035 6" set of 2

Farabeuf Retractor
double ended



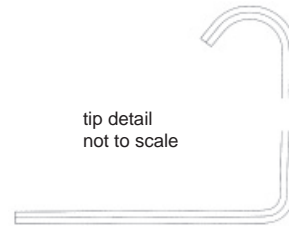
gS 36.5800 5" set of 2

Parker Retractor
double ended



gS 36.5820 7 1/4" set of 2

Parker Retractor
double ended



gS 36.5940 6" set of 2

Parker-Mott Retractor
double ended



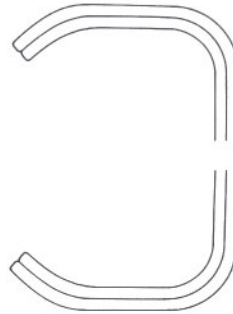
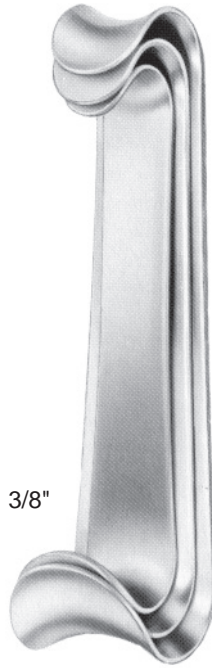
34-37/12 - hand-held retractors



tip detail
not to scale

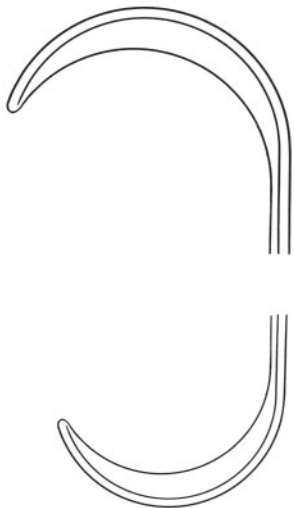
- gS 36.5980** 5 1/4" small 3/4" x 1"
- gS 36.6000** 5 3/4" medium 7/8" x 1 3/8"
- gS 36.6020** 6 1/2" large 1" x 1 5/8"

Roux Retractor
double ended



- gS 36.4880** 6" set of 2

Mayo-Collins Retractor
double ended

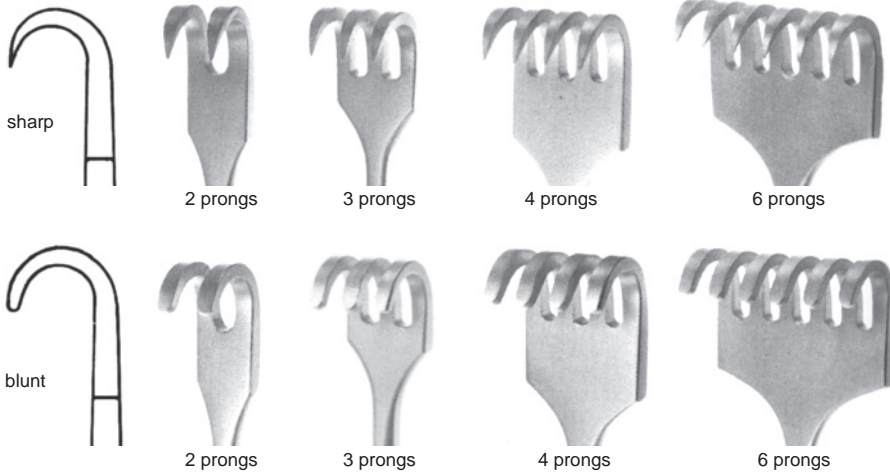


- gS 36.4760** 7 1/2"

Goelet Retractor
double ended



hand-held retractors - 34-37/13



sharp

2 prongs

3 prongs

4 prongs

6 prongs

blunt

2 prongs

3 prongs

4 prongs

6 prongs

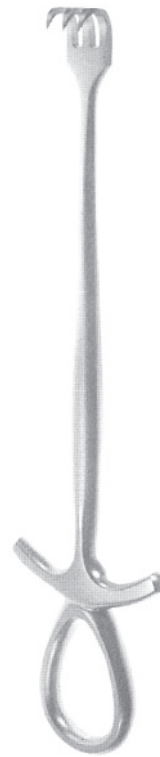
sharp prongs

gS 35.3121 2 prongs
gS 35.3131 3 prongs
gS 35.3141 4 prongs
gS 35.3161 6 prongs

blunt prongs

gS 35.3122 2 prongs
gS 35.3132 3 prongs
gS 35.3142 4 prongs
gS 35.3162 6 prongs

Murphy Retractor
 7 3/4" with side wings



gS 36.1724 4 prongs

Israel Retractor
 7 1/2" with side wings
 blunt prongs



gS 36.1780 3 prongs
gS 36.1800 4 prongs
gS 36.1802 5 prongs
gS 36.1804 6 prongs

Israel Retractor
 9 1/2" ring handle
 blunt prongs



34-37/14 - hand-held retractors



gS 36.3820 4 prongs

Ollier Retractor

9" ring handle
blunt prongs



gS 36.4061 6 prongs

Volkman Retractor

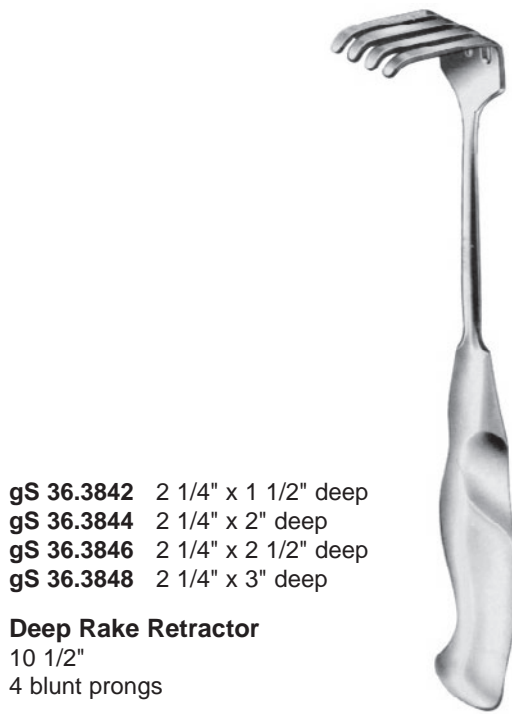
9" ring handle
sharp prongs



gS 34.4380 8 prongs

Mueller Rake Retractor

10" ring handle
sharp prongs

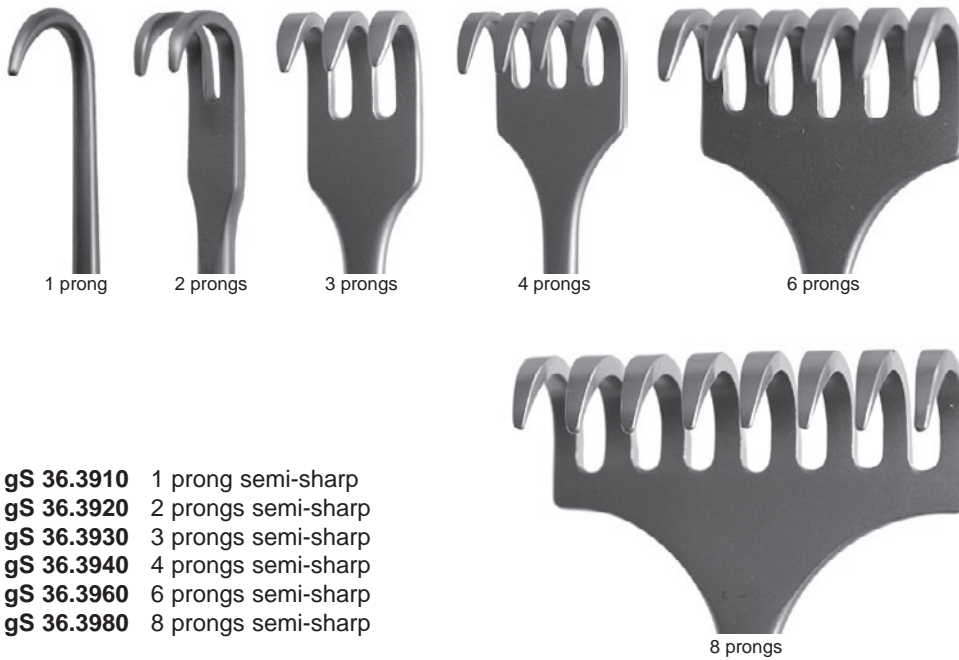


gS 36.3842 2 1/4" x 1 1/2" deep
gS 36.3844 2 1/4" x 2" deep
gS 36.3846 2 1/4" x 2 1/2" deep
gS 36.3848 2 1/4" x 3" deep

Deep Rake Retractor

10 1/2"
4 blunt prongs

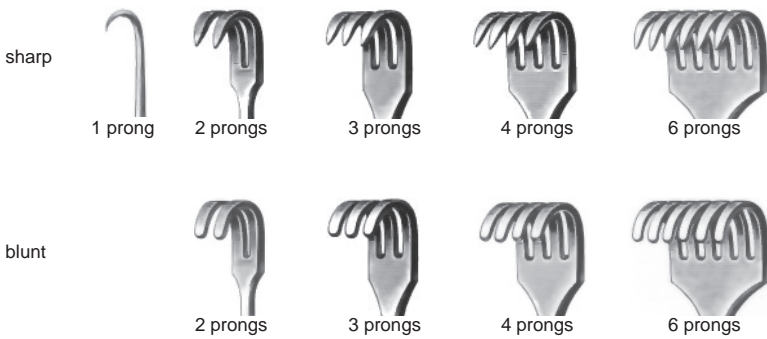
hand-held retractors - 34-37/15



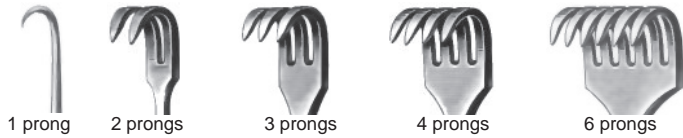
- gS 36.3910** 1 prong semi-sharp
- gS 36.3920** 2 prongs semi-sharp
- gS 36.3930** 3 prongs semi-sharp
- gS 36.3940** 4 prongs semi-sharp
- gS 36.3960** 6 prongs semi-sharp
- gS 36.3980** 8 prongs semi-sharp

Volkman Retractor

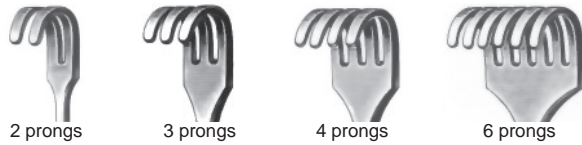
8 1/2"
ring handle



sharp



blunt



- | | sharp |
|-------------------|----------|
| gS 36.3540 | 1 prong |
| gS 36.3580 | 2 prongs |
| gS 36.3620 | 3 prongs |
| gS 36.3640 | 4 prongs |
| gS 36.3660 | 6 prongs |
| gS 36.3670 | 8 prongs |

- | | blunt |
|-------------------|----------|
| gS 36.3676 | 1 prong |
| gS 36.3680 | 2 prongs |
| gS 36.3720 | 3 prongs |
| gS 36.3740 | 4 prongs |
| gS 36.3760 | 6 prongs |
| gS 36.3780 | 8 prongs |

Volkman Retractor

8 1/2"
ring handle



34-37/16 - hand-held retractors

gS 37.3060 6mm tip

Blount Knee Retractor
7"
single blunt prong



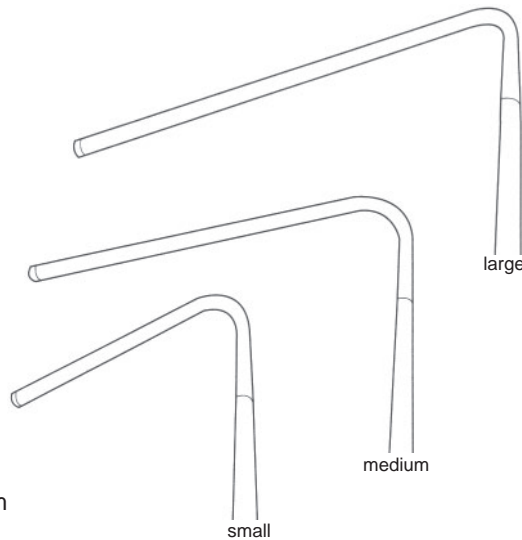
gS 35.2920 13x55mm blade

Smillie Retractor
T-handle
up-curved blade



gS 35.2980 small 19x32mm
gS 35.2940 medium 19x45mm
gS 35.2960 large 19x60mm

Smillie Retractor
T-handle
angled blade



hand-held retractors - 34-37/17



gS 37.3068 medium blades: 57mm and 69mm deep
11mm wide

gS 37.3070 large blades: 63mm and 76mm deep
11mm wide

Z Knee Retractor

6"

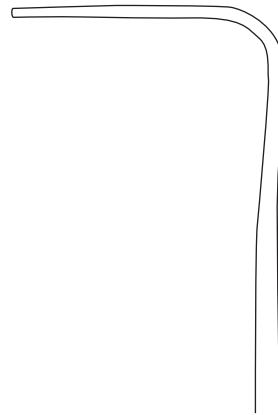
a.k.a. Doane Retractor



gS 35.3000 13x18mm blade

Smillie Retractor

5" T-handle
down-curved blade

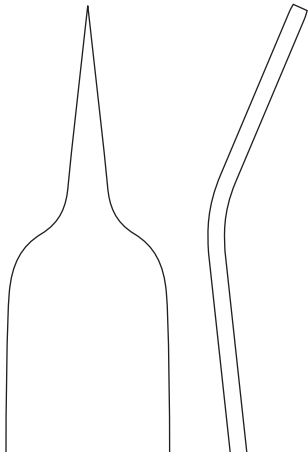


gS 37.3064 9x38mm blade

Knee Retractor
8 1/2" ring handle

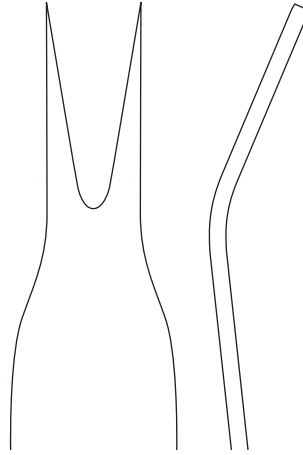


34-37/18 - hand-held retractors



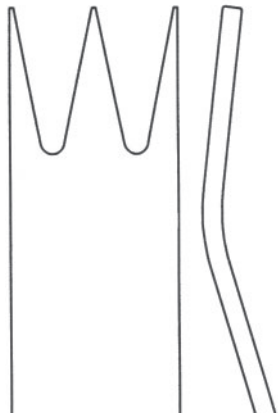
gS 36.9729 22mm blade

Capsule Retractor
10"
1 sharp prong



gS 36.9730 22mm blade

Capsule Retractor
10"
2 sharp prongs



gS 36.9731 22mm blade

Capsule Retractor
10"
3 sharp prongs



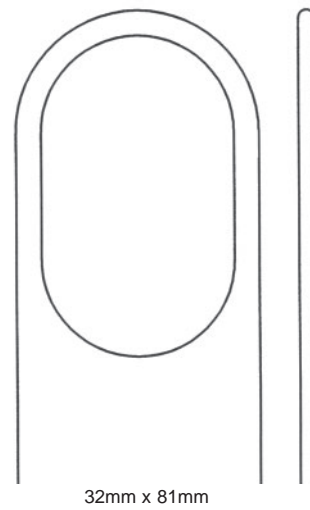
gS 36.9720 22mm blade

**Bristow/Bankart Soft
Tissue Retractor**
7 1/2", 3 blunt prongs



hand-held retractors - 34-37/19

gS 36.9750 2 blunt prongs
Humeral Head Retractor
7"
strong curve



gS 36.0000 32mm x 81mm
gS 36.0001 38mm x 81mm
Fukuda Style Retractor
7 1/2"
T-handle



gS 36.9700 7"
Bristow/Bankart Humeral Retractor
2 blunt prongs



34-37/20 - hand-held retractors



gS 37.3020 37mm blade

Blount Retractor
10 1/2"
single prong



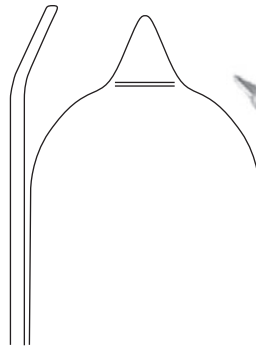
gS 37.3040 44mm blade

Blount Retractor
10 1/2"
double prong



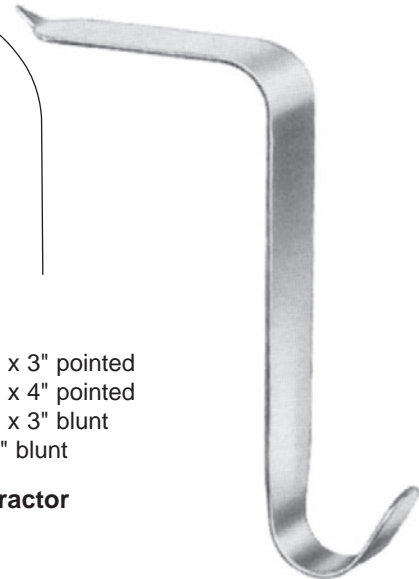
gS 36.4788 13mm wide blade
gS 36.4790 18mm wide blade
gS 36.4791 20mm wide blade
gS 36.4792 23mm wide blade

Cloward Blade Retractor
7 1/2" angled



gS 36.5580 7 1/4" x 3" pointed
gS 36.5600 7 1/2" x 4" pointed
gS 36.5550 7 1/2" x 3" blunt
gS 36.5560 8" x 4" blunt

Taylor Spinal Retractor



hand-held retractors - 34-37/21

gS 36.4720 8 1/2" set of 2

US Army Navy Retractor
double ended



gS 36.3120 9 1/2" small
gS 36.3140 10 1/4" medium

Richardson Eastman Retractor



gS 36.8660 13" x 3/4"
gS 36.8680 13" x 1"
gS 36.8700 13" x 1 1/4"
gS 36.8720 13" x 1 1/2"
gS 36.8722 13" x 1 3/4"
gS 36.8760 13" x 2"
gS 36.8762 13" x 2 1/2"
gS 36.8764 13" x 3"

Ribbon Retractor
malleable



gS 36.2240

gS 36.2240 5/8" wide x 1 3/4" deep
gS 36.2241 7/8" wide x 2 1/2" deep
gS 36.2242 3/4" wide x 2 7/8" deep

Sauerbruch Retractor
9"



34-37/22 - hand-held retractors

- gS 36.3070** 3/4" wide x 1" deep
- gS 36.3072** 1" wide x 1 1/4" deep
- gS 36.3074** 1 1/2" wide x 1 1/2" deep
- gS 36.3076** 3/4" wide x 2" deep

Richardson Retractor

9 1/2"
loop handle



- gS 36.3160** 9 1/2", 1 1/2" wide x 2" deep
- gS 36.3180** 9 1/2", 2" wide x 2 1/2" deep
- gS 36.3200** 10", 2 1/2" wide x 3" deep
- gS 36.3220** 10 1/2", 3" wide x 3 1/2" deep

Kelly Retractor

loop handle



- gS 36.3000** 3/4" wide x 1" deep
- gS 36.3020** 1" wide x 1 1/4" deep
- gS 36.3040** 1 1/2" wide x 1 1/2" deep
- gS 36.3060** 3/4" wide x 2" deep
- gS 36.3050** 1 5/8" wide x 2 1/2" deep

Richardson Retractor

9 1/2"
grip handle



- gS 36.3150** 1 1/2" wide x 2" deep
- gS 36.3152** 2" wide x 2 1/2" deep
- gS 36.3154** 2 1/2" wide x 3" deep
- gS 36.3156** 3" wide x 3 1/2" deep

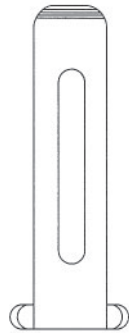
Kelly Retractor

10"
grip handle



hand-held retractors - 34-37/23

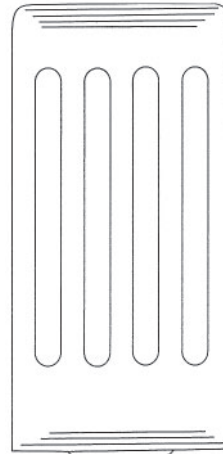
tip details
not to scale



gS 36.2320



gS 36.2322



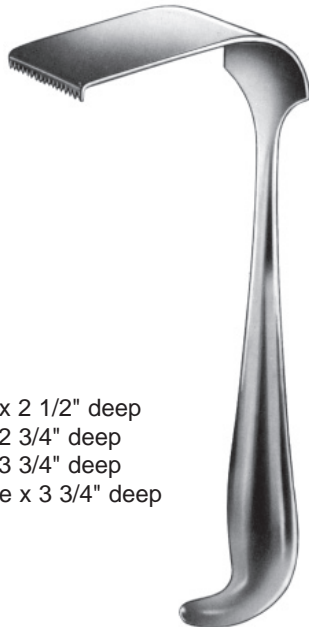
gS 36.2324



- gS 36.2320** 7/8" wide x 3 1/4" deep
- gS 36.2322** 1 5/8" wide x 4 1/4" deep
- gS 36.2324** 2 1/2" wide x 4 1/2" deep

Coryllos Retractor

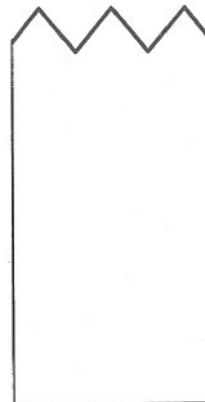
9 1/2"
ring handle



- gS 36.2580** 3/4" wide x 2 1/2" deep
- gS 36.2620** 1" wide x 2 3/4" deep
- gS 36.2640** 2" wide x 3 3/4" deep
- gS 36.2660** 1 1/4" wide x 3 3/4" deep

Meyerding Retractor

9"
with teeth



gS 36.1590

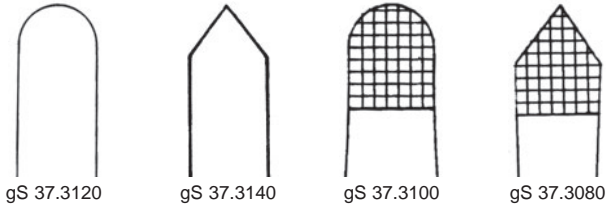


- gS 36.1580** 3/4" wide x 2" deep
- gS 36.1590** 1" wide x 2" deep
- gS 36.1600** 1" wide x 3" deep
- gS 36.1610** 1" wide x 4" deep

Hibbs Retractor

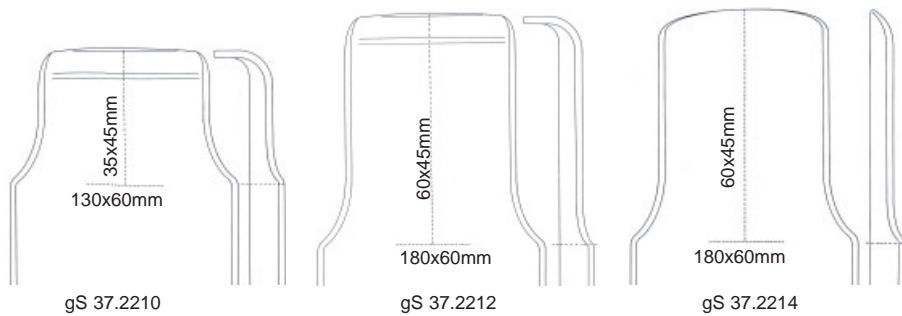
9 1/2"
sharp teeth

34-37/24 - hand-held retractors



- gS 37.3120** 10" blunt smooth
- gS 37.3140** 10" pointed smooth
- gS 37.3100** 11 1/2" blunt serrated
- gS 37.3080** 10" pointed serrated

Aufranc Cobra Retractor
grip handle

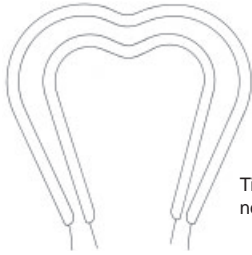


- gS 37.2210** 11 1/2" with lip
- gS 37.2212** 13" with lip
- gS 37.2214** 13" without lip

St. Marks Pelvic Retractor
angled blade
grip handle



hand-held retractors - 34-37/25



Tip detail
not to scale

- gS 36.3512** 9", 1" wide
- gS 36.3514** 13", 1 1/2" wide
- gS 36.3516** 13", 2 1/2" wide

Harrington Retractor
grip handle



Tip detail
not to scale

- gS 36.9800** 1 3/4" wide
- gS 36.9840** 2 1/2" wide

Bennett Retractor
grip handle
9 1/2"



- gS 37.2100** 1" blade
- Blunt Pelvic Retractor**
10 1/2"
-



- gS 36.9920**
- Murphy Bone Skid**
12"
-



34-37/26 - hand-held retractors



gS 36.3236

Deaver Pediatric Retractor
8"
5/8" wide blade



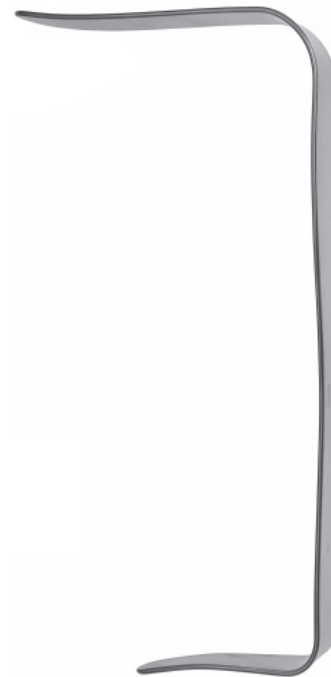
gS 36.3248

Deaver Retractor
7"
3/4" wide blade



gS 36.3250

Deaver Retractor
8 1/2"
3/4" wide blade



gS 36.3285

Deaver Retractor
9"
1" wide blade

hand-held retractors - 34-37/27

gS 36.3291

Deaver Retractor
10 1/2"
1 1/2" wide blade



gS 36.3292

Deaver Retractor
12"
1" wide blade



gS 36.3293

Deaver Retractor
12"
1 1/2" wide blade



gS 36.3294

Deaver Retractor
13"
1" wide blade



34-37/28 - hand-held retractors

gS 36.3298

Deaver Retractor

12"

2" wide blade

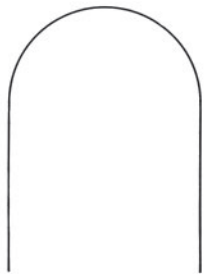


gS 36.3296

Deaver Retractor

12"

3" wide blade



gS 36.3300 10"

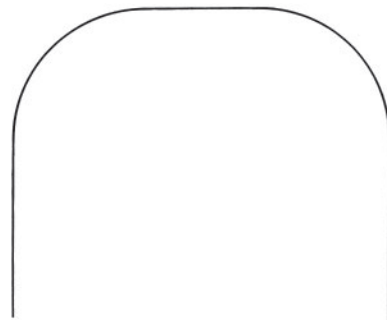
gS 36.3320 12"

gS 36.3340 13"

Deaver Retractor

1" wide blade

grip handle



gS 36.3400

gS 36.3350 12", 1 1/2" wide blade

gS 36.3400 12", 2" wide blade

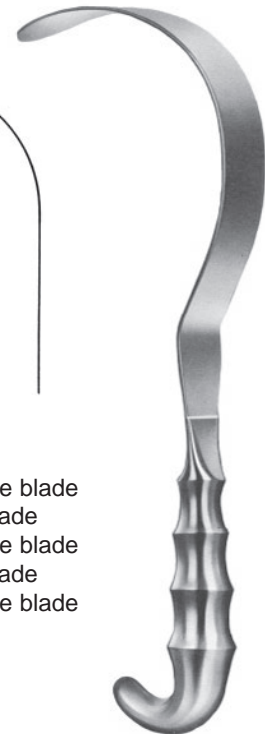
gS 36.3410 14 1/2", 2 1/2" wide blade

gS 36.3420 12", 3" wide blade

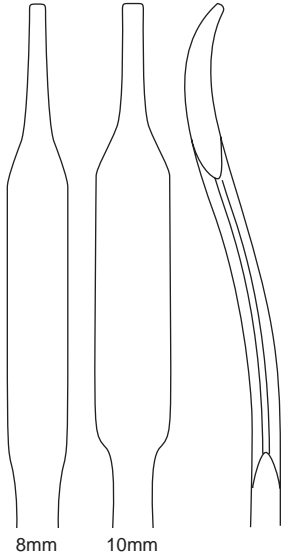
gS 36.3430 12", 3 1/2" wide blade

Deaver Retractor

grip handle

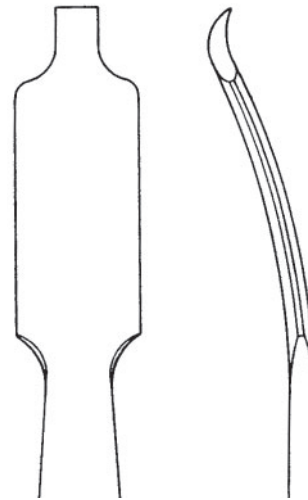


hand-held retractors - 34-37/29



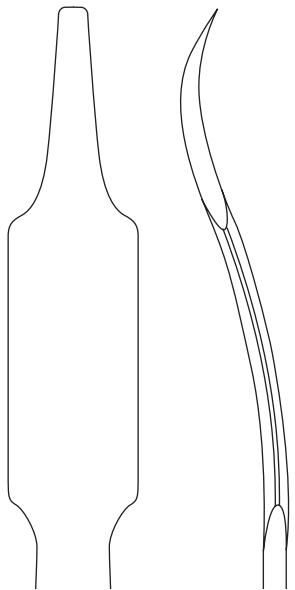
gS 36.9580 8mm blade
gS 36.9360 10mm blade

Hohmann Retractor
8 1/2"



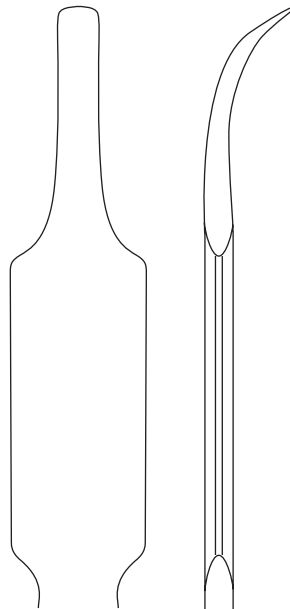
gS 36.9378 17mm short blade

Hohmann Retractor (Wagner)
8 1/2"



gS 36.9380 17mm square end

Hohmann Retractor
9 1/2"

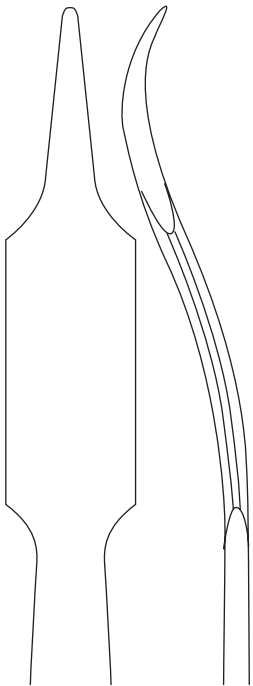


gS 36.9382 18mm heavy,
rounded end

Hohmann Retractor
9 1/2"

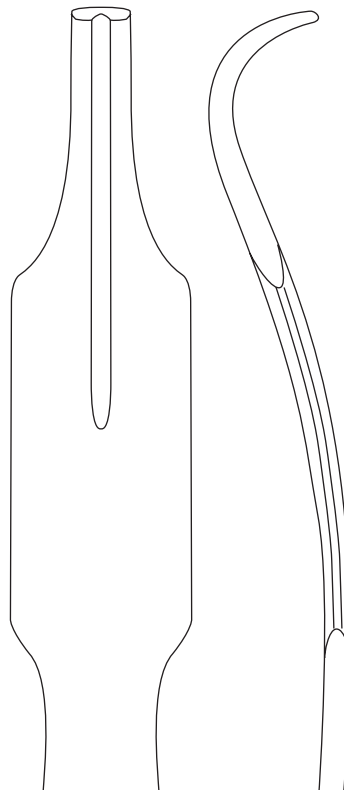


34-37/30 - hand-held retractors



gS 36.9384 17mm pointed

Hohmann Retractor
9 1/2"

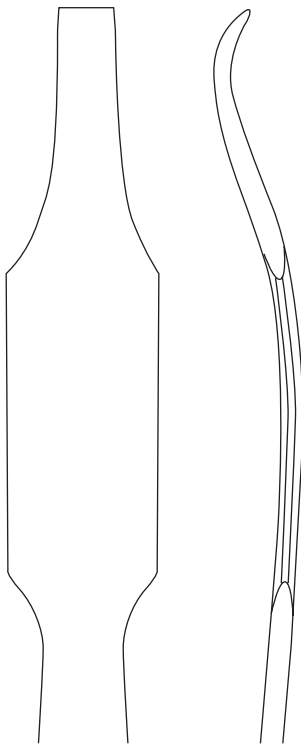


gS 36.9488 24mm grooved

Hohmann Retractor
(Lange)
9 1/2"

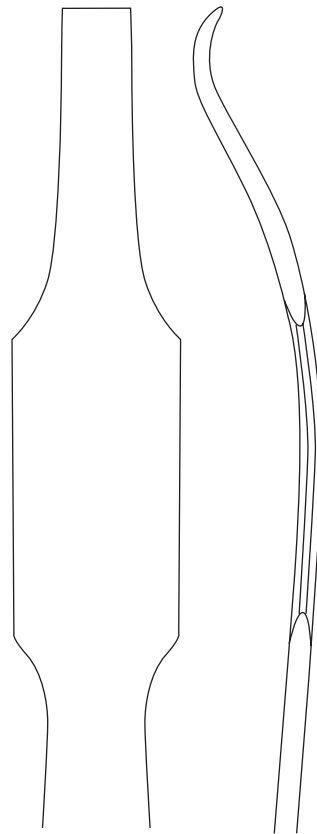


hand-held retractors - 34-37/31



gS 36.9480 22mm blade
square end

Hohmann Retractor
10"

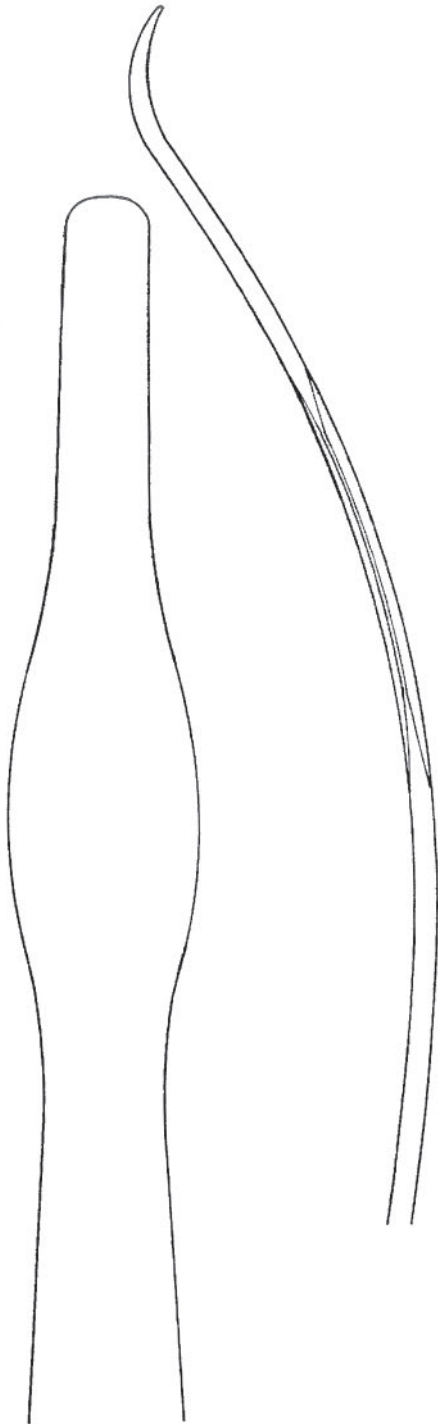


gS 36.9407 25mm blade
square end

Hohmann Retractor
10"



34-37/32 - hand-held retractors



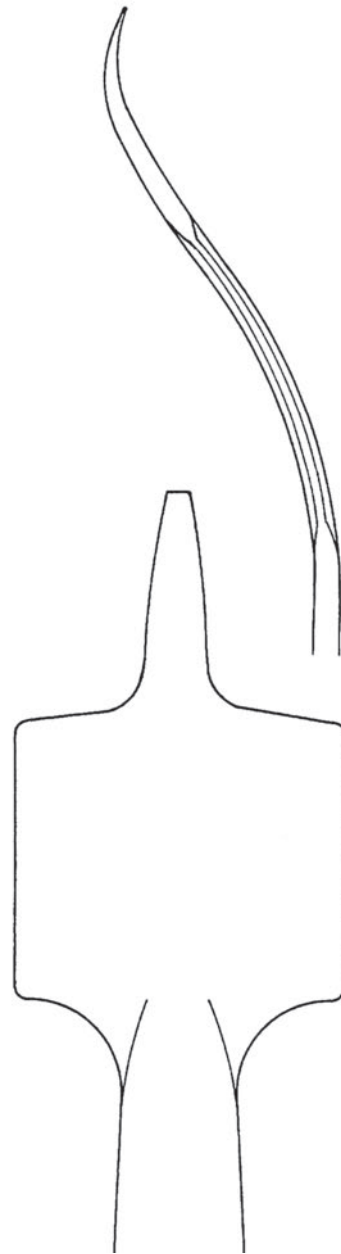
gS 36.9485 24mm blade
rounded end

Hohmann Retractor
10 1/2"

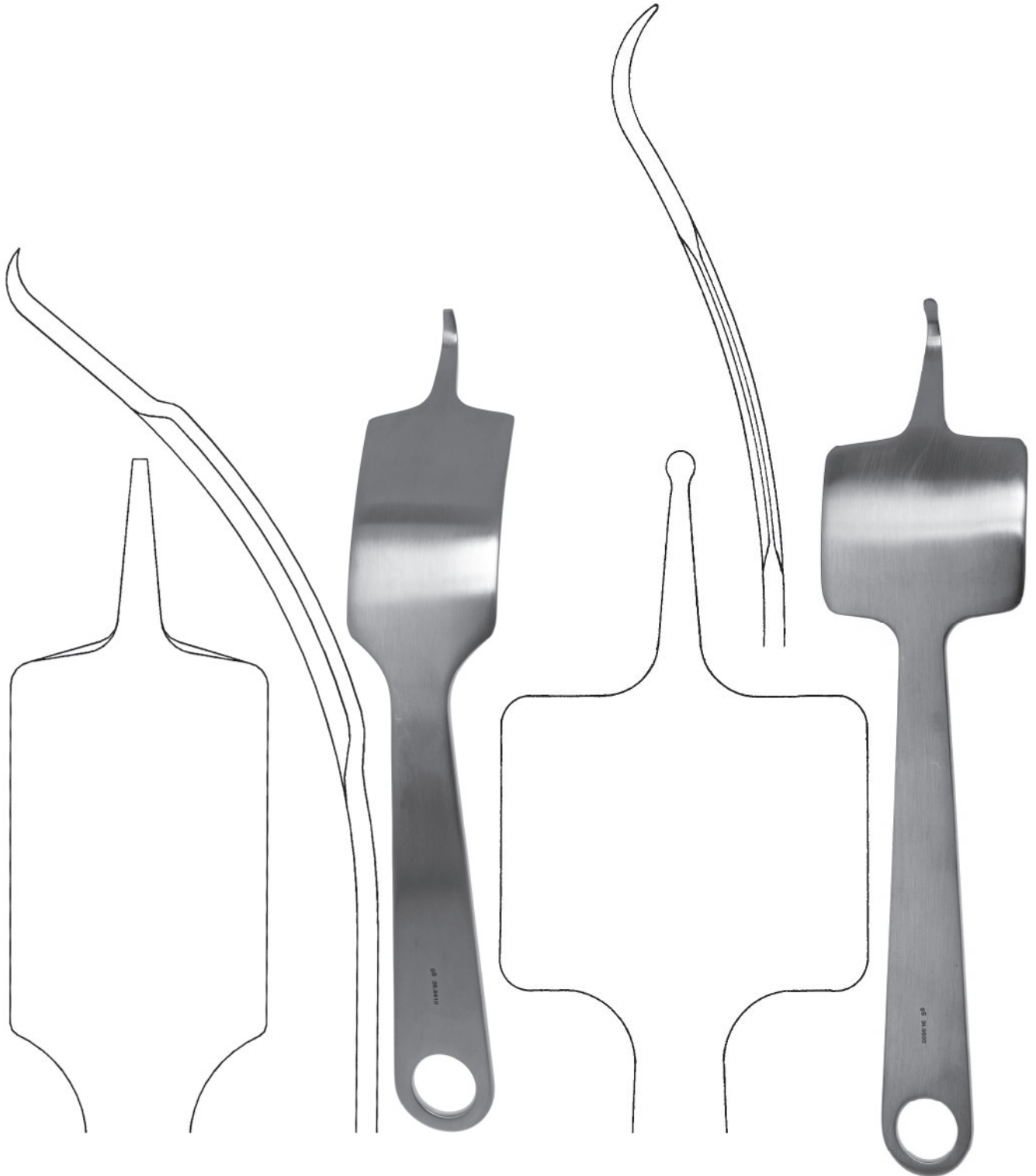


gS 36.9420 43mm blade

Hohmann Retractor
9 1/2"



hand-held retractors - 34-37/33



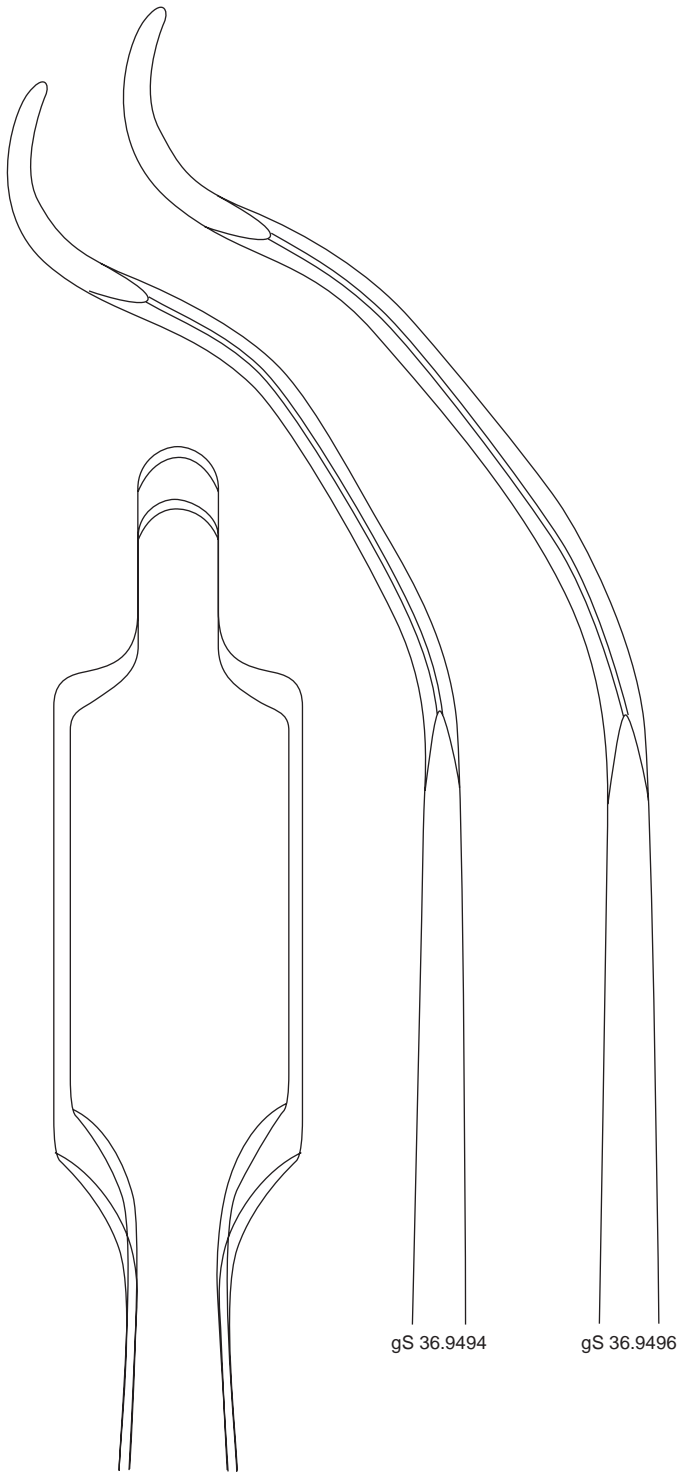
gS 36.9410 43mm blade

Hohmann Retractor
9 1/2"

gS 36.9500 65mm blade

Hohmann Retractor
10 1/2"

34-37/34 - hand-held retractors



gS 36.9494

gS 36.9496

gS 36.9494 10 1/2" 30mm blade
gS 36.9496 11 1/2" 33mm blade

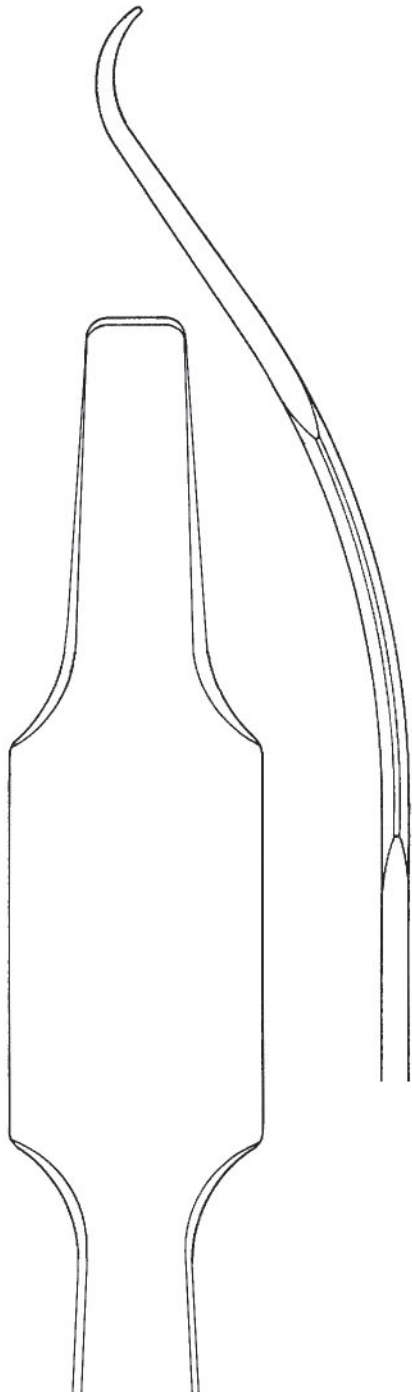
Hohmann Retractor (Lange)



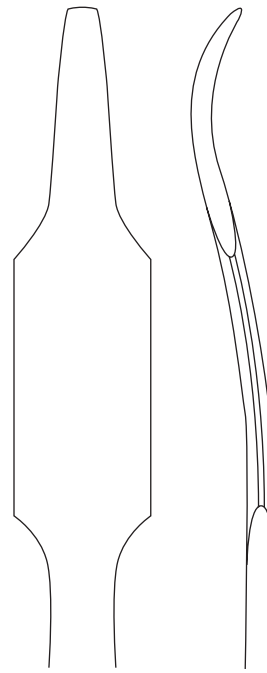
gS 36.9494

gS 36.9496

hand-held retractors - 34-37/35



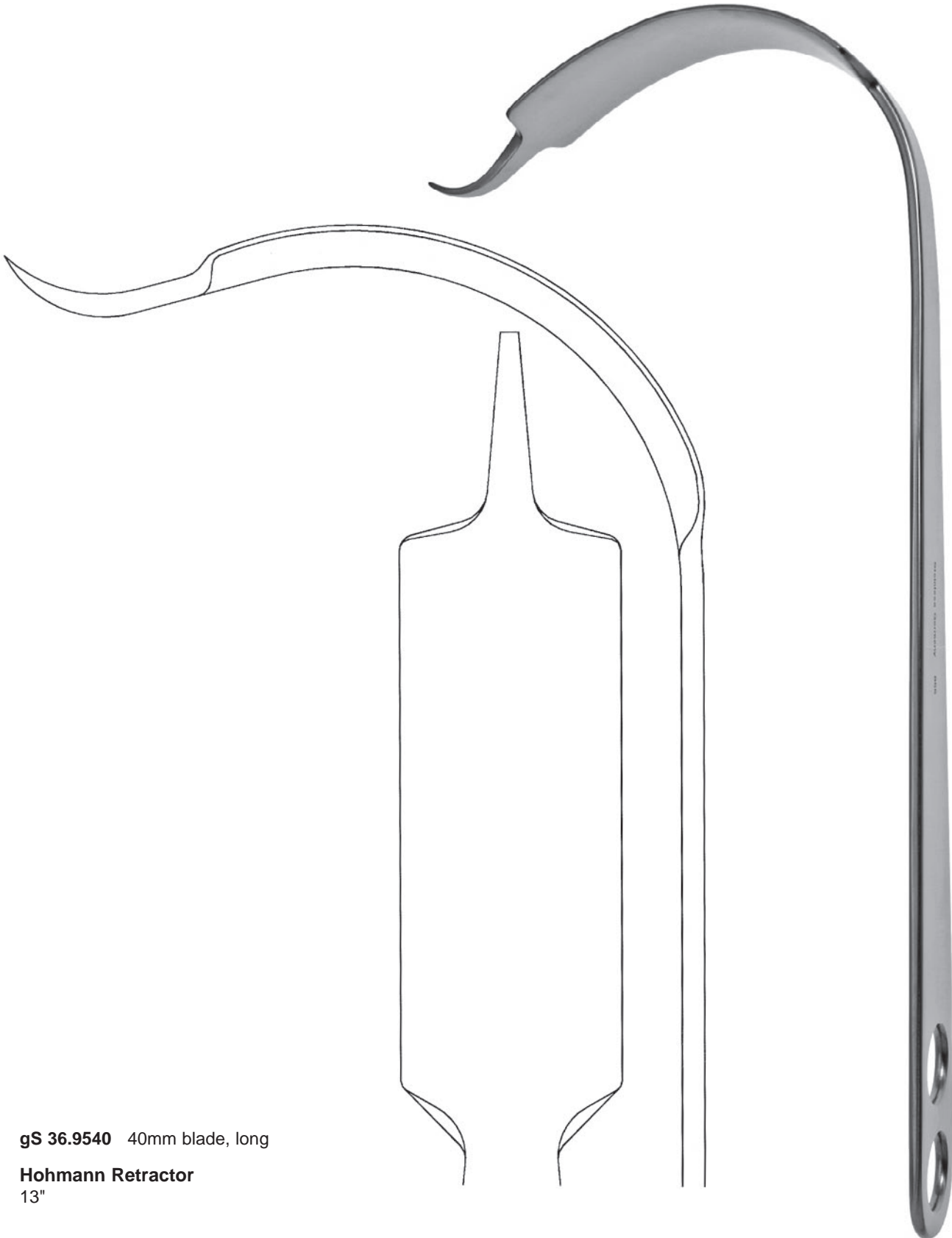
gS 36.9490 35mm blade
Hohmann Retractor
11"



gS 36.9475 18mm blade
Hohmann Retractor
12"



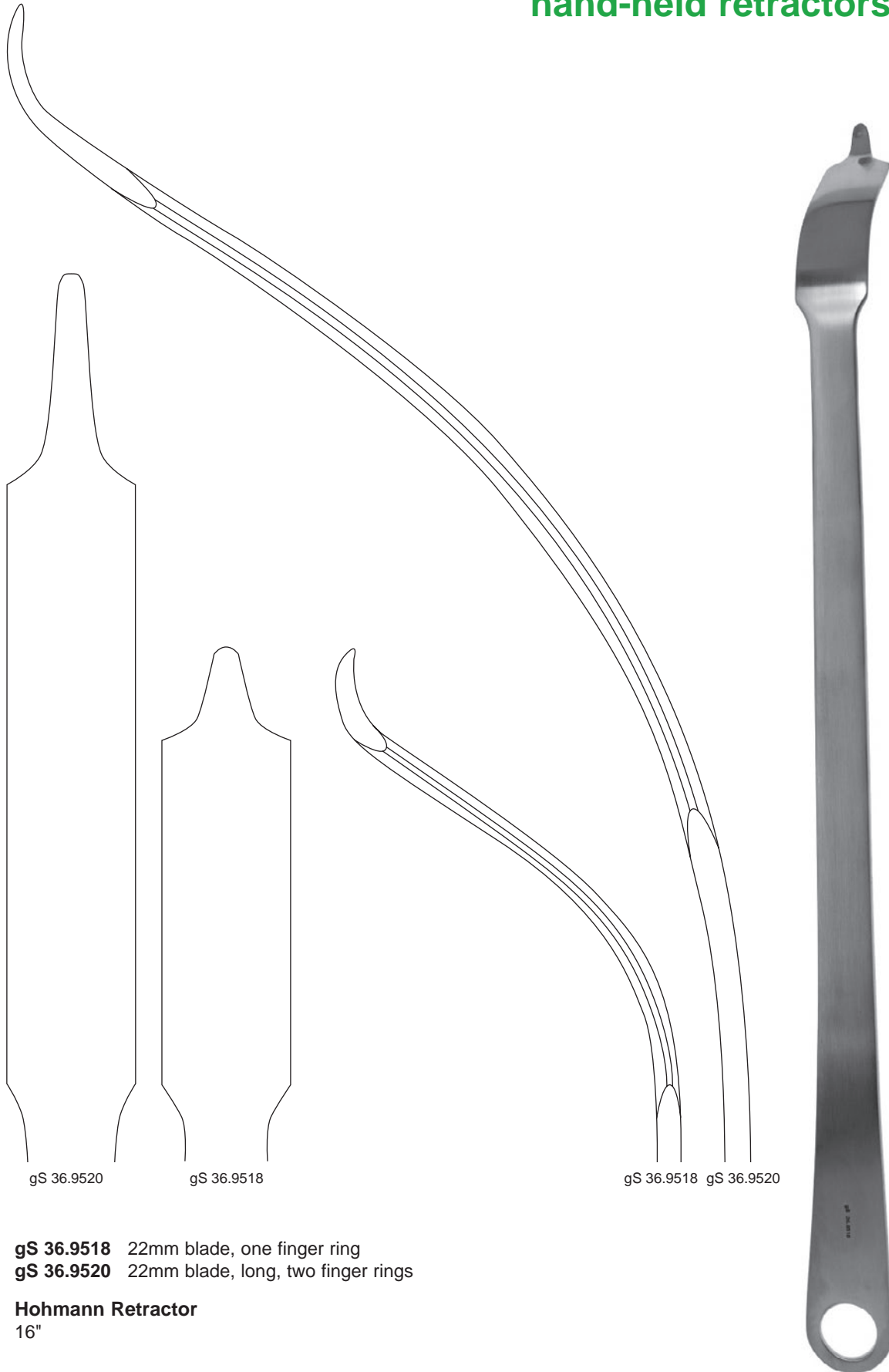
34-37/36 - hand-held retractors



gS 36.9540 40mm blade, long

Hohmann Retractor
13"

hand-held retractors - 34-37/37



gS 36.9520

gS 36.9518

gS 36.9518 gS 36.9520

gS 36.9518 22mm blade, one finger ring
gS 36.9520 22mm blade, long, two finger rings

Hohmann Retractor
16"

34-37/38 - hand-held retractors

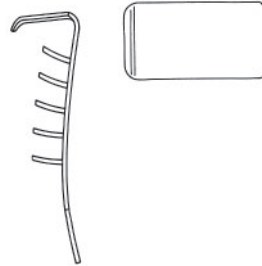
self-retaining retractors - 38-40/1

Vickers finger retractors provide excellent visibility during finger, hand, and wrist procedures. All are self-retaining and expand the wound site.

Ideal for wounds on fingers and thumbs.

gS 38.3210

Vickers Finger Retractor
20mm max opening
2x2 blunt hooks



gS 38.3212 2 1/2" x 3"

Vickers Small Wound Retractor curved blades
30mm max opening, blunt



Low profile hand and forearm retractor. Useful for tendon transfers.

gS 38.3214 3" x 3 3/4"

Vickers Hand Retractor
35mm max opening
3x3 blunt prongs

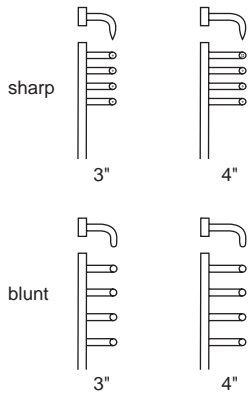


gS 38.3216 2 1/2" x 3"

Vickers Universal Retractor
30mm max opening
2x2 blunt prongs

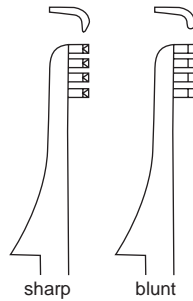


38-40/2 - self-retaining retractors



gS 38.5150 3" sharp
gS 38.5165 4" sharp
gS 38.5140 3" blunt
gS 38.5160 4" blunt

Alm Retractor
 4x4 prongs



gS 38.5170 4" sharp
gS 38.5180 4" blunt

Self Retaining Retractor
 (Heiss)
 4x4 prongs



5 1/2"

gS 38.5219 4" sharp
gS 38.5220 4" blunt

Jansen Retractor
 (Mastoid)
 3x3 prongs



gS 38.8797 4"
gS 38.8799 5 1/2"

Johnson Neuroma Retractor



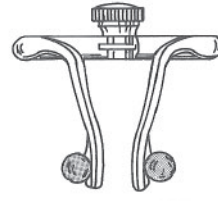
self-retaining retractors - 38-40/3

gS 38.5300 4 1/2"

Schink Retractor
smooth blades



Serrated outside blades provide a more secure hold on metatarsals.



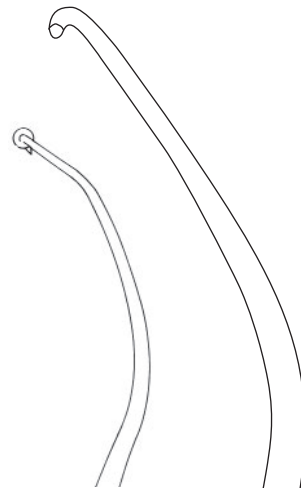
gS 38.5490 4 1/2"

Metatarsal Retractor
with serrated blades
(a.k.a. Cox Metatarsal Spreader)



gS 38.8760 4"
gS 38.8780 4 1/2"
gS 38.8800 5 1/2"
gS 38.8804 6 1/2"
gS 38.8820 7 1/2"

Gelpi Retractor
sharp points

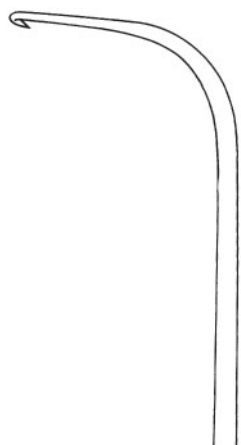


gS 38.8810 7 1/4" ball tip, sharp
gS 38.8830 7 1/2" blunt

Gelpi Retractor



38-40/4 - self-retaining retractors



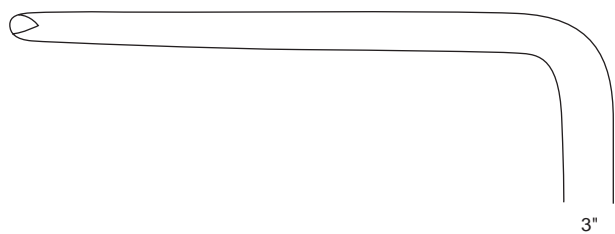
gS 38.8918 6 1/2"

Gelpi Seletz Retractor
strong curve
1x1 sharp points



gS 40.8710 11"

Wiltse Gelpi Retractor
strong curve
1x1 sharp points



gS 40.8608 10 1/2" 3" deep blades

gS 40.8610 10 1/2" 4" deep blades

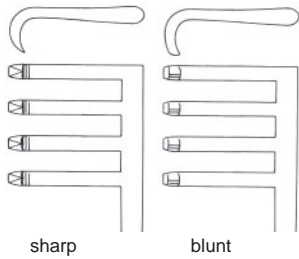
gS 40.8612 10 1/2" 5" deep blades

Deep Gelpi Retractor
right angle
1x1 sharp teeth, speedlock



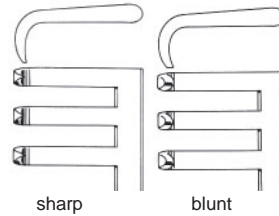
self-retaining retractors - 38-40/5

Handle is gently curved to conform to contour of skull.
Non-obstructive design is also useful for hand and foot procedures.



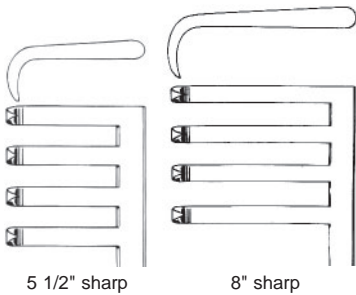
gS 38.5816 5 1/2" sharp
gS 38.5814 5 1/2" blunt

Scalp Contour Retractor
3x4 prongs



gS 38.5920 4" sharp
gS 38.5940 4" blunt

Weitlaner Retractor
2x3 prongs



gS 38.5980 5 1/2" sharp
gS 38.6020 6 1/2" sharp
gS 38.6040 8" sharp
gS 38.6060 9 1/2" sharp

gS 38.6180 5 1/2" blunt
gS 38.6220 6 1/2" blunt
gS 38.6240 8" blunt
gS 38.6260 9 1/2" blunt

Weitlaner Retractor
3x4 prongs



gS 38.9018 7"

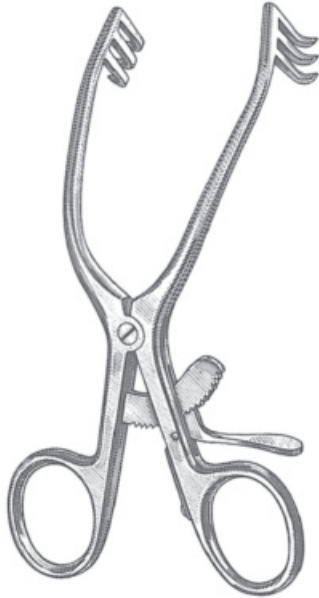
Kolbel Soft Tissue Retractor
angled 2x2 blunt prongs



38-40/6 - self-retaining retractors

gS 38.7276 5"

Schuknecht Retractor
3" max opening
3x3 sharp prongs



gS 38.6280 6"

Mollison Retractor
4x4 sharp prongs



gS 40.5420 7 1/2"

Adson Retractor
straight arms
4x4 sharp prongs

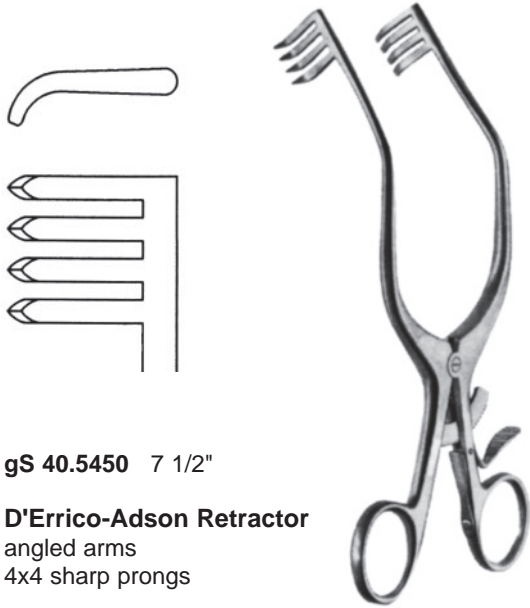


gS 40.5440 7 1/2"

Adson Retractor
angled arms
4x4 sharp prongs

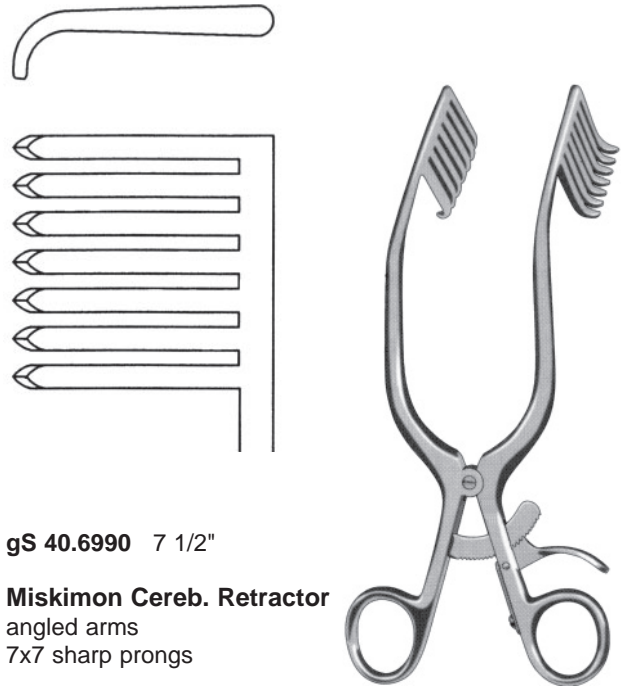


self-retaining retractors - 38-40/7



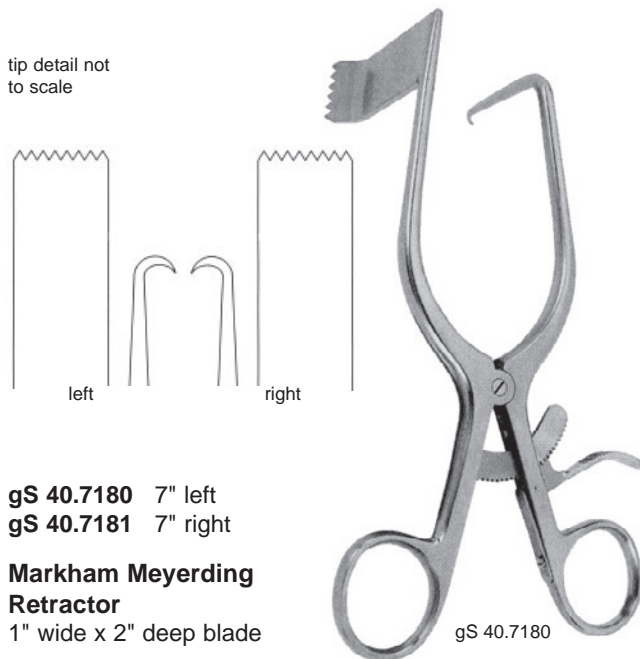
gS 40.5450 7 1/2"

D'Errico-Adson Retractor
angled arms
4x4 sharp prongs



gS 40.6990 7 1/2"

Miskimon Cereb. Retractor
angled arms
7x7 sharp prongs

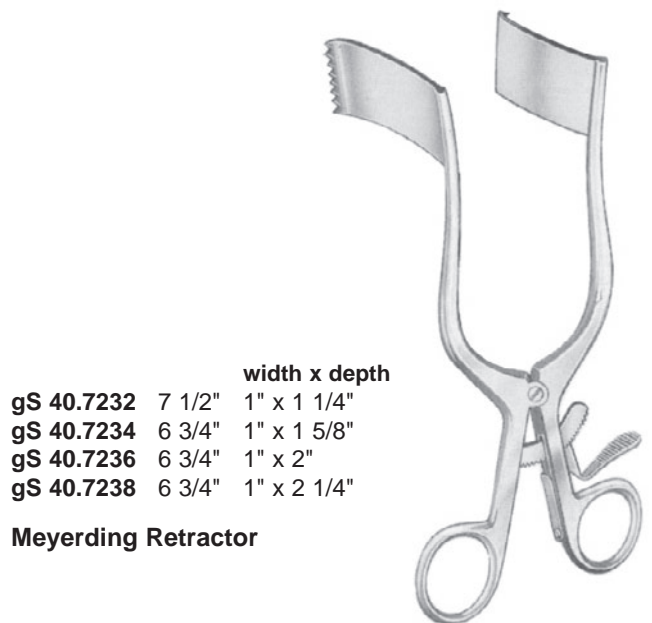


tip detail not
to scale

gS 40.7180 7" left
gS 40.7181 7" right

**Markham Meyerding
Retractor**
1" wide x 2" deep blade

gS 40.7180



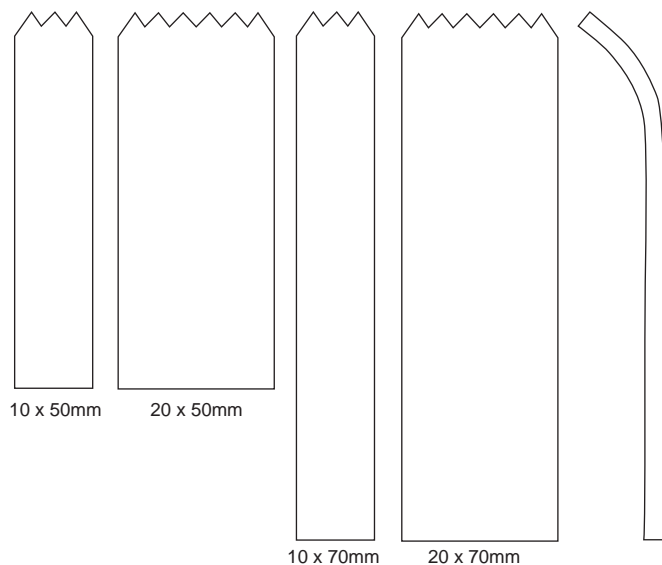
		width x depth
gS 40.7232	7 1/2"	1" x 1 1/4"
gS 40.7234	6 3/4"	1" x 1 5/8"
gS 40.7236	6 3/4"	1" x 2"
gS 40.7238	6 3/4"	1" x 2 1/4"

Meyerding Retractor

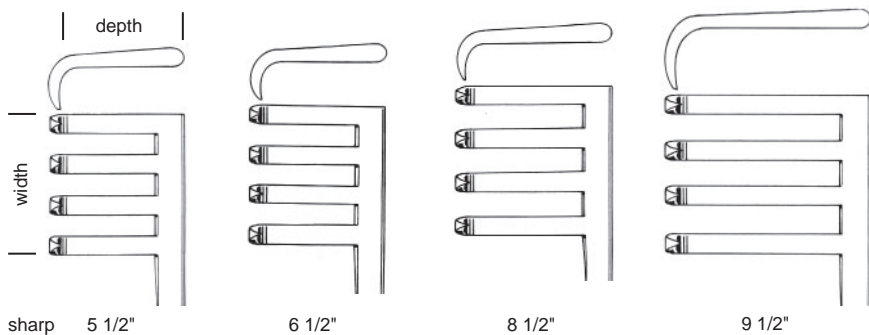
38-40/8 - self-retaining retractors

left blade **width x depth**
gS 40.7350 10mm x 50mm
gS 40.7360 10mm x 70mm
gS 40.7370 20mm x 50mm
gS 40.7380 20mm x 70mm

right blade **width x depth**
gS 40.7352 10mm x 50mm
gS 40.7362 10mm x 70mm
gS 40.7372 20mm x 50mm
gS 40.7382 20mm x 70mm



Williams Dissectomy Retractor
7"



width x depth
gS 40.6500 5 1/2" sharp 20mm x 15mm
gS 40.6320 6 1/2" sharp 20mm x 15mm
gS 40.6410 8 1/2" sharp 22mm x 17mm
gS 40.6420 9 1/2" sharp 22mm x 24mm

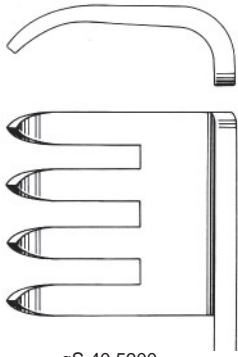
gS 40.6502 5 1/2" blunt 20mm x 15mm
gS 40.6504 6 1/2" blunt 20mm x 15mm
gS 40.6506 8 1/2" blunt 22mm x 17mm
gS 40.6508 9 1/2" blunt 22mm x 24mm

Beckman-Weitlaner Retractor

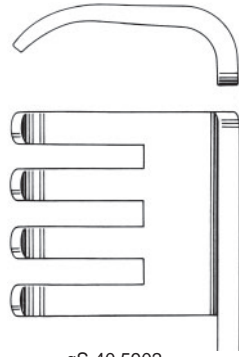
hinged arms
3x4 prongs



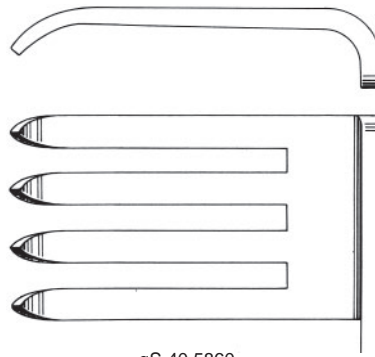
self-retaining retractors - 38-40/9



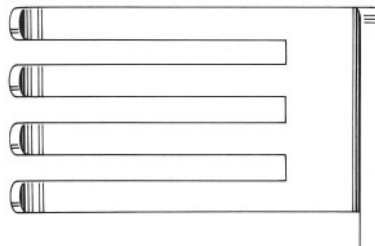
gS 40.5900



gS 40.5902



gS 40.5860

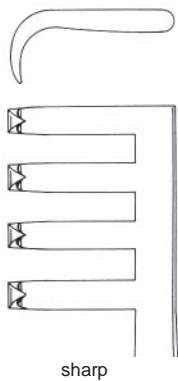


gS 40.5880



- gS 40.5900** sharp 1" x 1"
gS 40.5860 sharp 1" x 1 3/4"
gS 40.5902 blunt 1" x 1"
gS 40.5880 blunt 1" x 1 1/2"

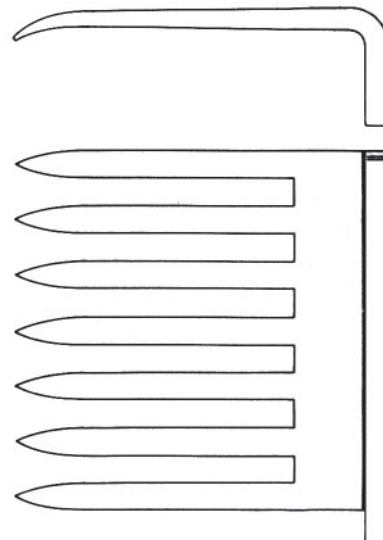
Beckman-Adson Retractor
 12" hinged arms
 4x4 prongs



sharp

- gS 40.5840** sharp 5/8" x 1 1/8"
gS 40.5842 blunt 5/8" x 1 1/8"

Beckman Retractor
 12 1/2" hinged arms
 4x4 prongs

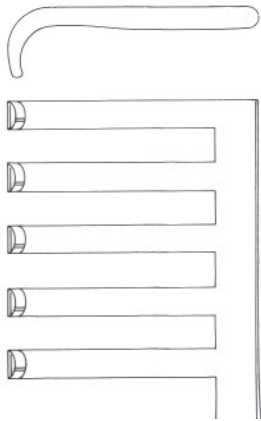


gS 40.4760 12 1/2"

Beckman Eaton Retractor
 max opening: 6 1/4" hinged
 7x7 sharp prongs



38-40/10 - self-retaining retractors



gS 40.5820 12 1/2"

Adson Retractor
hinged arms
4x5 blunt prongs

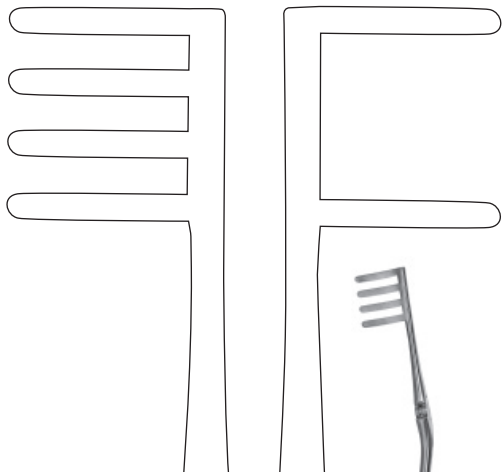


gS 40.3210 7" left ring
gS 40.3212 7" right ring

Rotator Cuff Retractor
(Gerber)



gS 40.3212



gS 40.6100 12 1/4"

Horizontal Retractor (Sexton)
hinged arms, 4x2 blunt prongs
maximum opening: 6 1/2"

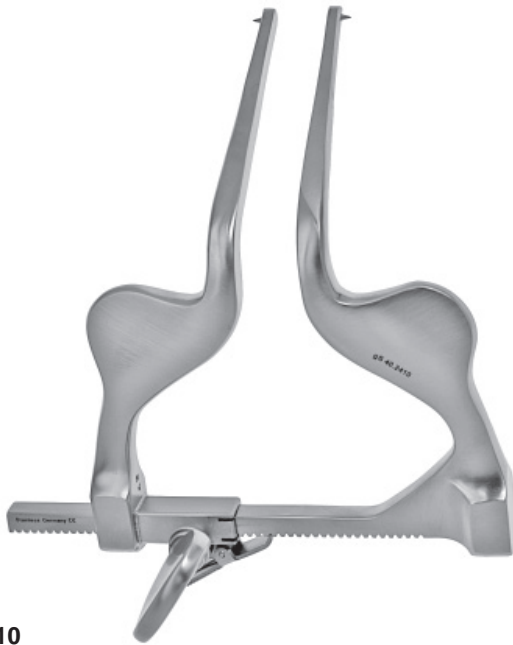


gS 40.2590 5"

Vertebra Spreader
#1 with ratchet
(Cloward Style) 3/4" spread



self-retaining retractors - 38-40/11



gS 40.2410

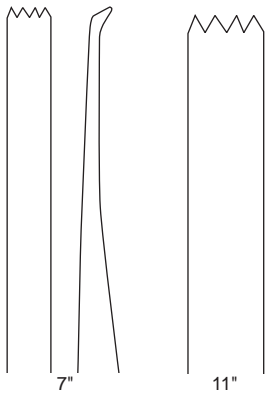
Lumbar Lamina Spreader

arm length: 3 1/2"
spread: 1 1/2"

gS 40.3120 6 1/2"

Cervical Spreader

angled
with teeth



gS 40.3418 7"
gS 40.3428 11"

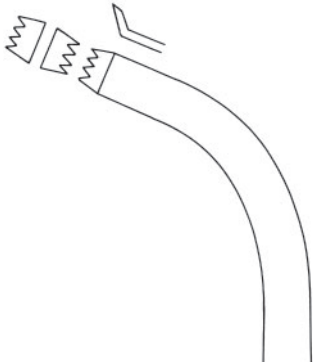
Vertebral Distractor

straight
with teeth



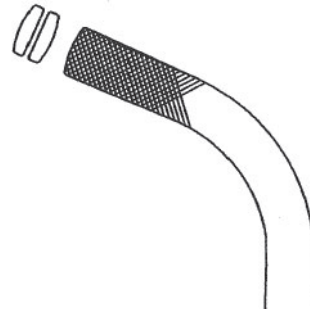
38-40/12 - self-retaining retractors

Ratchet is calibrated in mm and measures size of opening. Useful in many procedures to accurately assess bone graft needs.



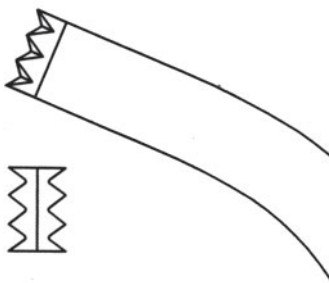
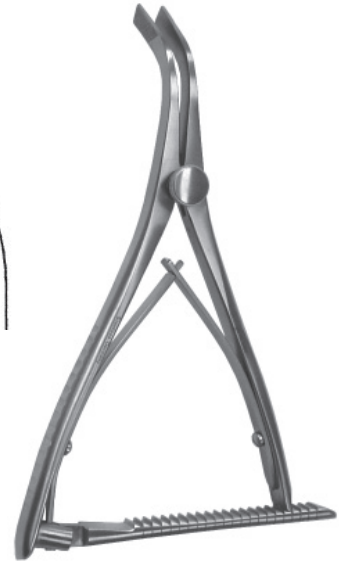
gS 40.3170 with teeth
gS 40.3180 w/o teeth

Inge Retractor
6 1/2"



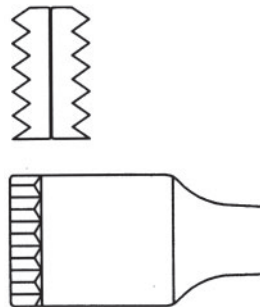
gS 40.3190 6 1/2"

Saxena-Style Retractor
serrated outside blades
calibrated ratchet



gS 40.3300 10"

Inge Retractor
with teeth



gS 40.3260 10 1/2"

Lamina Spreader
flat blades
with teeth



self-retaining retractors - 38-40/13

	width x depth
gS 40.7520	20mm x 36mm
gS 40.7522	20mm x 53mm
gS 40.7524	20mm x 68mm
gS 40.7526	20mm x 85mm
gS 40.7530	36mm x 36mm
gS 40.7532	36mm x 53mm
gS 40.7534	36mm x 68mm
gS 40.7536	36mm x 85mm

Kolbel Retractor Blades
blunt



gS 40.7505 5 1/2"

Kolbel Retractor
hinged
frame only

gS 40.7510 8"
Kolbel Retractor
ring handle only



gS 40.7515 8"
Kolbel Retractor
ring handle only
hinged



38-40/14 - self-retaining retractors



gS 40.7621 standard
6 1/2"



gS 40.7631 hinged
6 1/2"



gS 40.7641 soft tissue
4 1/2"



gS 40.7646 hinged soft tissue
4 1/2"

Caspar Retractor Handles

blunt blade **width x depth**

gS 40.7650 45mm x 23mm

gS 40.7651 50mm x 23mm

gS 40.7652 55mm x 23mm

gS 40.7653 60mm x 23mm

gS 40.7654 65mm x 23mm

serrated blade

gS 40.7660 40mm x 23mm

gS 40.7661 45mm x 23mm

gS 40.7662 50mm x 23mm

gS 40.7663 55mm x 23mm

gS 40.7664 60mm x 23mm

5 prong blade

gS 40.7670 40mm x 23mm

gS 40.7671 45mm x 23mm

gS 40.7672 50mm x 23mm

gS 40.7673 55mm x 23mm

gS 40.7674 60mm x 23mm



blunt



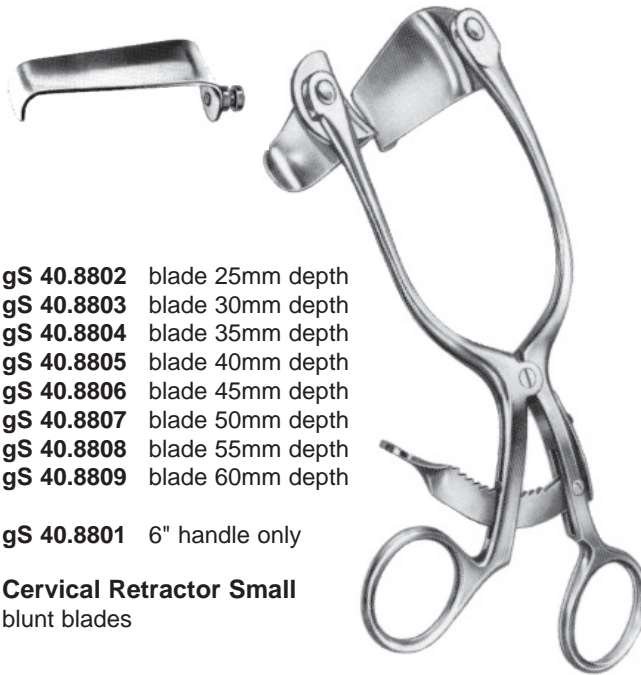
serrated



5 prong

Caspar Retractor Blades

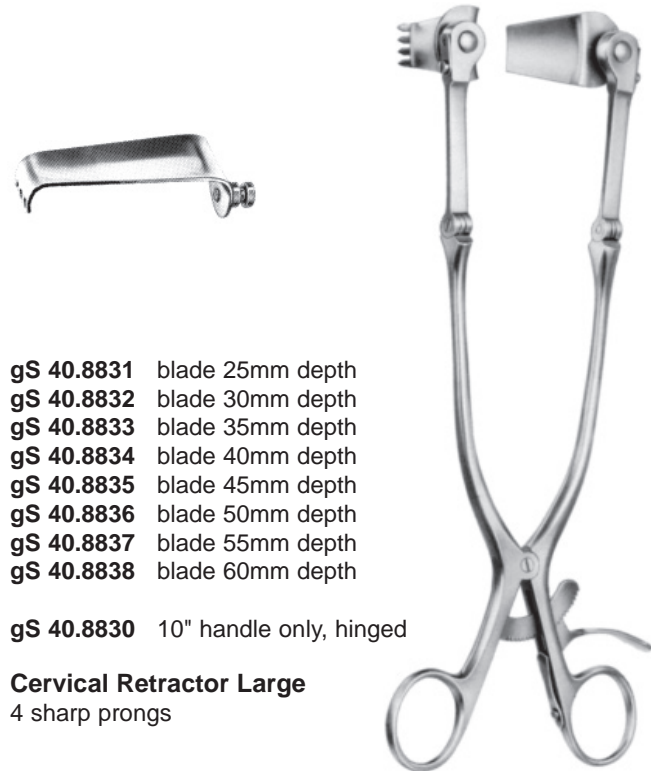
self-retaining retractors - 38-40/15



- gS 40.8802** blade 25mm depth
- gS 40.8803** blade 30mm depth
- gS 40.8804** blade 35mm depth
- gS 40.8805** blade 40mm depth
- gS 40.8806** blade 45mm depth
- gS 40.8807** blade 50mm depth
- gS 40.8808** blade 55mm depth
- gS 40.8809** blade 60mm depth

gS 40.8801 6" handle only

Cervical Retractor Small
blunt blades



- gS 40.8831** blade 25mm depth
- gS 40.8832** blade 30mm depth
- gS 40.8833** blade 35mm depth
- gS 40.8834** blade 40mm depth
- gS 40.8835** blade 45mm depth
- gS 40.8836** blade 50mm depth
- gS 40.8837** blade 55mm depth
- gS 40.8838** blade 60mm depth

gS 40.8830 10" handle only, hinged

Cervical Retractor Large
4 sharp prongs



gS 40.5459

Scoville Retractor

body only
5 1/2" arms with 6 3/4" spread

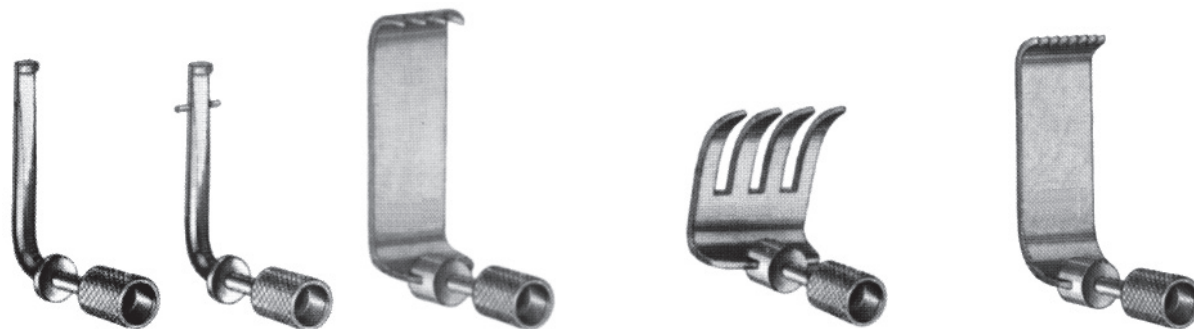


gS 40.5460

Scoville-Haverfield Retractor

hinged, body only
5 3/4" arms with 7 1/4" spread

38-40/16 - self-retaining retractors



gS 40.5470 2" deep
gS 40.5480 3" deep
gS 40.5490 2" deep
 with cross bar
gS 40.5500 2 3/4" deep
 with cross bar

Scoville Hook

gS 40.5510 1" x 2 1/2"
gS 40.5520 2" x 2 1/2"
gS 40.5530 1 1/8" x 2 5/8"
gS 40.5540 1" x 3 1/2"

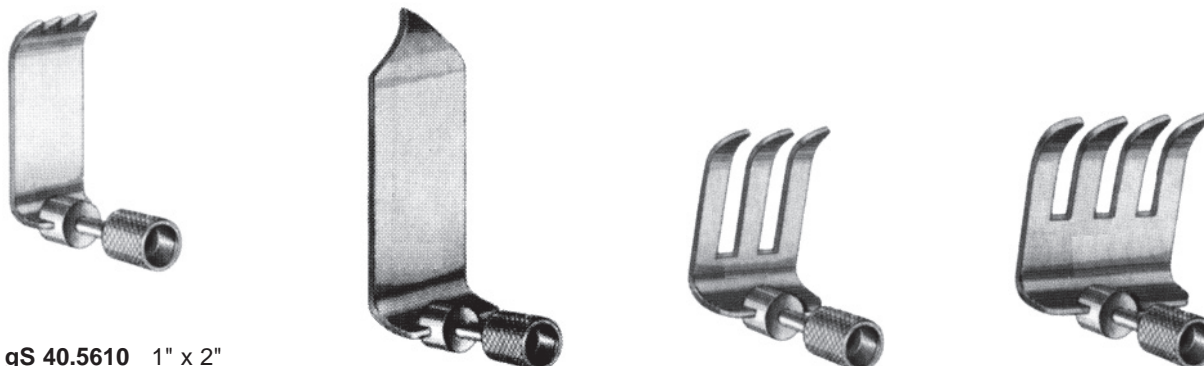
Scoville Blade with teeth

gS 40.5560 1 1/2" x 1 5/8"
gS 40.5570 1 7/8" x 2 5/8"

Scoville Blade 4 prongs

gS 40.5580 1" x 2 1/4"
gS 40.5590 1" x 3"
gS 40.5600 2" x 3 1/2"

Meyerding Blade with fine teeth



gS 40.5610 1" x 2"
gS 40.5620 2" x 2"
gS 40.5630 1" x 2 1/2"
gS 40.5640 1 1/2" x 2 1/2"
gS 40.5650 1" x 3"
gS 40.5660 1 1/2" x 3"
gS 40.5670 2" x 3"
gS 40.5680 1" x 4"
gS 40.5690 2" x 4"

Hibbs Blade with teeth

gS 40.5710 1 1/4" x 3"
gS 40.5720 1 1/4" x 4"

Taylor Spinal Blade

gS 40.5730 1 1/2" x 1 3/4"

Taylor Laminectomy Blade 3 prongs

gS 40.5740 2" x 1 7/8"
gS 40.5750 2 1/2" x 2 1/2"
gS 40.5760 2 1/4" x 3 1/8"

Taylor Laminectomy Blade 4 prongs

self-retaining retractors - 38-40/17

Drill guide for parallel positioning of the distraction screws.

For right side approach.



gS 40.1010

- gS 40.1010** right body 2 1/2" spread
- gS 40.1012** right body 3 1/4" spread, long bar
- gS 40.1016** right drill guide

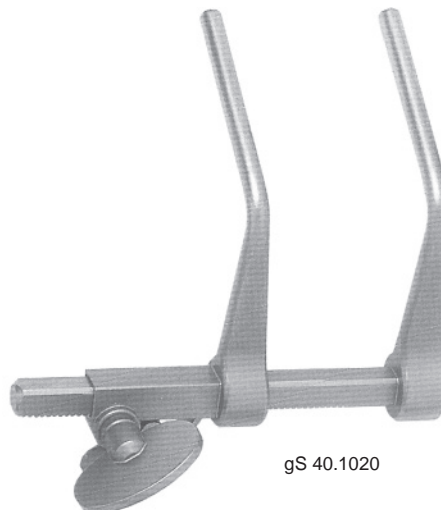
Caspar Distractor Right



gS 40.1016

Drill guide for parallel positioning of the distraction screws.

For left side approach.



gS 40.1020

- gS 40.1020** left body 2 1/2" spread
- gS 40.1022** left body 3 1/4" spread, long bar
- gS 40.1026** left drill guide

Caspar Distractor Left



gS 40.1026

38-40/18 - self-retaining retractors



gS 40.1030 8 1/4"
**Caspar Bone Graft
Holder and Impactor**



gS 40.1040 5 3/4"
**Twist Drill for
Distraction Screws**



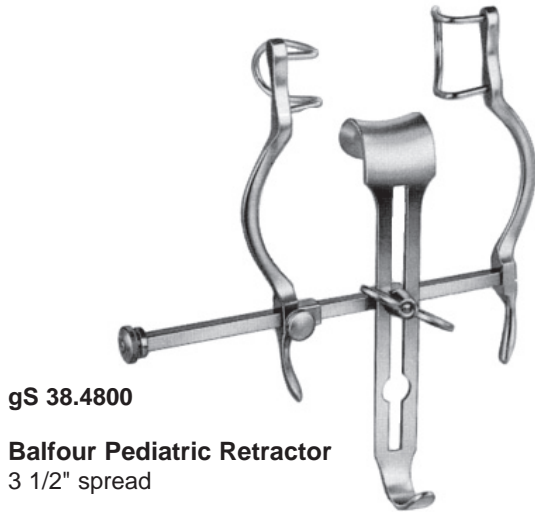
gS 40.1035 8"
**Screwdriver for
Distraction Screws**

- gS 40.1052** 12mm
- gS 40.1054** 14mm
- gS 40.1056** 16mm
- gS 40.1058** 18mm

Distraction Screws
non-sterile
pkg/1

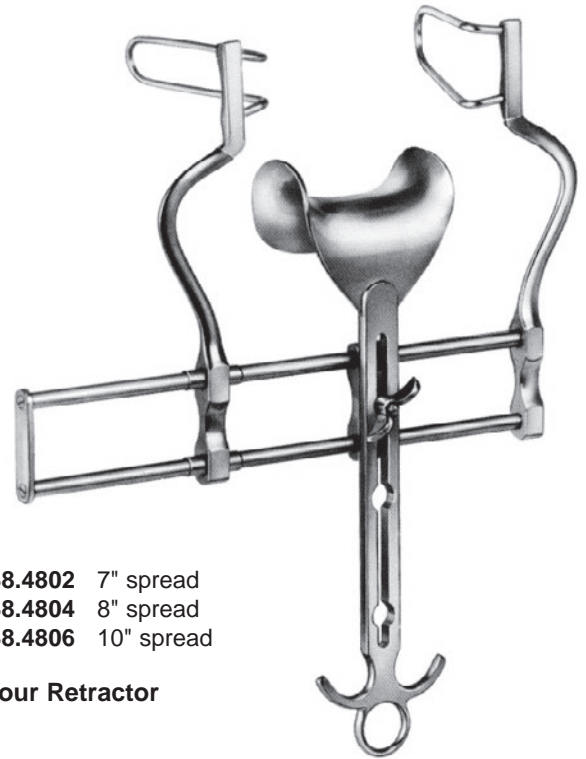


self-retaining retractors - 38-40/19



gS 38.4800

Balfour Pediatric Retractor
3 1/2" spread



gS 38.4802 7" spread
gS 38.4804 8" spread
gS 38.4806 10" spread

Balfour Retractor



gS 40.8725

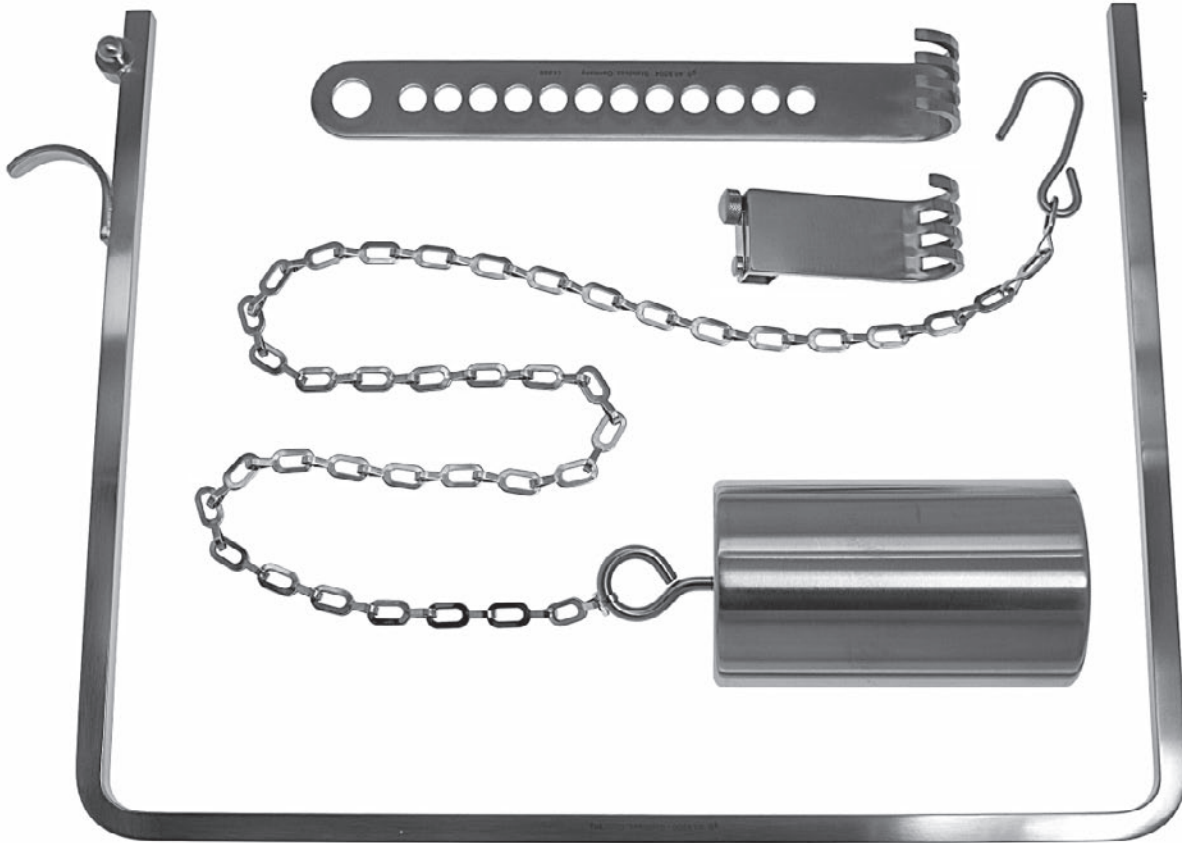
Crutchfield Tongs Small
max 120mm opening
drill bits not included



gS 40.8726

Crutchfield Tongs Large
max 170mm opening
drill bits not included

38-40/20 - self-retaining retractors



gS 40.9202 short 1" blade (pictured)
gS 40.9210 short 2" blade
gS 40.9214 short 2 1/2" blade
gS 40.9215 short 3" blade
gS 40.9218 short 4 1/2" blade

gS 40.9204 long 1" blade (pictured)
gS 40.9220 long 2" blade
gS 40.9224 long 2 1/2" blade
gS 40.9225 long 3" blade
gS 40.9228 long 4 1/2" blade

gS 40.9280 frame only
gS 40.9282 weight only

Initial Incision Retractor

self-retaining retractors - 38-40/21



gS 40.8901 1 1/2" x 1 3/4" with 6 1/4" opening
gS 40.8902 2 5/8" x 1 3/4" with 8" opening
gS 40.8903 2 5/8" x 3 3/8" with 9 1/2" opening

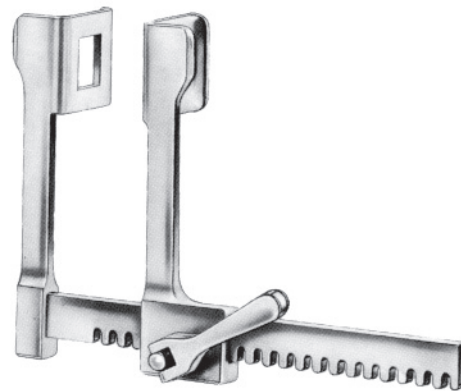
Finochietto Rib Spreader
stainless steel



gS 40.9002
Finochietto Rib Spreader
small, aluminum, with 7" opening
1 1/8" x 1 3/4" blades



gS 40.9004
Finochietto Rib Spreader
medium, aluminum, with 7" opening
1 5/8" x 2 3/8" blades



gS 40.9030
Finochietto Rib Retractor
infant, with 3" opening
3/4" x 13/16" blades

38-40/22 - self-retaining retractors



gS 40.9020

Tuffier Rib Retractor

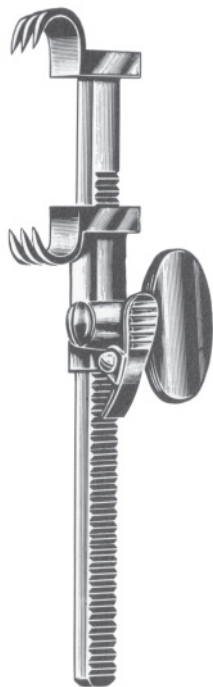
6 1/2" opening
2" x 1 3/4" blades



gS 40.9012

Cooley-Rienhoff Rib Spreader

child, aluminum, with 4" opening
3/4" x 1" blades



gS 40.9100 8"

Bailey Rib Contractor

4 1/2" opening



gS 40.9320

Favaloro-Morse Retractor

8" opening
1 1/2" x 1 1/8" blades

elevators - 42-43/1

gS 42.5950 6"
Probe and Packer
#92 double ended



gS 42.5980 5 3/4"
Spatula and Packer
#91 double ended



gS 42.6020 5 3/4"
Excavator and Packer
#90 double ended



gS 42.6180 6"
Probe and Excavator
#89 double ended



42-43/2 - elevators

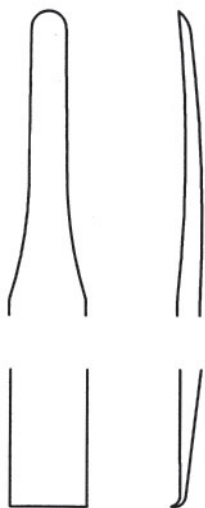
gS 42.5940 6 1/2"

**Johnson-Tucker Hook
and Fork**
delicate



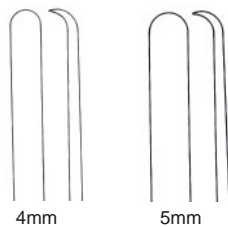
gS 42.6790 5" narrow blade
gS 42.6900 5" wide blade

Locke Elevator
with McGlamry Bullneck
to resist bending



gS 43.3680 5 1/2"

Carroll Elevator
sharp 5mm and 10mm ends



gS 43.3050 6" 4mm wide
gS 43.3052 5 1/2" 5mm wide

McKenty Elevator
semi-sharp



gS 42.1750 6 1/2" sharp/sharp
gS 42.1760 6 1/2" blunt/blunt

Sayre Elevator
5mm and 9mm ends



Designed to deglove a metatarsal head.

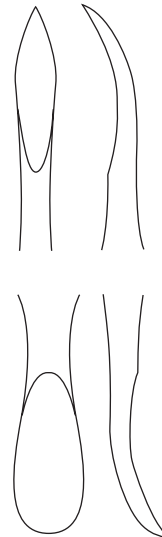
gS 42.8590 6 1/2" 9mm
gS 42.8600 6 1/2" 11mm
gS 42.8620 6 1/2" 13mm
gS 42.8640 6 1/2" 15mm
gS 42.8660 6 1/2" 17mm

Metatarsal Elevator
a.k.a. McGlamry elevator
sharp



gS 43.7221 8 1/2"

Dingman Zygoma Elevator
curved round end



gS 43.3700 7 1/4"

Molt #9 Elevator (Dingman)
sharp 5mm and 9mm ends



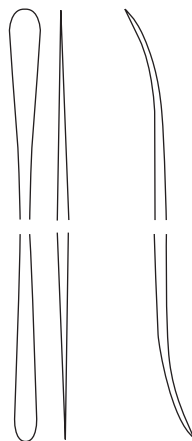
42-43/4 - elevators



gS 42.7140 7 1/2"

Freer Elevator

side wings prevent rolling
sharp and blunt 5mm ends

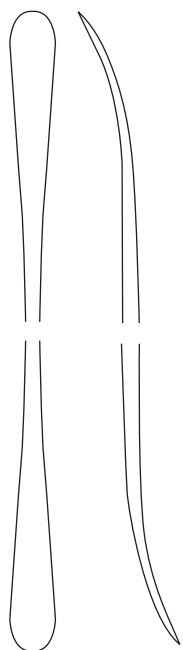


gS 42.7130 7" straight

gS 42.7132 7" curved

Presbyterian Hospital Elevator

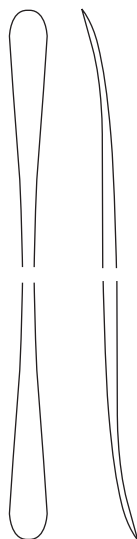
semi-blunt and blunt 4mm ends



gS 42.7165 9 1/2"

Davis Dissector (McColloch)

side wings prevent rolling
sharp and blunt 6mm ends



gS 42.7090 8 1/2"

Ballenger Septum Elevator

semi-sharp and blunt 5mm ends



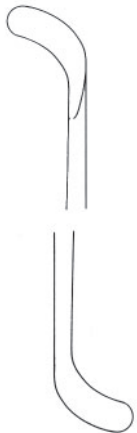
gS 42.7143 7"

Watson-Cheyne Elevator
blunt



gS 42.7145 7 1/2"

McDonald Elevator
blunt
5mm



gS 43.3048 8"

Pennington Elevator
double ended, right & left
6mm, sharp



gS 43.3205 8 1/2"

Howarth Elevator
sharp and blunt



42-43/6 - elevators

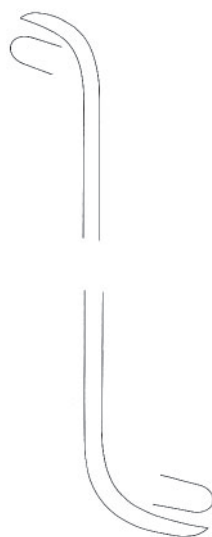
gS 42.7690 9"

Cottle Elevator
graduation marks
4mm/3mm, sharp and blunt



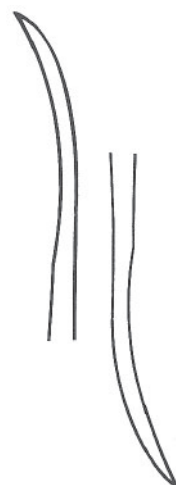
gS 42.7523 9"

Cottle Elevator
double ended
4.5mm blades, semi-sharp



gS 42.7160 7 3/4"

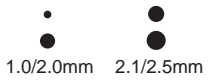
Kleinert-Kutz Elevator
double ended
2mm/3mm, sharp



gS 43.7160 8 1/2"

Alerdyce Elevator
semi-sharp/blunt
7mm ends





gS 42.7418 7 1/2" 1.0mm/2.0mm balls
gS 42.7420 7 1/2" 2.1mm/2.5mm balls

Ballend Elevator
 double end ball tips



gS 42.7170 7"
Woodson Dural Separator and Packer
 blunt 3mm ends



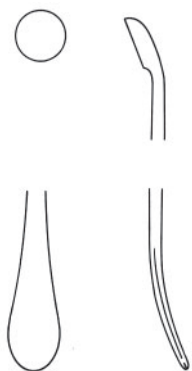
gS 42.7171 7"
Woodson Elevator and Spatula
 blunt 3mm double ended



gS 42.7172 10"
Woodson Elevator and Spatula
 blunt 3mm double ended

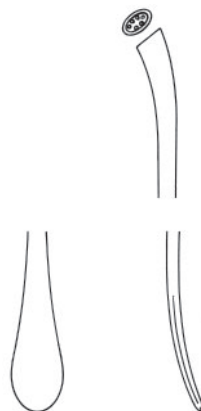


42-43/8 - elevators



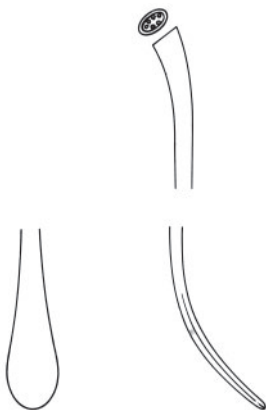
gS 43.9221 7"

Penfield Elevator #1
double ended



gS 43.9222 7 3/4"

Penfield Elevator #2
double ended



gS 43.9223 7 3/4"

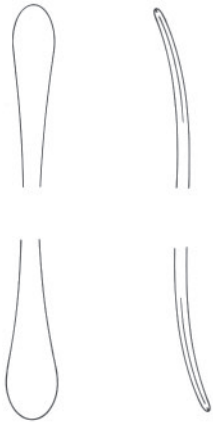
Penfield Elevator #3
double ended



gS 43.9224 8 1/2"

Penfield Elevator #4
single ended





gS 43.9225 11 1/2"

Penfield Elevator #5
double ended



gS 43.9250 15"

Penfield Elevator
blunt 4mm blade



gS 42.7150 8"

Sachs Nerve Elevator
blunt 3mm blade

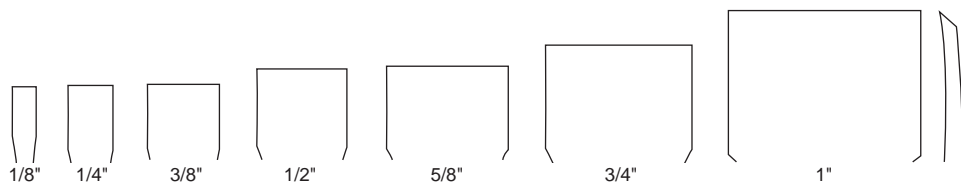


gS 42.7230 12"

Smithwick Hook & Dissector
semi-sharp 5mm dissector
blunt 10mm hook



42-43/10 - elevators



- gS 43.3575** 7", 1/8" wide
- gS 43.3580** 7", 1/4" wide
- gS 43.3600** 7 1/2", 3/8" wide
- gS 43.3620** 7 1/2", 1/2" wide
- gS 43.3630** 7 1/2", 5/8" wide
- gS 43.3640** 8", 3/4" wide
- gS 43.3660** 8 1/2", 1" wide

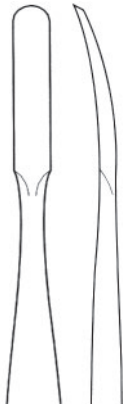
Key Elevator
sharp edge



- gS 43.4100** straight 8mm blade, sharp straight edge
- gS 43.4130** straight 7mm blade, semi-sharp curved edge
- gS 43.4120** curved 7mm blade, semi-sharp curved edge
- gS 43.4110** slightly curved 7mm blade, blunt curved edge

Adson Elevator
6 3/4"





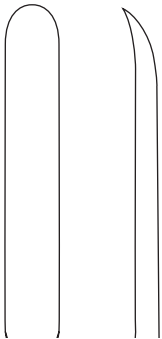
gS 42.7816 6 1/4"

Joseph Elevator
slightly curved
sharp 5mm



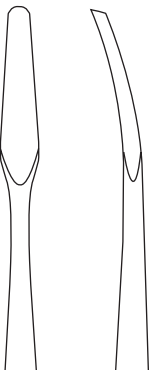
gS 42.7810 6"

Williger Bone Elevator
slightly curved
sharp 6mm



gS 43.3020 7"

Bone Raspatory
slightly curved
sharp 8mm



gS 43.3010 6 3/4"

Joseph Raspatory
slightly curved
sharp 3mm

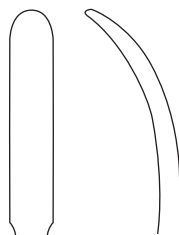


42-43/12 - elevators



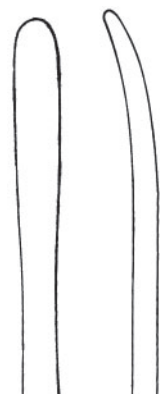
gS 42.7719 7 1/2" blunt
gS 42.7720 7 1/2" sharp

Cottle Elevator
slightly curved
9mm



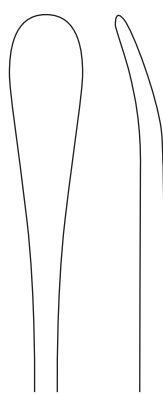
gS 42.7716 7 1/2"

Cottle Elevator (Joseph)
curved
sharp 5.5mm



gS 43.3190 7 3/4" narrow

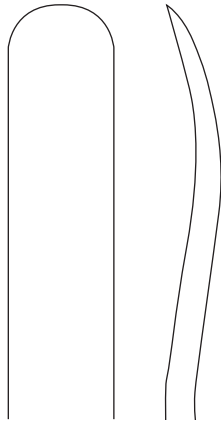
Lane Elevator
blunt
6mm



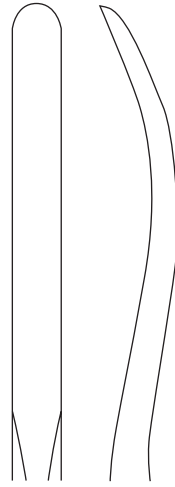
gS 43.3192 7 3/4" broad

Lane Elevator
blunt
10mm

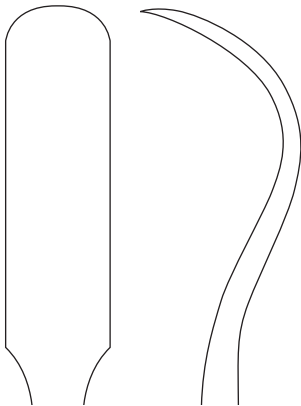




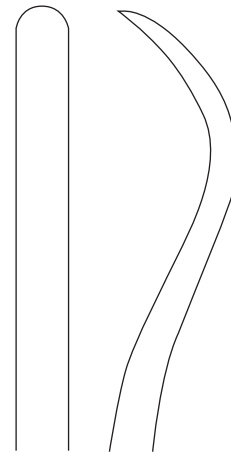
gS 43.3450



gS 43.3480



gS 43.3440



gS 43.3460

- gS 43.3450** 7 1/2" 14mm slight curve
- gS 43.3480** 8" 7mm slight curve
- gS 43.3440** 7 1/2" 14mm full curve
- gS 43.3460** 8" 7mm full curve

Crego Elevator
sharp



42-43/14 - elevators



gS 43.3060 7 1/4"

Periosteal Elevator

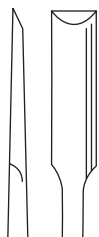
phenolic handle, straight edge
curved 3mm blade, sharp



gS 43.3070 7 1/4"

Periosteal Elevator

phenolic handle, straight edge
curved 6mm blade, sharp



gS 43.3110 7 1/4"

Periosteal Elevator

phenolic handle, straight edge
straight 6mm blade, sharp

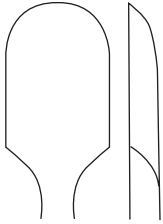


gS 43.3120 7 1/4"

Periosteal Elevator

phenolic handle, curved edge
curved 6mm blade, sharp

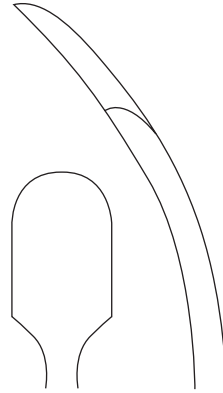




gS 43.3130 7 3/4"

Periosteal Elevator

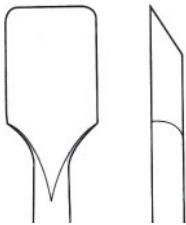
phenolic handle, curved edge
straight 14mm blade, sharp



gS 43.3140 7 1/4"

Periosteal Elevator

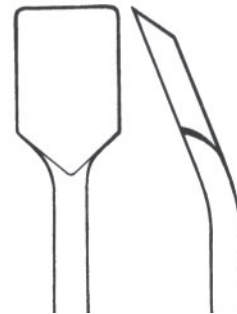
phenolic handle, curved edge
angled 14mm blade, sharp



gS 43.3150 7 1/4"

Periosteal Elevator

phenolic handle, straight edge
straight 13mm blade, sharp



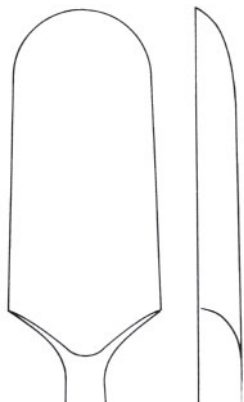
gS 43.3160 7 3/4"

Periosteal Elevator

phenolic handle, straight edge
angled 13mm blade, sharp

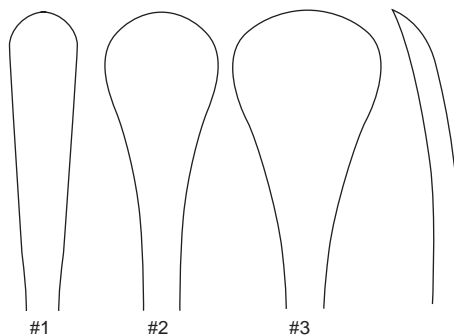


42-43/16 - elevators



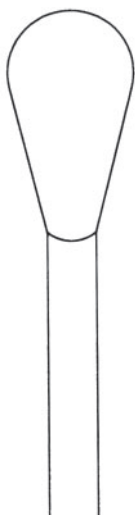
gS 43.3170 7 1/4"

Periosteal Elevator
phenolic handle, curved edge
straight 20mm blade, sharp



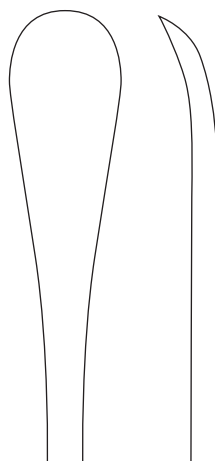
gS 43.4160 #1 9mm
gS 43.4162 #2 15mm
gS 43.4164 #3 20mm

Hoen Elevator
7 1/2"
sharp



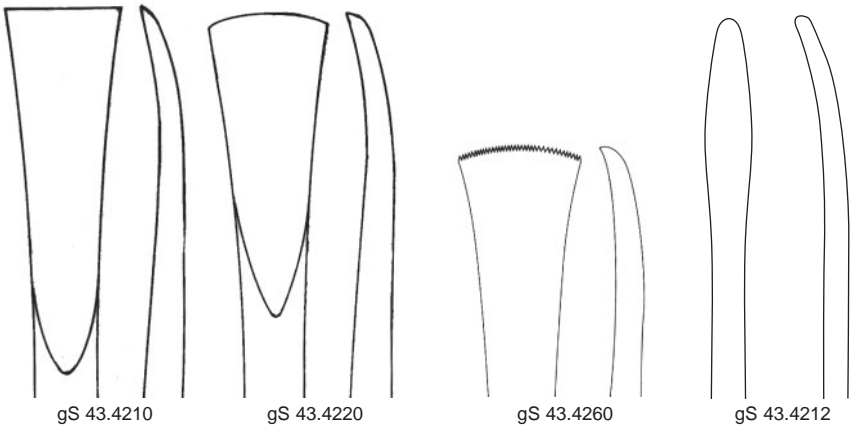
gS 43.1850 7"

Sedillot Elevator
sharp 18mm blade



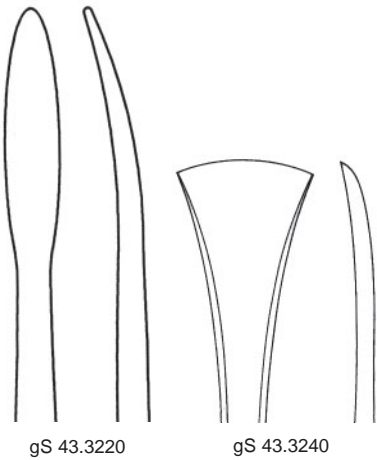
gS 43.1852 8"
Sedillot Elevator
sharp 16mm blade
ring handle





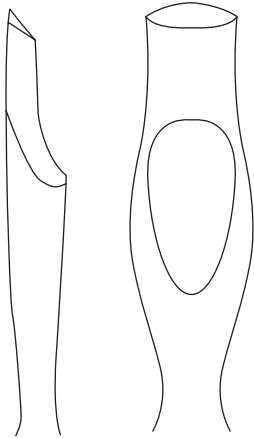
- gS 43.4210** 7 1/2" straight edge, sharp, 14mm
- gS 43.4220** 7 1/2" curved edge, sharp, 14.5mm
- gS 43.4260** 7 1/2" serrated curved edge, sharp, 14.5mm
- gS 43.4212** 7 1/2" blunt, flat on side, 6mm

Cushing Elevator



- gS 43.3220** 7 3/4" 6mm blunt
- gS 43.3240** 7 3/4" 17mm sharp

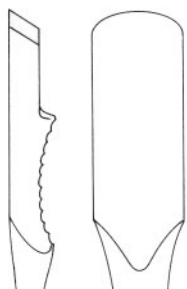
Langenbeck Elevator



- gS 43.2120** 6 3/4"
- Kirmission Raspatory**
sharp edge

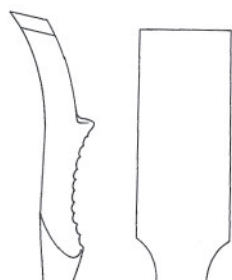


42-43/18 - elevators



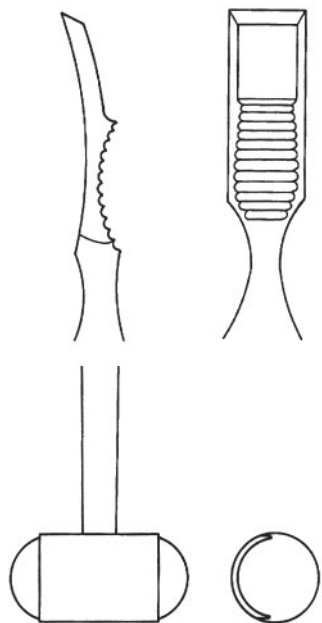
gS 43.2060 6"

Farabeuf Raspatory
straight, convex edge
sharp 13mm



gS 43.2080 6"

Farabeuf Raspatory
curved, straight edge
sharp 13mm



gS 43.2100 8"

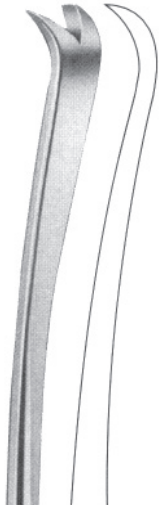
**Alexander Farabeuf
Raspatory**
sharp



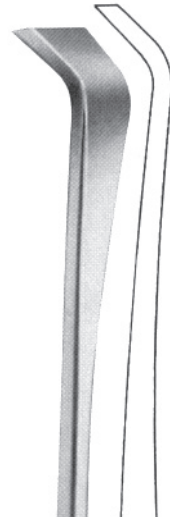
gS 43.2281 7 1/2"

**Semb Periosteal
Elevator**
#1





gS 43.2282 9"
Semb Periosteal Elevator #2



gS 43.2283 9"
Semb Periosteal Elevator #3
13mm blade



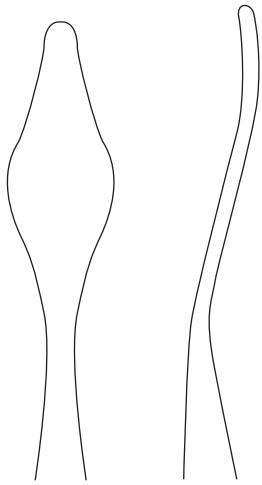
gS 43.2284 9"
Semb Periosteal Elevator #4
13mm 90° angled blade



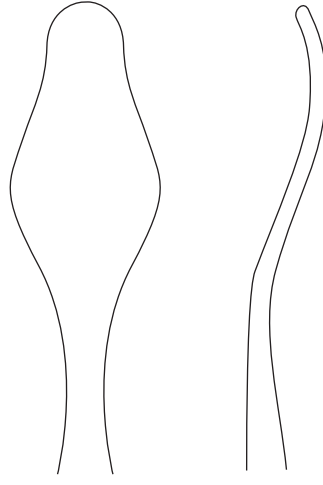
gS 43.2287 9"
Semb Periosteal Elevator #5
15mm blade



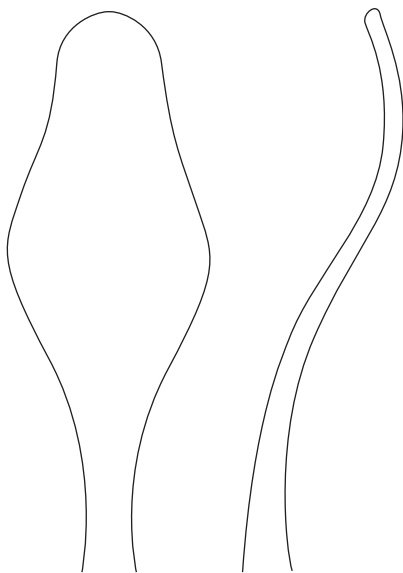
42-43/20 - elevators



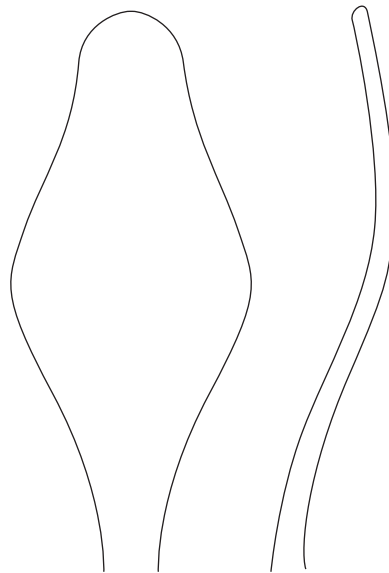
13mm



19mm



25mm

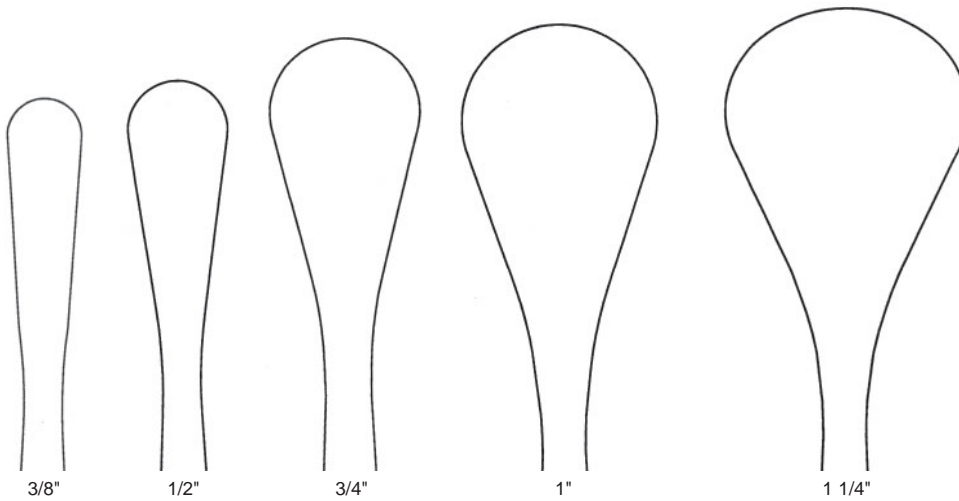


30mm

- gS 43.3500** 7 1/2", 13mm wide
- gS 43.3520** 8", 19mm wide
- gS 43.3540** 9", 25mm wide
- gS 43.3560** 10", 30mm wide

Chandler Elevator
blunt

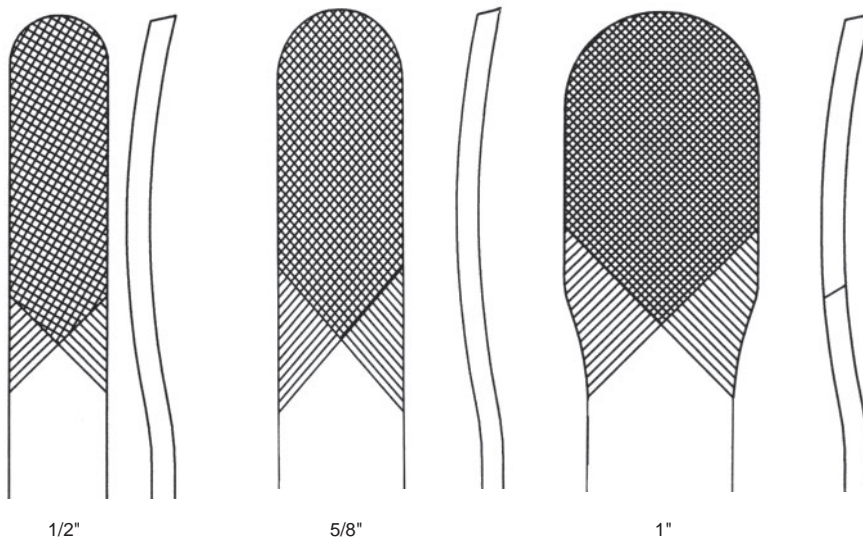




- gS 43.4396** 9 1/2", 3/8" wide
- gS 43.4400** 9 1/2", 1/2" wide
- gS 43.4420** 9 1/2", 3/4" wide
- gS 43.4440** 9 1/2", 1" wide
- gS 43.4460** 9 1/2", 1 1/4" wide

Cobb Elevator

solid stainless steel hexagonal handle
sharp



- gS 43.9010** 10", 3/8" wide
- gS 43.9020** 10", 1/2" wide
- gS 43.9030** 10", 5/8" wide
- gS 43.9040** 14", 1" wide

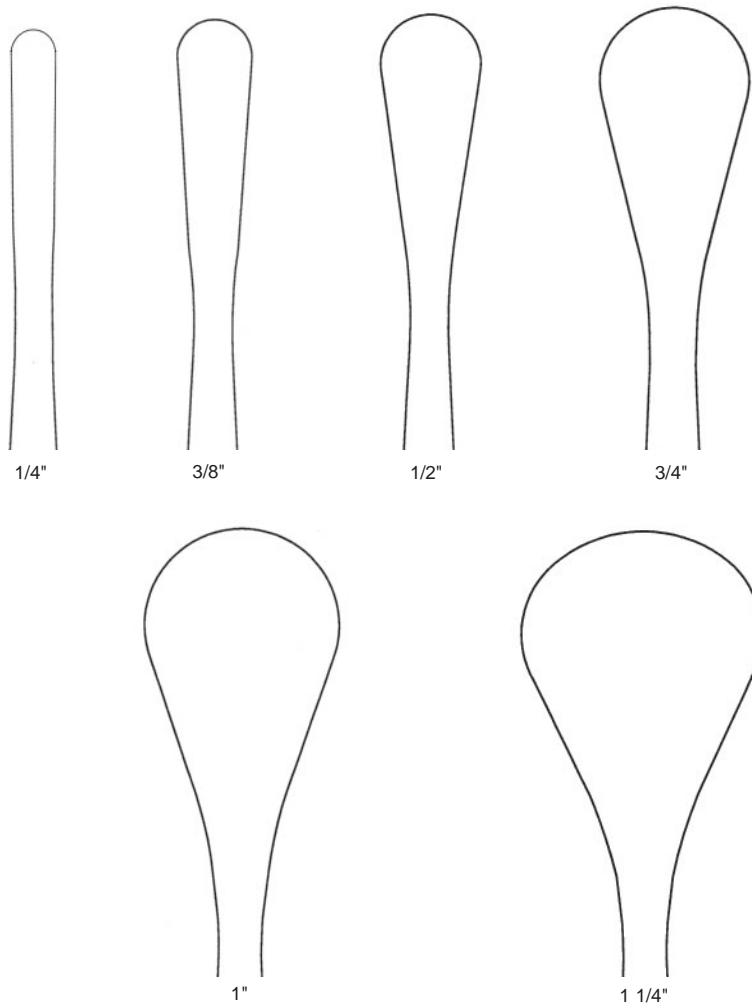
Darrach Elevator

blunt tips with serrations

Useful for shoulder surgery,
to elevate or retract soft
tissue and muscle.



42-43/22 - elevators



stainless steel handle

- gS 43.5129** 1/4" wide
- gS 43.5131** 3/8" wide
- gS 43.5141** 1/2" wide
- gS 43.5161** 3/4" wide
- gS 43.5181** 1" wide
- gS 43.5201** 1 1/4" wide

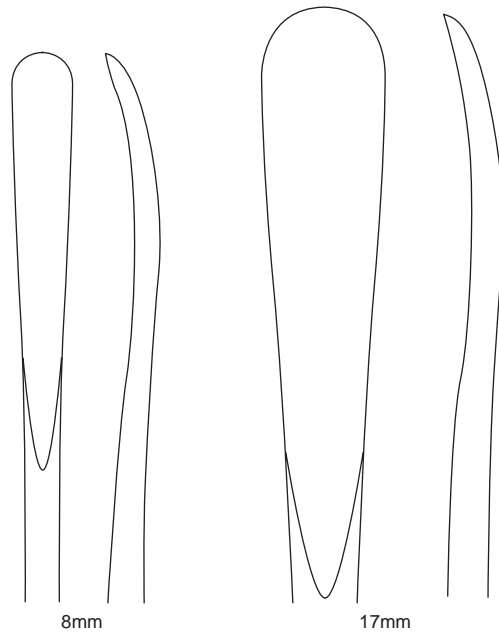
aluminum handle

- gS 43.5130** 3/8" wide
- gS 43.5140** 1/2" wide
- gS 43.5160** 3/4" wide
- gS 43.5180** 1" wide
- gS 43.5200** 1 1/4" wide

Cobb Elevator

11" long, knurled handle
sharp

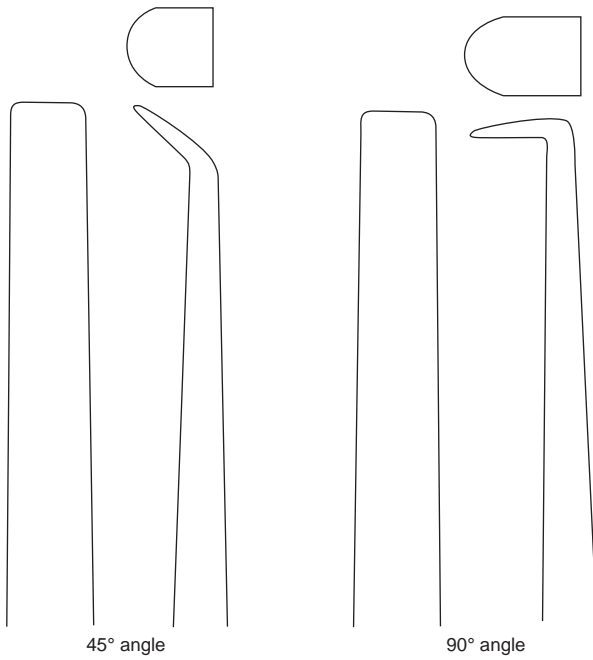




gS 43.9308 8mm wide
gS 43.9317 17mm wide

Wagner Elevator
13" long, phenolic handle
slight curve, sharp

42-43/24 - elevators



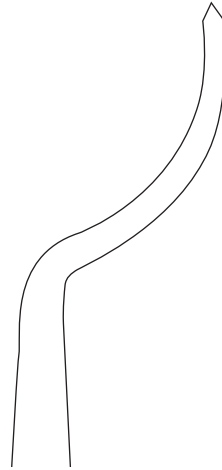
gS 43.9410 45° angle 18mm
gS 43.9414 90° angle 18mm

Rib Elevator
17" long, phenolic handle
sharp



gS 44.4360 6 1/4"

Bone Awl
square taper



gS 44.0220 8"

Glenoid Punch (Bankart)



gS 44.0130 8 1/2"

**Shoulder Percussion
Awl**
small curve

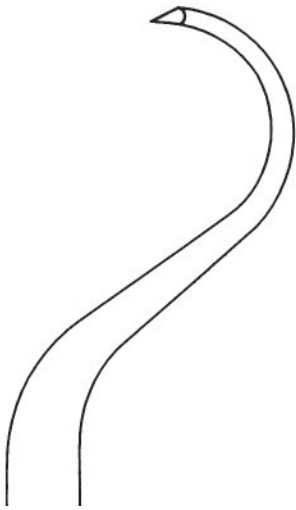


gS 44.0140 8 1/2"

**Shoulder Percussion
Awl**
medium curve



44/2 - bone awls



gS 44.0150 8 1/2"

**Shoulder Percussion
Awl**
large curve



gS 44.0160 9"

Shoulder Penetrating Awl
phenolic handle
small curve

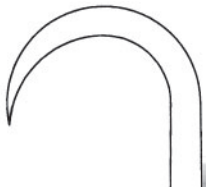


gS 44.5200 11"

**Kuntscher Diamond
Pointed Awl**

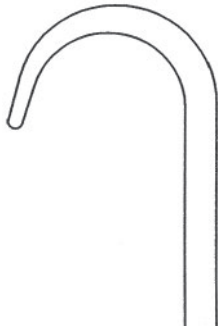


bone hooks - 45/1



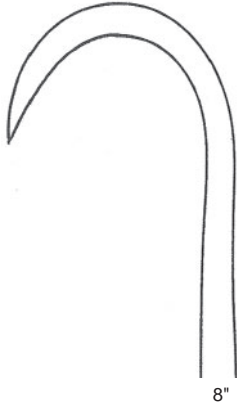
gS 45.4320 8"

Bone Hook
T-handle
sharp, 20mm deep

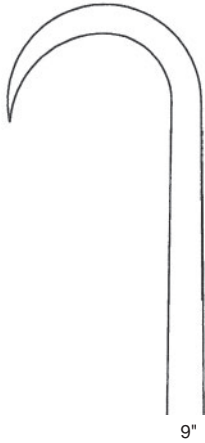


gS 45.4343 9"

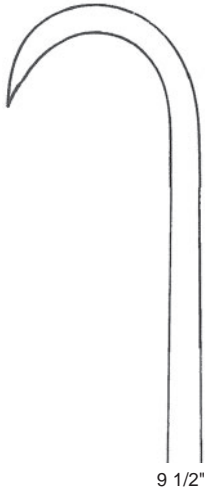
Volkmann Bone Hook
blunt
20mm deep



8"



9"



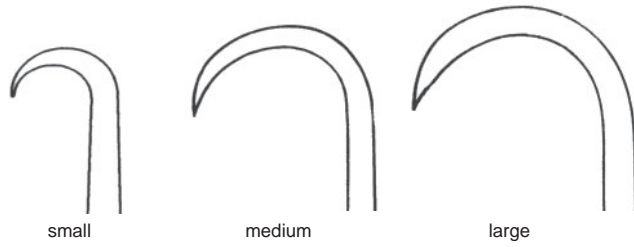
9 1/2"

- gS 45.4340** 8" long, 29mm deep
- gS 45.4346** 9" long, 20mm deep
- gS 45.4350** 9 1/2" long, 23mm deep

Volkmann Bone Hook
sharp



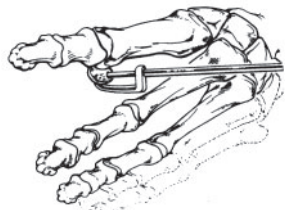
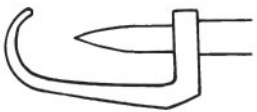
45/2 - bone hooks



- gS 45.4420** small hook, 10mm deep
- gS 45.4430** medium hook, 20mm deep
- gS 45.4440** large hook, 25mm deep

Bone Hook
9" sharp

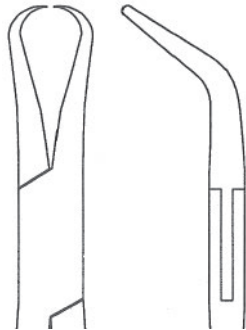




Designed to hold a sesamoid during dissection.

gS 46.2050 4" shaft

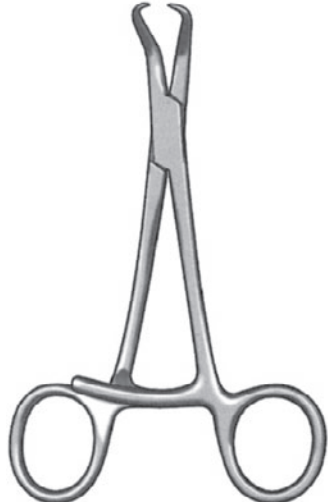
Vogen Sesamoid Clamp



Maximum opening with ratchet engaged: 14mm.

gS 46.2190 4 3/4"

Stagbeetle Forceps
curved pointed tips

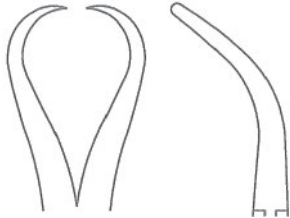


For positioning mini plates.

Maximum opening with ratchet engaged: 16mm.

gS 46.2390 5"

Plate and Bone Holding Forceps
one pointed tip, one footplate



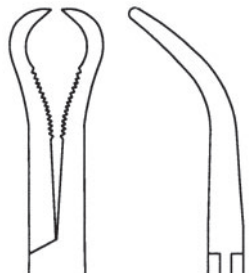
Maximum opening with ratchet engaged: 16mm.

gS 46.4000 5"

Bone Reduction Forceps
curved pointed tips



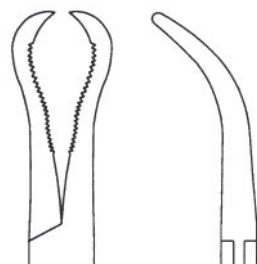
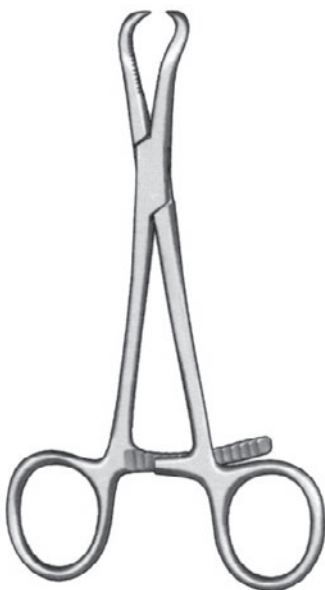
46/2 - bone holding



Maximum opening with ratchet engaged: 16mm.

gS 46.2330 5 1/4"

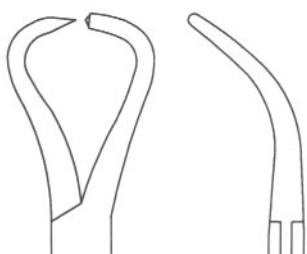
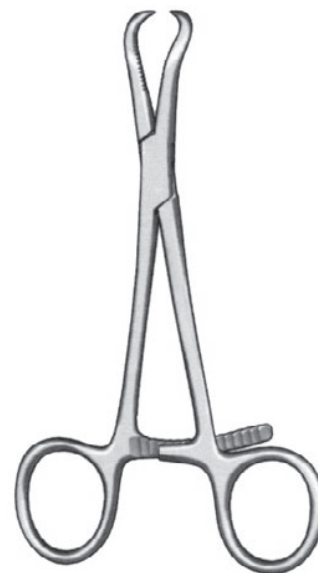
Bone Reduction Fcps
curved, pointed tips
10mm serrations



Maximum opening with ratchet engaged: 16mm.

gS 46.2350 5"

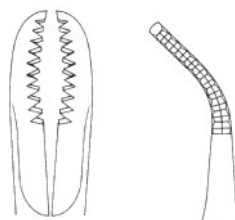
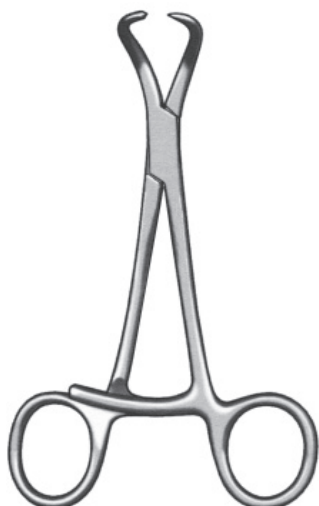
Bone Reduction Fcps
curved, pointed tips
15mm serrations



Maximum opening with ratchet engaged: 13mm.

gS 46.2370 5"

Bone Reduction Fcps
curved, one pointed tip
one step-pointed tip

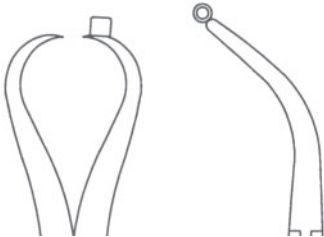


Maximum opening with ratchet engaged: 15mm.

gS 46.2280 6"

Bone Reduction Fcps
curved
serrated jaws

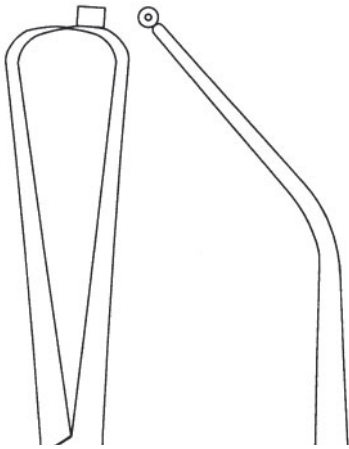
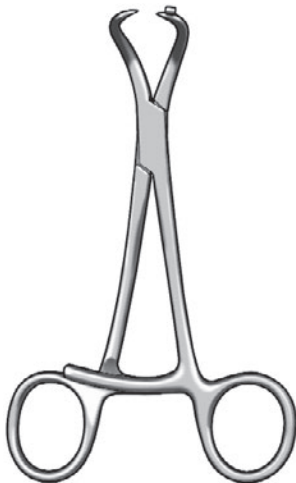




For positioning k-wires with diameter up to .062"(1.6mm)
Maximum opening with ratchet engaged: 13mm.

gS 46.4040 5 1/4"

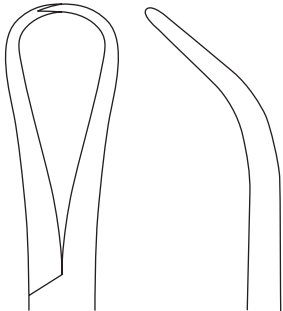
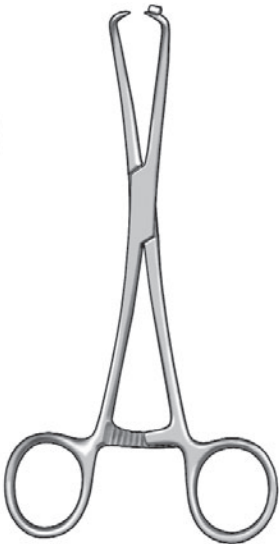
Bone Reduction Forceps
curved with .062"(1.6mm) guide



For positioning k-wires with diameter up to .035"(0.9mm)
Maximum opening with ratchet engaged: 18mm.

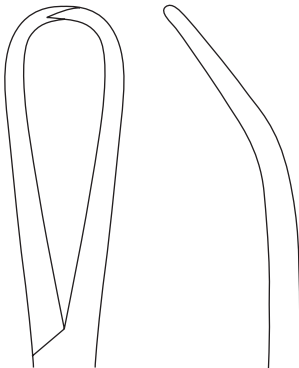
gS 46.4060 6 3/4"

Bone Reduction Forceps
curved with .035" (0.9mm) guide



gS 46.4116 6 1/2"

Glenoid Perforating Forceps
strong angle

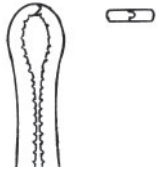


gS 46.4117 6 1/2"

Glenoid Perforating Forceps
slight angle



46/4 - bone holding



Useful for sesamoid removal.

gS 46.8870 6"

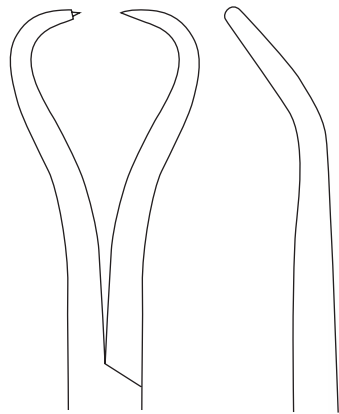
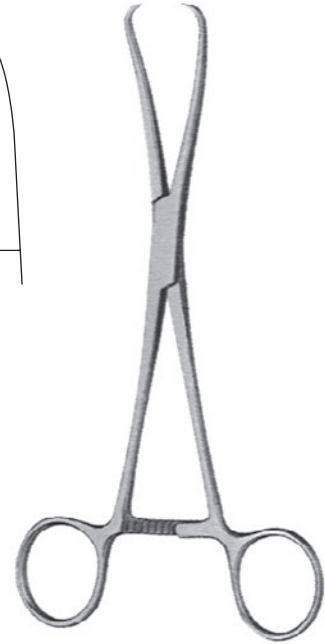
Locke Phalangeal Fcps
serrated jaws with 1x2 teeth



Maximum opening with ratchet engaged: 15mm.

gS 46.2320 7"

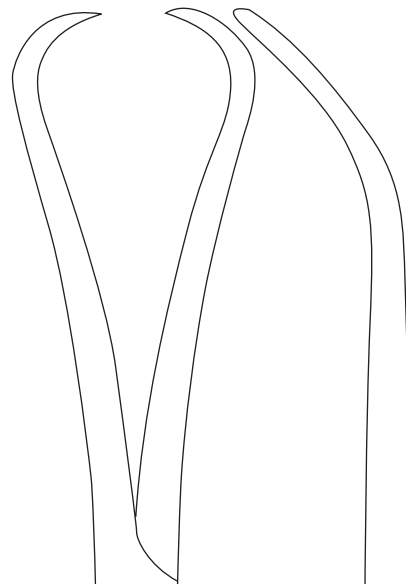
Reill Reduction Forceps
curved jaw



One step-pointed tip.

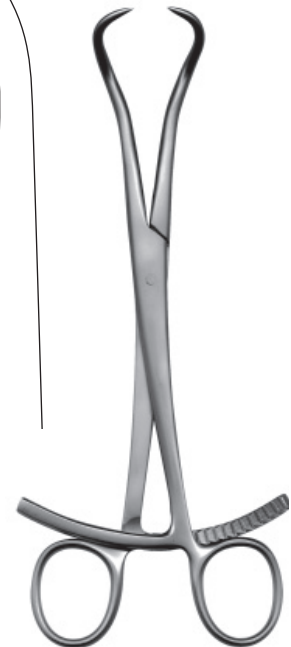
gS 46.2335 7"

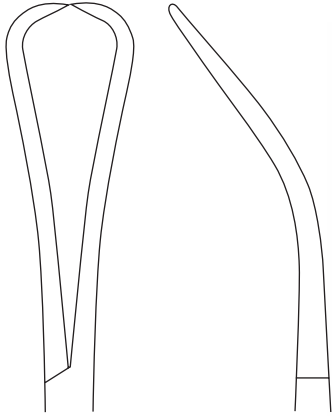
Bone Reduction Forceps
2" double ratchet
opening: 4mm to 45mm



gS 46.2340 8"

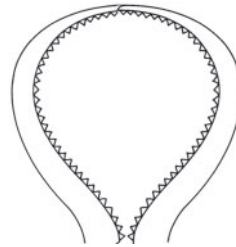
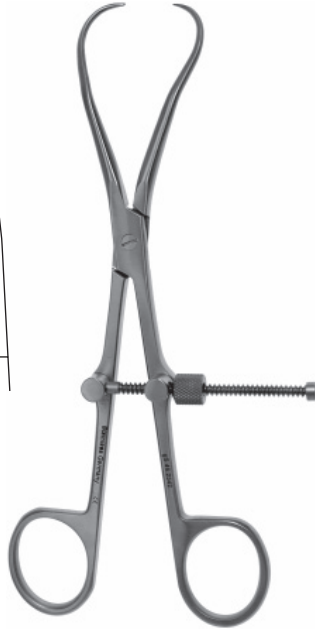
Bone Reduction Forceps
2" double ratchet
opening: 9mm to 100mm





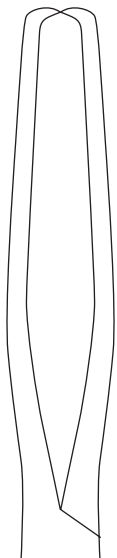
gS 46.2342 8"

Bone Reduction Forceps
with speed lock
max opening: 70mm



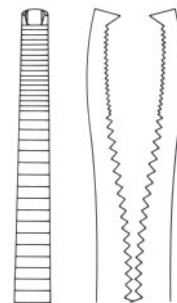
gS 46.2300 7"

Lewin Bone Forceps
slightly curved
overlapping serrated jaws



gS 46.8520 8"

Malleolar Forceps
with speedlock
max opening: 65mm



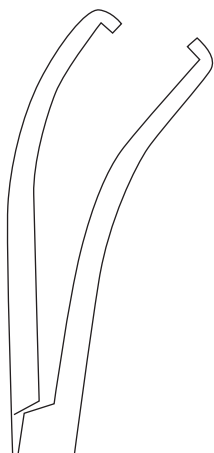
Delicate serrated jaws for
small bone fragments.

gS 46.8910 7 1/2"

Dingman Forceps
angular serrated jaws
2x2 sharp teeth

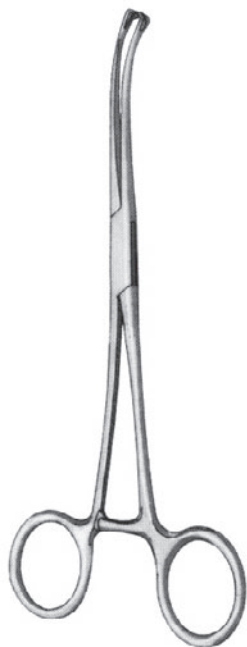


46/6 - bone holding



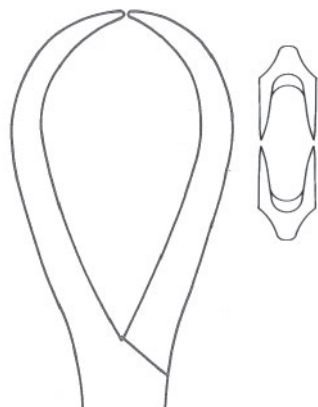
gS 46.8872 6 1/2"

Sesamoidectomy Clamp
curved jaw



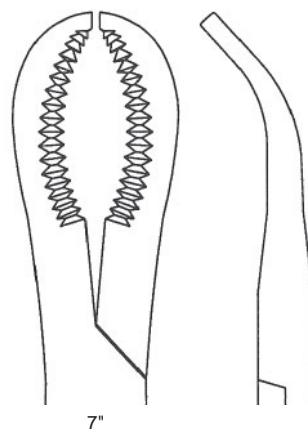
gS 46.8510 8 1/2"

Fibula Forceps
with speedlock
angled tips



gS 46.2310 7"

Patella Forceps
speedlock, 2x2 sharp teeth
max opening: 48mm



gS 46.2407 7" max:28mm

gS 46.2409 9" max:54mm

Bone Holding Forceps
with speedlock
curved serrated jaws





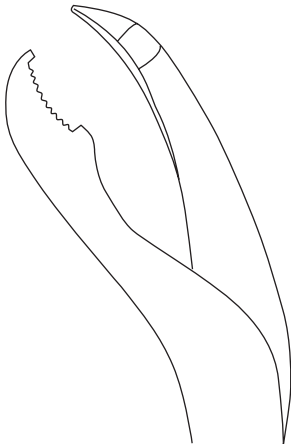
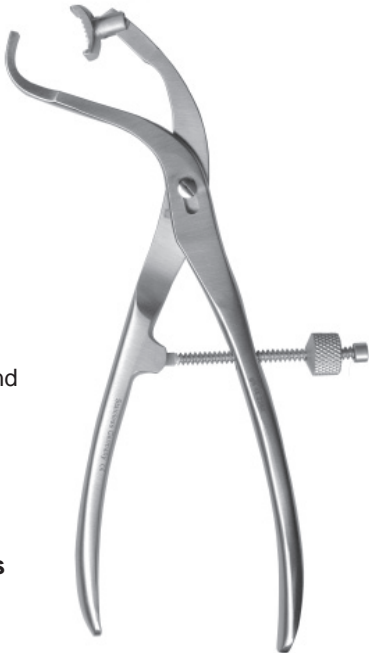
Maximum opening with ratchet engaged: 13mm.

gS 46.2395 5 1/2"
Plate Holding Forceps
curved



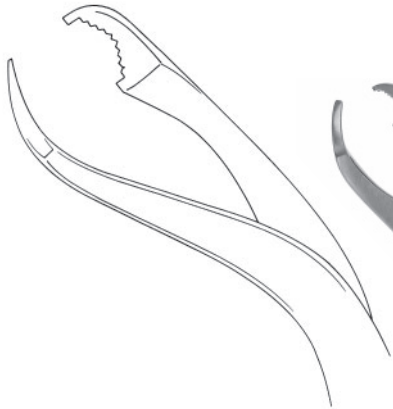
For positioning 2.7mm and 3.5mm plates.

gS 46.2380 7 1/2"
Plate Holding Forceps
with swivel foot



Maximum opening with ratchet engaged: 28mm.

gS 46.1990 6 1/2"
Verbrugge Forceps
reversed jaw
with long ratchet

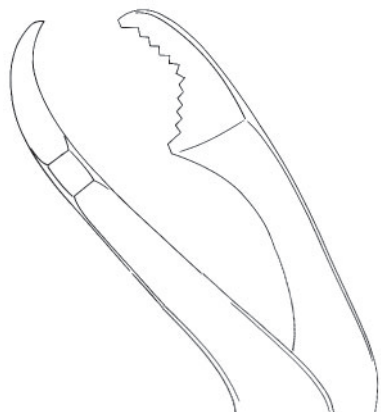


Maximum opening with ratchet engaged: 9mm.

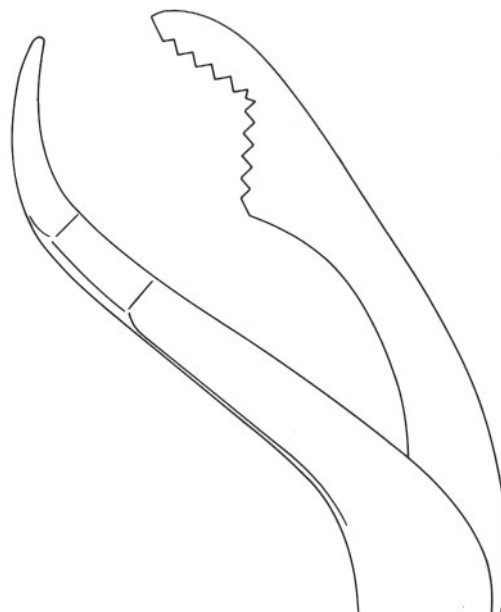
gS 46.2210 7"
Verbrugge Forceps
with short ratchet



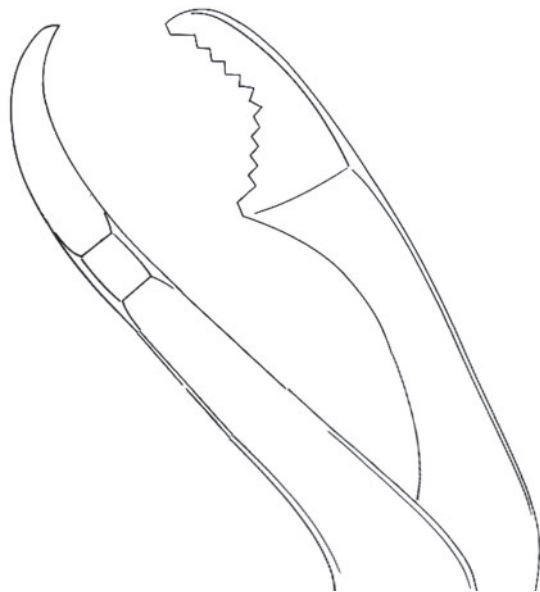
46/8 - bone holding



10"



10 1/2"



11"

**Max opening with
ratchet engaged:**

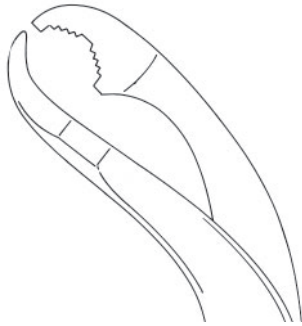
gS 46.2220	10" long ratchet	52mm
gS 46.2240	10 1/2" long ratchet	48mm
gS 46.2260	11" long ratchet	48mm

Verbrugge Forceps





6"



7 1/2"



9 1/2"



10"



11"

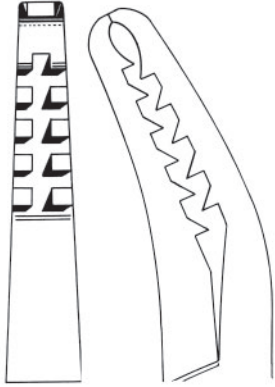


Max opening with ratchet engaged:

gS 46.1900	6"	25mm
gS 46.1920	7 1/2"	45mm
gS 46.1940	9 1/2"	40mm
gS 46.1960	10"	65mm
gS 46.1980	11"	65mm

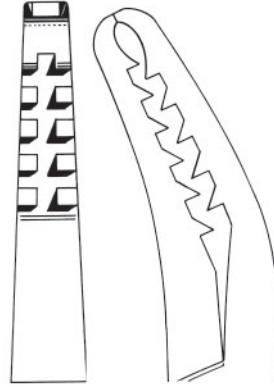
Verbrugge Forceps
self-centering with speedlock

46/10 - bone holding



gS 46.2430 7 1/2"

Semb Bone Forceps
angled on side
deep teeth, without ratchet



gS 46.2432 7 1/2"

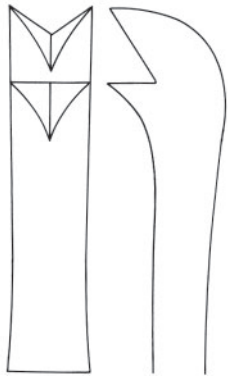
Semb Bone Forceps
angled on side
deep teeth, with ratchet



gS 46.2470 8 1/2"

Van Buren Bone Forceps
angled on side
serrated jaws





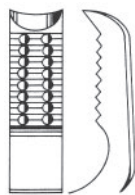
gS 46.2440 8"

Fergusson Bone Forceps
deep 2x2 teeth

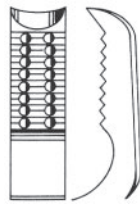


gS 46.2450 8"

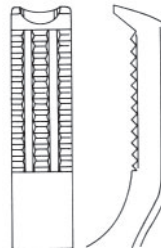
Langenbeck Bone Forceps
partially serrated
2x2 teeth



5 1/2"



6 1/2"



9 1/2"

gS 46.1620 5 1/2" with ratchet
gS 46.1630 6 1/2" with ratchet
gS 46.1640 9 1/2" with ratchet

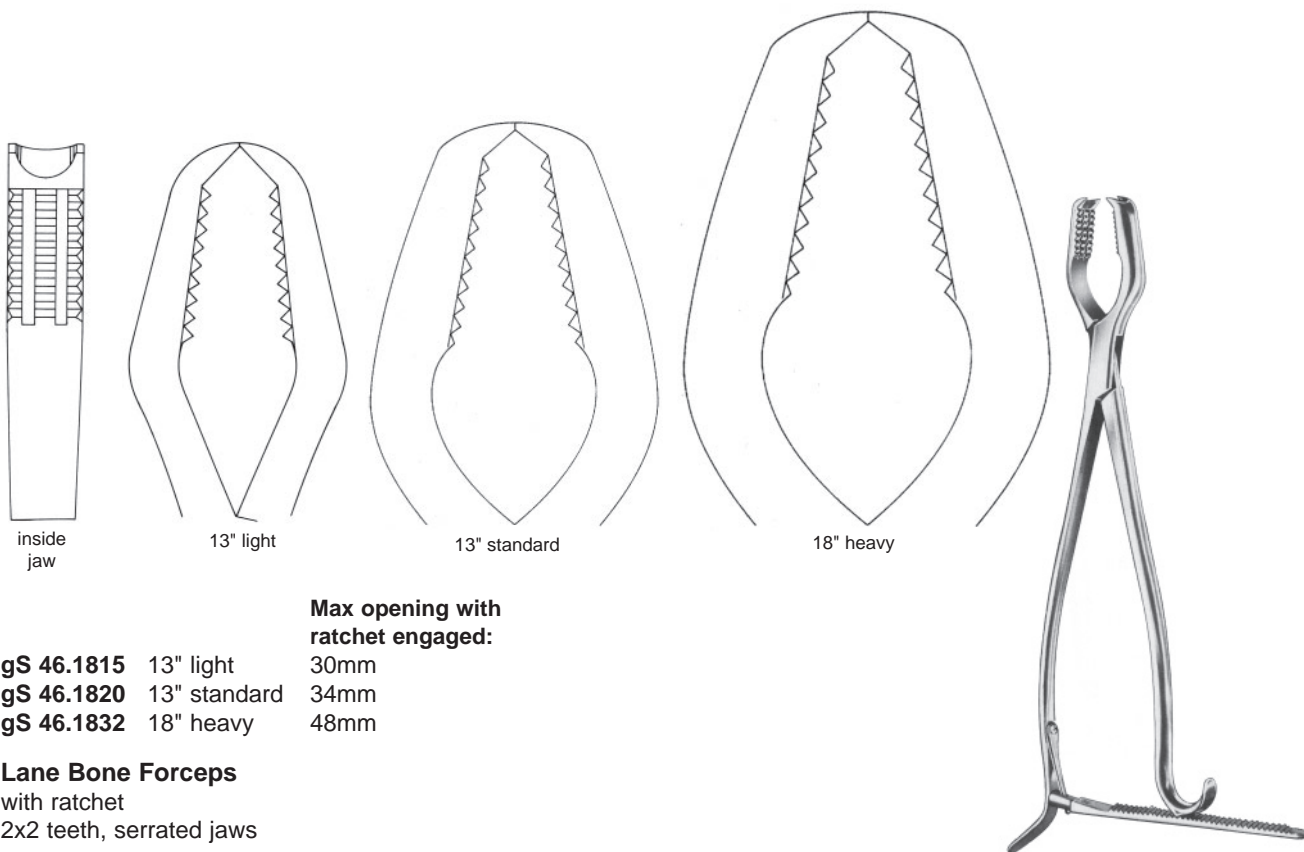
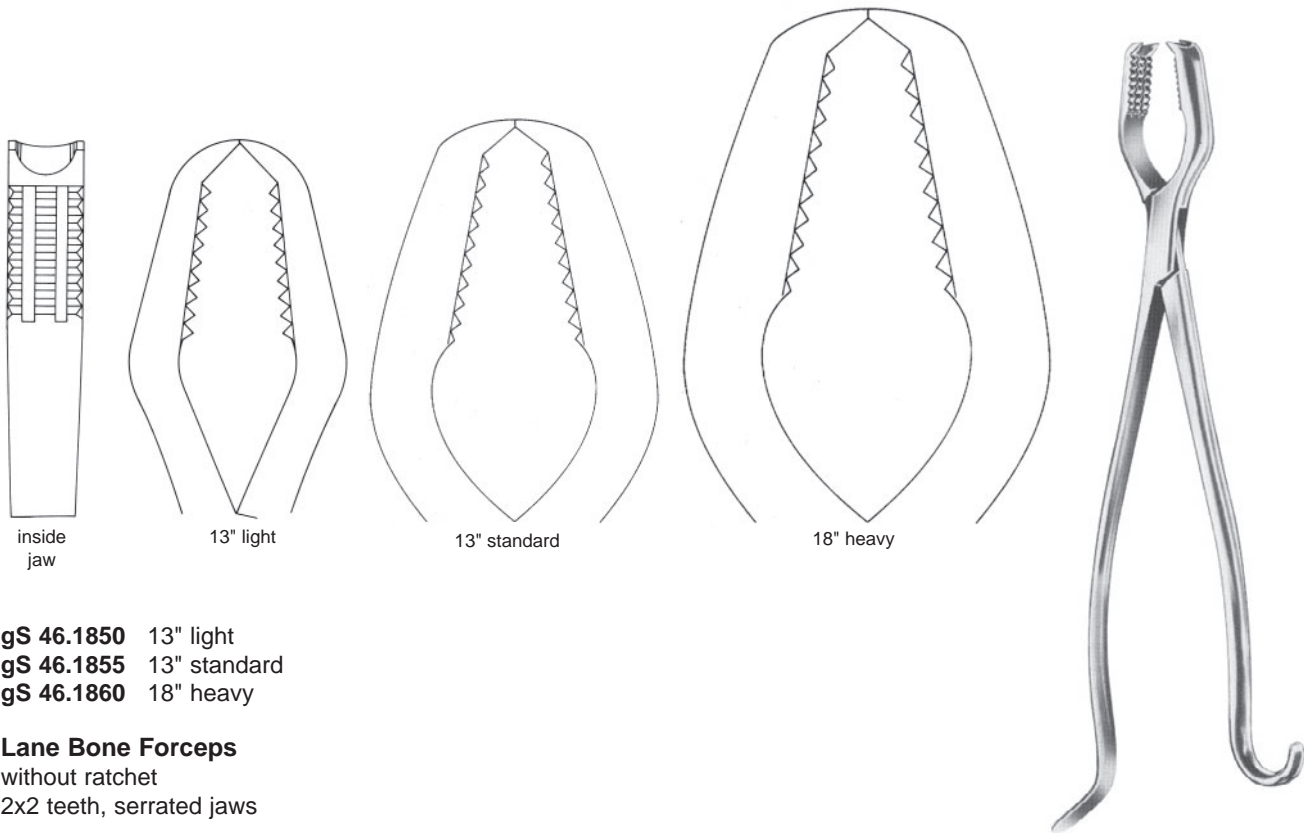
gS 46.1645 5 1/2" without ratchet
gS 46.1650 6 1/2" without ratchet
gS 46.1655 9 1/2" without ratchet

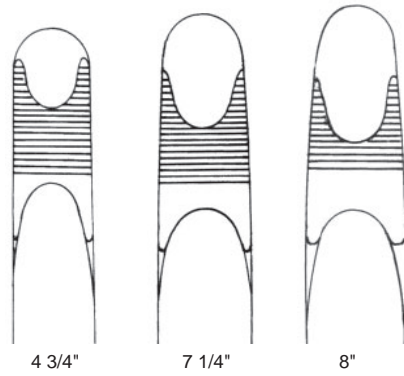
Kern Bone Forceps
serrated jaws
2x2 teeth



shown with ratchet

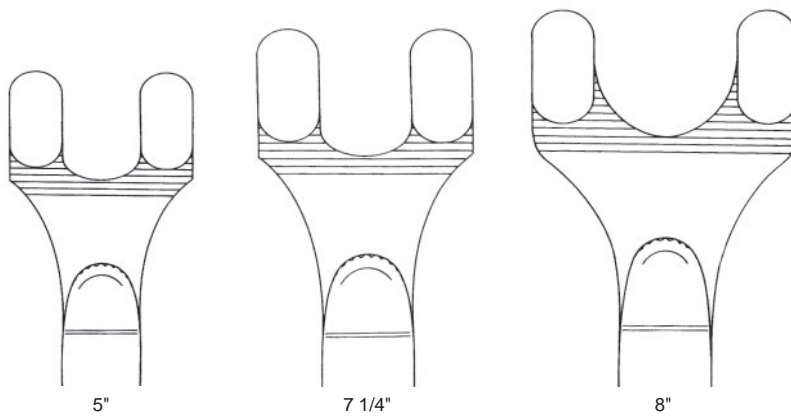
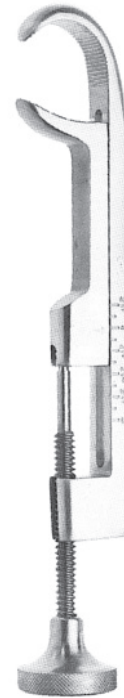
46/12 - bone holding





- gS 46.2650 4 3/4"
- gS 46.2655 7 1/4"
- gS 46.2660 8"

Lowman Bone Clamp
1x1 jaws

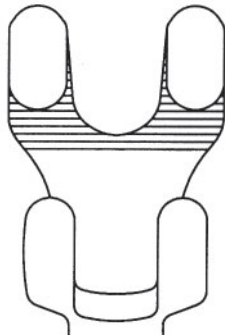


- gS 46.2520 5"
- gS 46.2540 7 1/4"
- gS 46.2560 8"

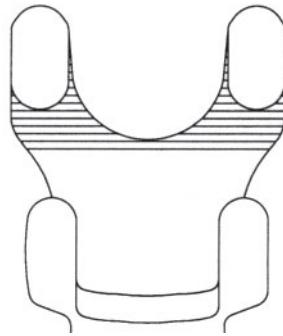
Lowman Bone Clamp
1x2 jaws



46/14 - bone holding



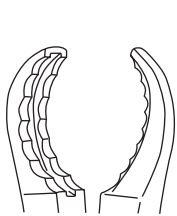
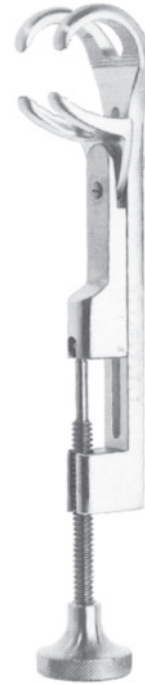
7 1/4"



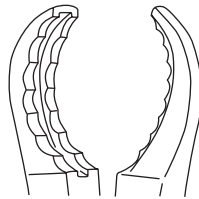
8"

gS 46.4680 7 1/4"
gS 46.4685 8"

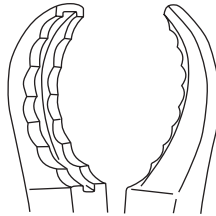
Lambert-Lowman Bone Clamp
2x2 jaws



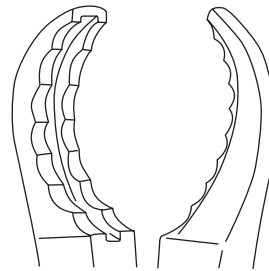
7 1/4"



9"



9 1/2"

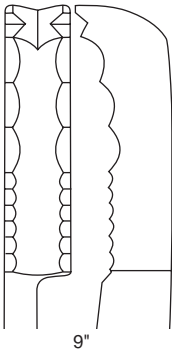


11"

gS 46.2116 7 1/4"
gS 46.2118 9"
gS 46.2120 9 1/2"
gS 46.2122 11"

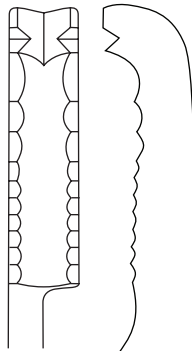
Ulrich Bone Forceps
straight
with speedlock





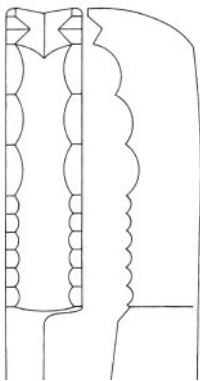
gS 47.1010 9"
gS 47.1015 10"

Farabeuf Forceps
adjustable jaw



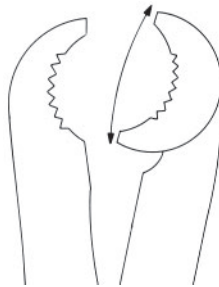
gS 47.0919 7 1/2"

Farabeuf Lambotte Forceps
adjustable jaw with ratchet



gS 47.1020 10 1/2"

Farabeuf Lambotte Forceps
adjustable jaw with ratchet

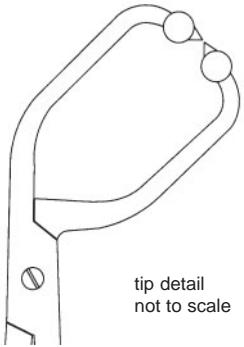


gS 47.1130 8 1/2"
gS 47.1140 10 1/2"
gS 47.1150 11 1/2"

Lambotte Bone Forceps
adjustable jaw with swivel head, with ratchet

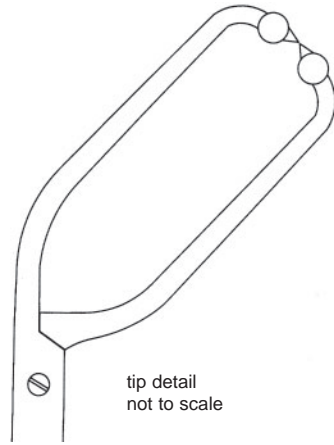
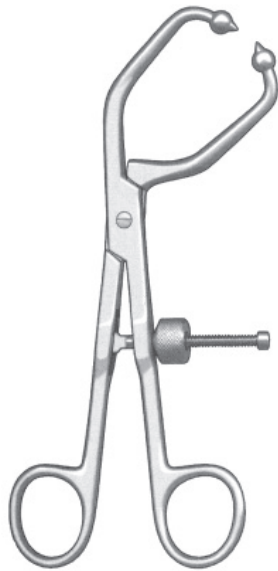


47/2 - bone holding



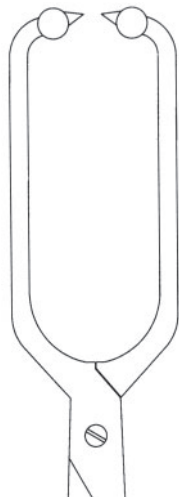
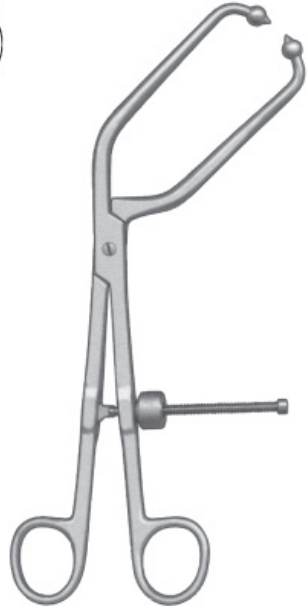
gS 47.6190 7 3/4"

Pelvic Reduction Forceps
angled short pointed ball tips
with speedlock



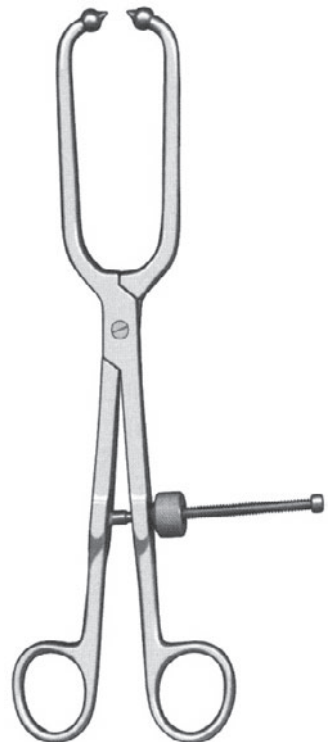
gS 47.6192 9 1/2"

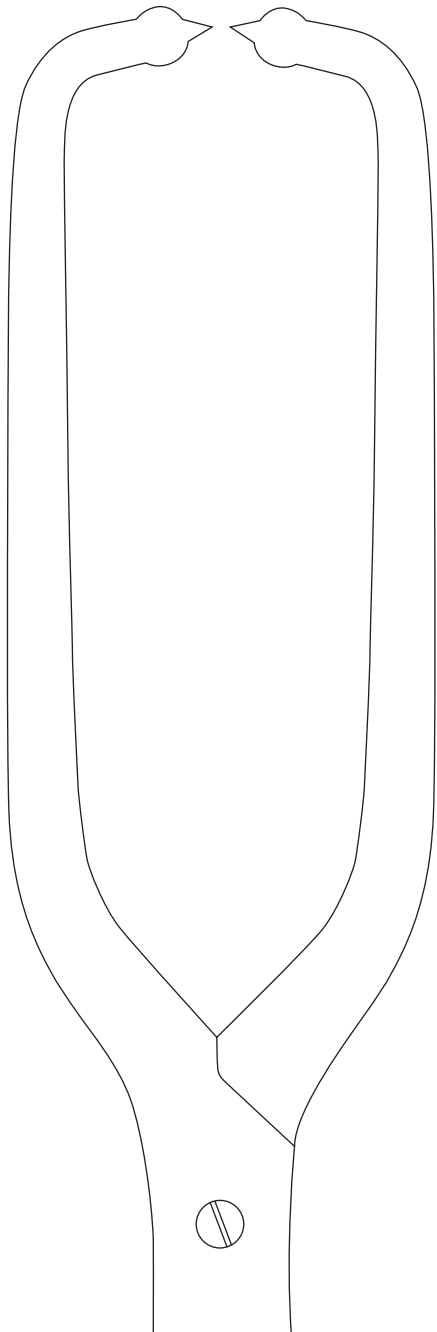
Pelvic Reduction Forceps
angled long pointed ball tips
with speedlock



gS 47.6196 10"

Pelvic Reduction Forceps
straight long pointed ball tips
with speedlock

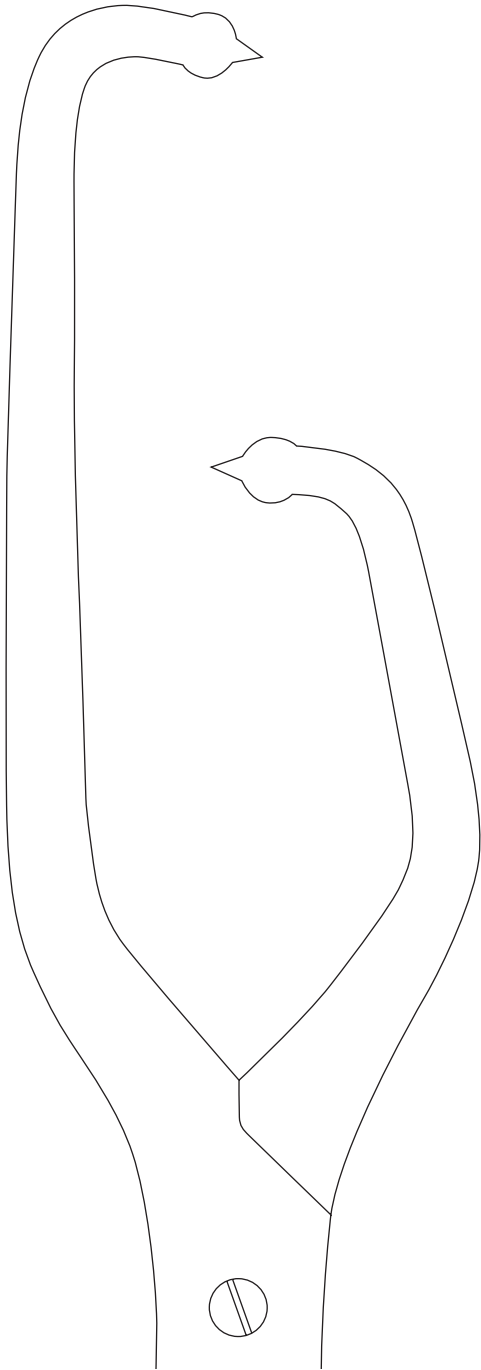




gS 47.6200 16"

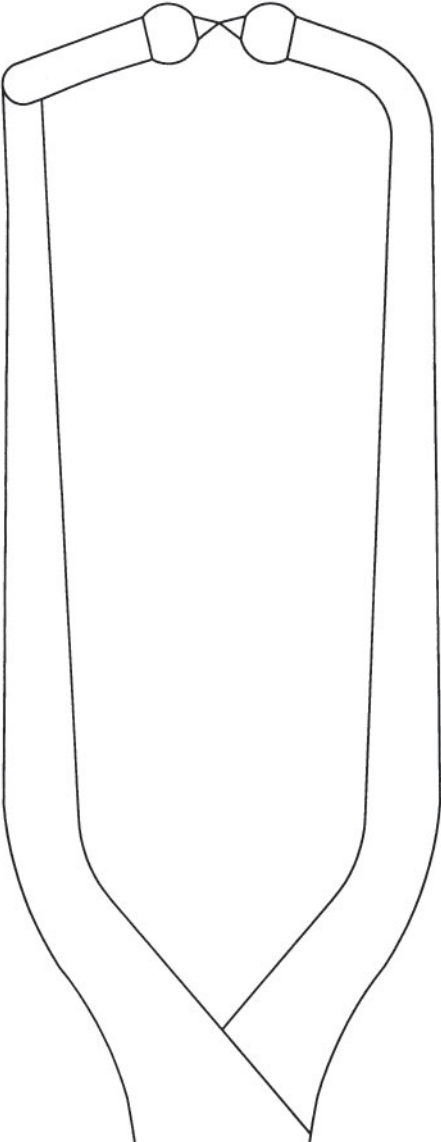
Pelvic Reduction Forceps
straight long pointed ball tips
with speedlock

47/4 - bone holding

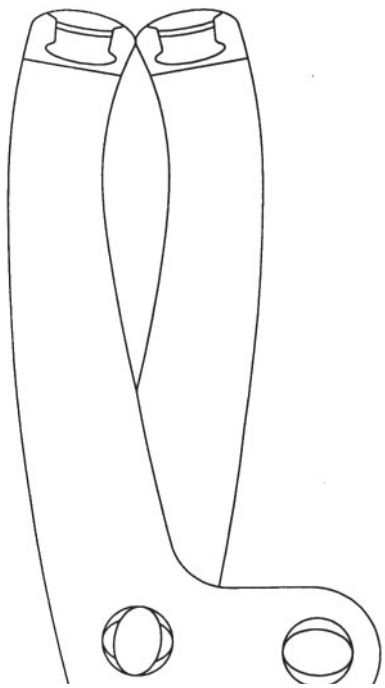


gS 47.6204 16"

Pelvic Reduction Forceps
asymetric pointed ball tips
with speedlock



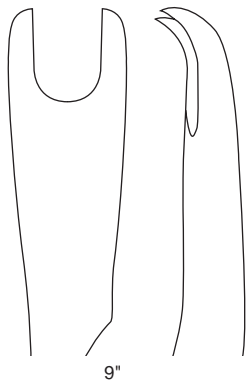
gS 47.6208 16"
Pelvic Reduction Forceps
long 1x2 pointed ball tips
with speedlock



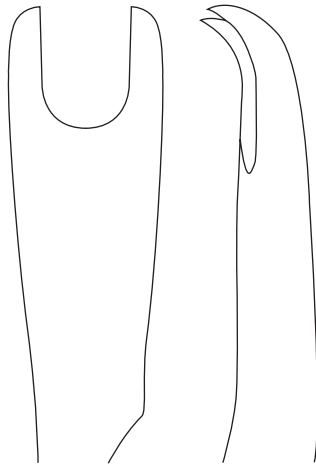
gS 47.6212 13 1/2"
Pelvic Reduction Forceps
adjustable jaw for screws
with speedlock



47/6 - bone holding



9"



12 1/2"



gS 47.1060 9"
gS 47.1064 12 1/2"

Bishop Bone Forceps
adjustable jaw
with ratchet

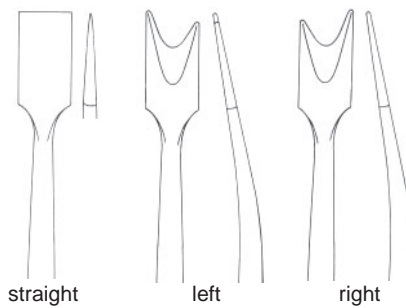
- gS 49.1001** 3mm
- gS 49.1002** 4mm
- gS 49.1003** 5mm
- gS 49.1004** 6mm
- gS 49.1005** 7mm



Bunnell Tendon Stripper
6" with knurled handle



- gS 49.8620** 6 3/4" straight
- gS 49.8660** 6 3/4" curved left
- gS 49.8700** 6 3/4" curved right



Smillie Knife
with "T" grip handle
a.k.a meniscus knife

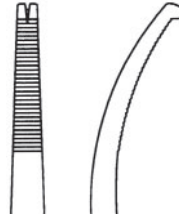


49/2 - cartilage



gS 49.8800 10"

Downing Cartilage Knife
concave edge with guards



gS 49.3180 7 1/4"

**Preston Ligamentum
Flavum Forceps**
angled serrated jaws, 1x2 teeth



gS 49.7151 6"

Tendon Passer
straight
one stepped tip



gS 49.7152 6"

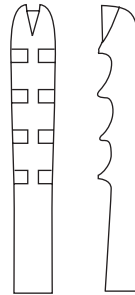
Tendon Passer
curved
one stepped tip





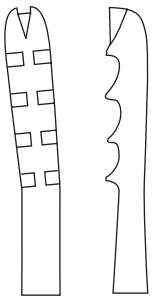
gS 49.2018 7 1/2"

Martin Cartilage Clamp
straight
with teeth



gS 49.2210 8"

Walton Cartilage Clamp
(Bircher-Ganske)
straight with teeth



gS 49.2220 8 1/2"

Walton Cartilage Clamp
(Bircher-Ganske)
slightly curved with teeth



gS 49.8300 5 1/2"

Hoehn Grasping Forceps
serrated
1x2 teeth



49/4 - cartilage

gS 49.8400 4 1/2"

Carroll Tendon Pulling Forceps

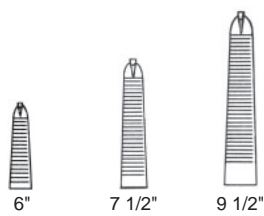
curved shaft
serrated jaws



gS 49.8450 6"
gS 49.8455 7 1/2"
gS 49.8460 9 1/2"

Brand Tendon Pulling Forceps

angled shaft
serrated jaws with 1x2 teeth





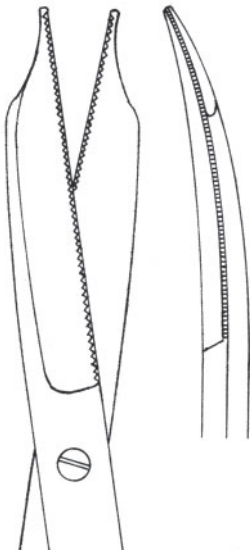
gS 49.8350 8"

Kleinert-Kutz Tendon Retriever
rigid shaft, serrated 1x2



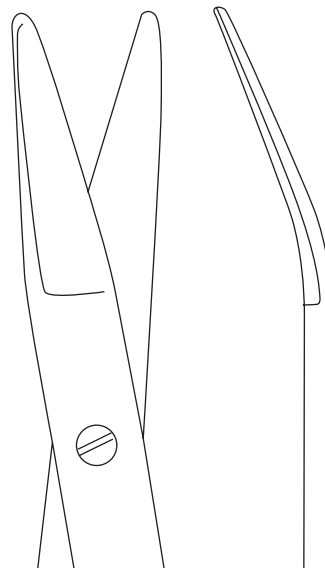
gS 49.8356 8"

Kleinert-Kutz Tendon Retriever
flexible shaft, serrated 1x2



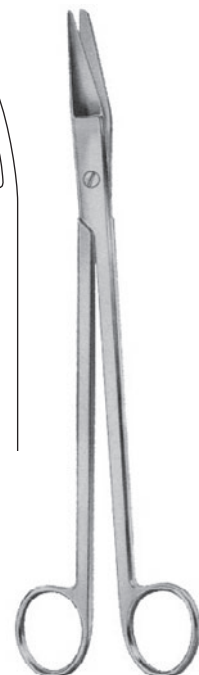
gS 49.9280 8"

Martin Cartilage Scissors
two curved serrated blades



gS 49.9290 9 1/2"

Mueller Capsule Scissors
angular blades



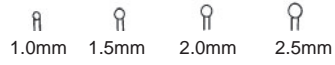
49/6 - cartilage

dermal curettes - 50/1



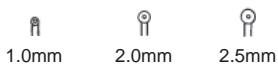
gS 50.5080 5 1/2" 1.5mm / 2.0mm
gS 50.5920 5 1/2" 1.5mm / 2.5mm

Curette Excavator
 double ended
 with holes



gS 50.5590 #57-0 1.0mm
gS 50.5610 #57-1 1.5mm
gS 50.5630 #57-2 2.0mm
gS 50.5650 #57-3 2.5mm

Curette Excavator
 single ended
 without hole



gS 50.5680 #58-0 1.0mm
gS 50.5000 #58-2 2.0mm
gS 50.5040 #58-3 2.5mm

Curette Excavator
 single ended
 with hole



McGlamry Bullneck
 resists bending.

gS 50.5570 5" 4mm
Curette Excavator #4
Verucca
 single ended, without hole

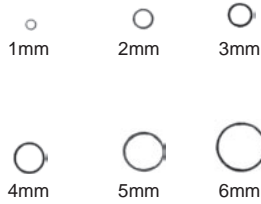


50/2 - dermal curettes

0
0

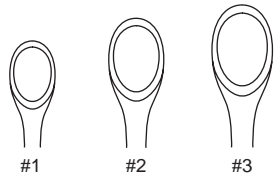
gS 50.4110 5 3/4" slight angle
gS 50.4112 5 3/4" strong angle

House Stapes Curette
double ended
oval cups 1.5mm and 1.7mm



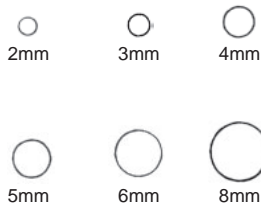
gS 50.5950 5 1/2" 1mm
gS 50.5960 5 1/2" 2mm
gS 50.5970 5 1/2" 3mm
gS 50.5980 5 1/2" 4mm
gS 50.5990 5 1/2" 5mm
gS 50.6000 5 1/2" 6mm

Fox Curette
round



gS 50.6030 5 1/2" #1 small
gS 50.6050 5 1/2" #2 medium
gS 50.6070 5 1/2" #3 large

Piffard Curette
oval



gS 50.6110 4" 2mm
gS 50.6120 4" 3mm
gS 50.6130 4" 4mm
gS 50.6140 4" 5mm
gS 50.6150 4" 6mm
gS 50.6170 4" 8mm

Keyes Punch
round



dermal curettes - 50/3

gS 50.6660 4"

Saalfeld Comedone Extractor

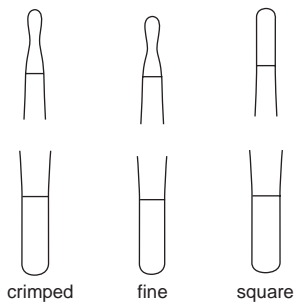
lancet and fenestrated cup



gS 50.6662 5 1/2"

Saalfeld Comedone Extractor

lancet and fenestrated cup



gS 50.6800 3 3/4" crimped

gS 50.6820 3 3/4" fine

gS 50.6840 3 3/4" square

Schamberg Comedone Extractor

fenestrated loops



gS 50.6920 5 3/4"

Unna Comedone Extractor

fenestrated spoon ends



50/4 - dermal curettes

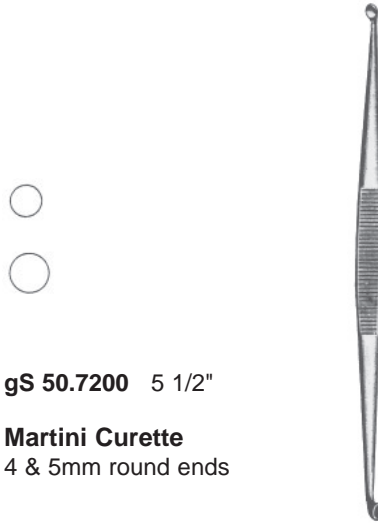
gS 50.7040 6 1/4"

Walton Comedone Extractor
one fenestrated cup
curved lancet with cap



gS 50.7200 5 1/2"

Martini Curette
4 & 5mm round ends



gS 50.7300 5 1/2"

Williger Curette
3 & 4mm oval cups

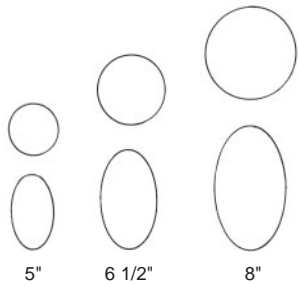


gS 50.7320 6"

Jansen Curette
3 & 4mm oval cups



bone curettes - 51/1



- gS 51.6600** 5"
- gS 51.6620** 6 1/2"
- gS 51.6610** 8"

Volkmann Curette
oval/round

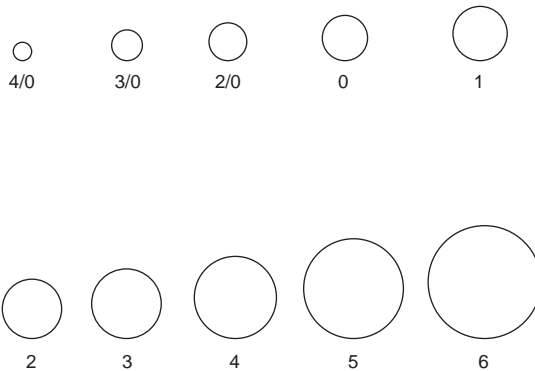


- gS 51.3000** 5"
- gS 51.3020** 5 1/2"
- gS 51.3030** 6 1/2"
- gS 51.3040** 8"

Volkmann Curette
oval/oval



- gS 51.2190** #4/0
- gS 51.2200** #3/0
- gS 51.2210** #2/0
- gS 51.2220** #0
- gS 51.2230** #1
- gS 51.2240** #2
- gS 51.2250** #3
- gS 51.2260** #4
- gS 51.2270** #5
- gS 51.2280** #6



Brun Curette (Spratt)
6 1/4" hollow handle
straight round cups



51/2 - bone curettes



	7"	8"	9"
#6/0	—	—	gS 51.6624
#5/0	gS 51.6110	—	gS 51.6626
#4/0	gS 51.6120	—	gS 51.6628
#3/0	gS 51.6130	gS 51.6478	gS 51.6630
#2/0	gS 51.6150	gS 51.6479	gS 51.6640
#0	gS 51.6170	gS 51.6480	gS 51.6650
#1	gS 51.6190	gS 51.6481	gS 51.6660
#2	gS 51.6210	gS 51.6482	gS 51.6670
#3	gS 51.6230	gS 51.6483	gS 51.6680
#4	gS 51.6250	gS 51.6484	gS 51.6690
#5	gS 51.6290	gS 51.6485	gS 51.6700
#6	gS 51.6310	gS 51.6486	gS 51.6710

Brun Curette
hollow handle
straight oval cups



	7"	8"	9"
#6/0	—	—	gS 51.2070
#5/0	gS 51.6400	—	gS 51.2080
#4/0	gS 51.6401	—	gS 51.2090
#3/0	gS 51.6402	gS 51.6488	gS 51.2100
#2/0	gS 51.6403	gS 51.6489	gS 51.2110
#0	gS 51.6404	gS 51.6490	gS 51.2120
#1	gS 51.6410	gS 51.6491	gS 51.2130
#2	gS 51.6420	gS 51.6492	gS 51.2140
#3	gS 51.6430	gS 51.6493	gS 51.2150
#4	gS 51.6440	gS 51.6494	gS 51.2160
#5	gS 51.6450	gS 51.6495	gS 51.2170
#6	gS 51.6460	gS 51.6496	gS 51.2180

Brun Curette
hollow handle
angled oval cups

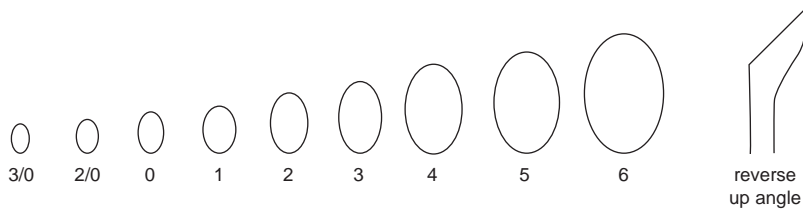


bone curettes - 51/3



- gS 51.2015** #6/0
- gS 51.2017** #5/0
- gS 51.2020** #4/0
- gS 51.2024** #3/0
- gS 51.2027** #2/0
- gS 51.2030** #0
- gS 51.2036** #1
- gS 51.2038** #2

Lempert Curette
8" hollow handle
straight, oval cups

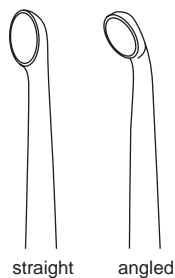
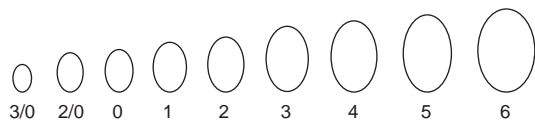


- gS 51.6800** #3/0
- gS 51.6820** #2/0
- gS 51.6840** #0
- gS 51.6851** #1
- gS 51.6852** #2
- gS 51.6853** #3
- gS 51.6854** #4
- gS 51.6855** #5
- gS 51.6856** #6

Epstein Curette
8" hollow handle
reverse up angle oval cups



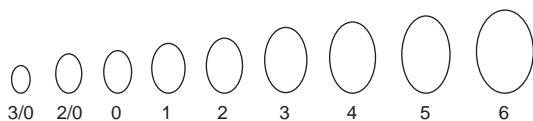
51/4 - bone curettes



	straight	angled
#3/0	gS 51.6510	gS 51.2500
#2/0	gS 51.6520	gS 51.2510
#0	gS 51.6530	gS 51.2520
#1	gS 51.6540	gS 51.2530
#2	gS 51.6550	gS 51.2540
#3	gS 51.6560	gS 51.2550
#4	gS 51.6570	gS 51.2560
#5	gS 51.6580	gS 51.2570
#6	gS 51.6590	gS 51.2580

Brun Curette

9" hex handle
oval cups

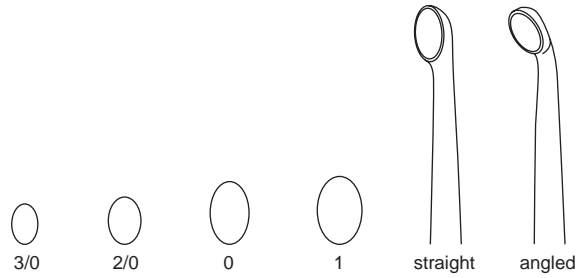


	9"	11"
#3/0	gS 51.4107	gS 51.5107
#2/0	gS 51.4108	gS 51.5108
#0	gS 51.4110	gS 51.5110
#1	gS 51.4111	gS 51.5111
#2	gS 51.4112	gS 51.5112
#3	gS 51.4113	gS 51.5113
#4	gS 51.4114	gS 51.5114
#5	gS 51.4115	gS 51.5115
#6	gS 51.4116	gS 51.5116

Spinal Fusion Curette

knurled handles
straight oval cups

bone curettes - 51/5



	straight	angled
#3/0	gS 51.6862	gS 51.6872
#2/0	gS 51.6863	gS 51.6873
#0	gS 51.6864	gS 51.6874
#1	gS 51.6865	gS 51.6875

Bushe Curette
10" hollow handle
oval cups



gS 51.6883	3mm
gS 51.6884	4mm
gS 51.6885	5mm

Bushe Curette
10" hollow handle
oval cups, reverse up angle

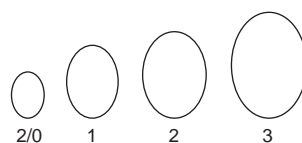


51/6 - bone currettes



gS 51.6740 straight
gS 51.6760 down
gS 51.6780 up (reverse angle)

Scoville Curette
 10" hollow handle
 oval cups



gS 51.6950 #2/0
gS 51.6954 #1
gS 51.6956 #2
gS 51.6958 #3

Volkmann Long Curette
 11" straight, phenolic handle
 oval cups

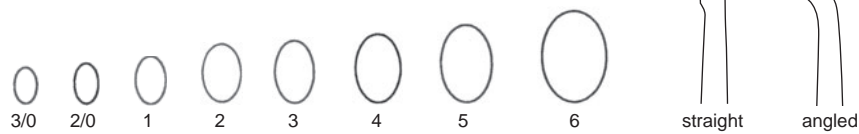


	9"	11"
#3/0	gS 51.4107	gS 51.5107
#2/0	gS 51.4108	gS 51.5108
#0	gS 51.4110	gS 51.5110
#1	gS 51.4111	gS 51.5111
#2	gS 51.4112	gS 51.5112
#3	gS 51.4113	gS 51.5113
#4	gS 51.4114	gS 51.5114
#5	gS 51.4115	gS 51.5115
#6	gS 51.4116	gS 51.5116

Spinal Fusion Curette
 knurled handle
 straight oval cups



bone curettes - 51/7



Lightweight stainless steel handle - weighs 50% less than our standard pattern. (gS 51.5221 - gS 51.5476)

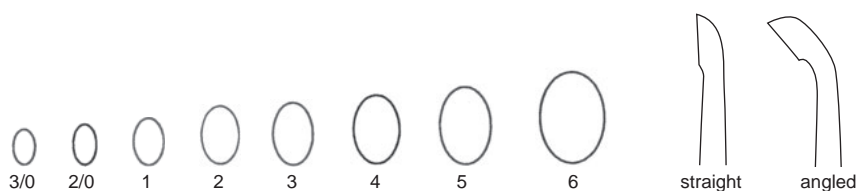
	straight	angled
#3/0	gS 51.5708	gS 51.5808
#2/0	gS 51.5709	gS 51.5809
#0	gS 51.5710	gS 51.5810
#1	gS 51.5711	gS 51.5811
#2	gS 51.5712	gS 51.5812
#3	gS 51.5713	gS 51.5813
#4	gS 51.5714	gS 51.5814
#5	gS 51.5715	gS 51.5815
#6	gS 51.5716	gS 51.5816

Cobb Curette

11" knurled handle
lightweight hollow stainless steel handle, oval cups



51/8 - bone curettes



stainless steel handle

gS 51.5221 straight #3/0
gS 51.5231 straight #2/0
gS 51.5241 straight #0
gS 51.5251 straight #1
gS 51.5261 straight #2
gS 51.5271 straight #3
gS 51.5281 straight #4
gS 51.5291 straight #5
gS 51.5301 straight #6

gS 51.5331 angled #3/0
gS 51.5341 angled #2/0
gS 51.5351 angled #0
gS 51.5361 angled #1
gS 51.5371 angled #2
gS 51.5381 angled #3
gS 51.5391 angled #4
gS 51.5401 angled #5
gS 51.5411 angled #6

aluminum handle

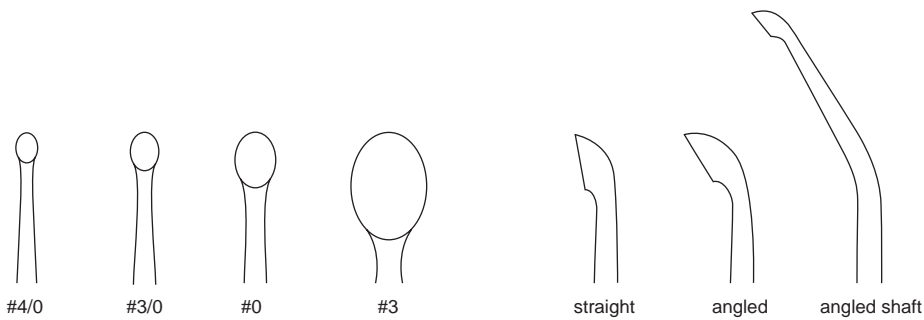
gS 51.5448 straight #3/0
gS 51.5449 straight #2/0
gS 51.5450 straight #0
gS 51.5451 straight #1
gS 51.5452 straight #2
gS 51.5453 straight #3
gS 51.5454 straight #4
gS 51.5455 straight #5
gS 51.5456 straight #6

gS 51.5468 angled #3/0
gS 51.5469 angled #2/0
gS 51.5470 angled #0
gS 51.5471 angled #1
gS 51.5472 angled #2
gS 51.5473 angled #3
gS 51.5474 angled #4
gS 51.5475 angled #5
gS 51.5476 angled #6

Cobb Curette

11" knurled handle
oval cups





straight

gS 51.7512	15"	#4/0
gS 51.7513	15"	#3/0
gS 51.7515	15"	#0
gS 51.7519	15"	#3
gS 51.7543	16"	#3/0
gS 51.7544	16"	#2/0
gS 51.7545	16"	#0

angled

gS 51.7522	15"	#4/0
gS 51.7523	15"	#3/0
gS 51.7525	15"	#0
gS 51.7529	15"	#3
gS 51.7553	16"	#3/0
gS 51.7554	16"	#2/0
gS 51.7555	16"	#0

angled shaft

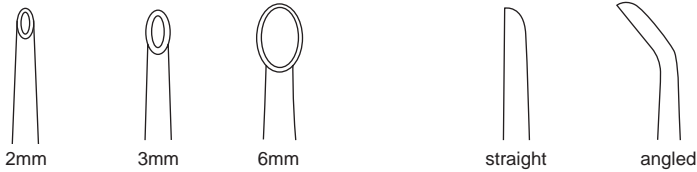
gS 51.7532	16 1/2"	#4/0
gS 51.7533	16 1/2"	#3/0

Sypert Curette

long delicate shaft, phenolic handle
oval cups



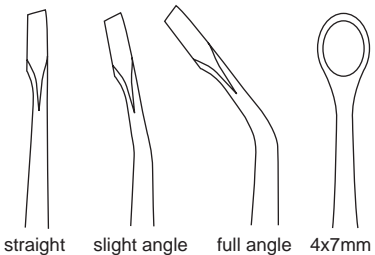
51/10 - bone curettes



- gS 51.7136** 17" straight 3mm
- gS 51.7142** 17" angled 2mm
- gS 51.7144** 17" angled 3mm
- gS 51.7146** 20" angled 3mm
- gS 51.7148** 20" angled 6mm

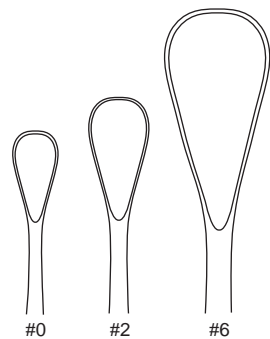
Brun Long Curette
phenolic handle
oval cups





- gS 51.5490** straight
- gS 51.5492** slight angle
- gS 51.5494** full angle

Semmes Ring Curette
 9" hollow handle
 oval fenestrated 4x7mm cup



- gS 51.5620** 10" #0
- gS 51.5622** 10" #2
- gS 51.5626** 10 1/2" #6

- gS 51.5630** 11 1/2" #0
- gS 51.5632** 11 1/2" #2
- gS 51.5636** 12" #6

Ring Curette
 hollow handle, straight
 oval fenestrated cups



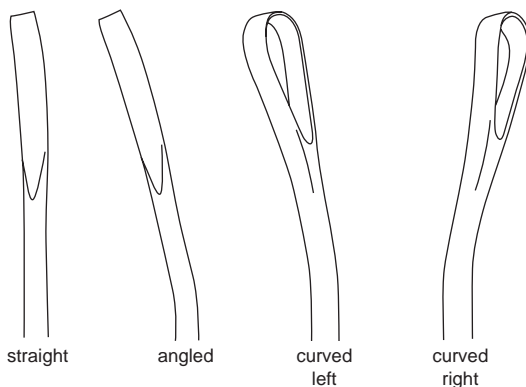
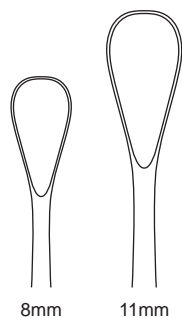
- gS 51.5500** straight #1 4mm
- gS 51.5520** straight #2 7mm
- gS 51.5540** straight #3 9mm

- gS 51.5560** angled #1 4mm
- gS 51.5580** angled #2 7mm
- gS 51.5600** angled #3 9mm

Cone Ring Curette
 9" knurled handle
 round fenestrated cup



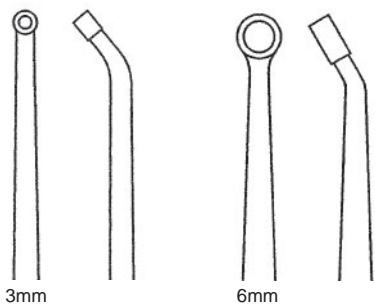
51/12 - bone curettes



gS 51.5640	straight	8mm	
gS 51.5645	straight	11mm	
gS 51.5650	angled 35°	8mm	
gS 51.5655	angled 35°	11mm	
gS 51.5660	angled 35°	8mm	right curved shaft
gS 51.5665	angled 35°	11mm	right curved shaft
gS 51.5670	angled 35°	8mm	left curved shaft
gS 51.5675	angled 35°	11mm	left curved shaft

Zielke Ring Curette

13 1/2" ergonomic plastic handle
oval fenestrated cups



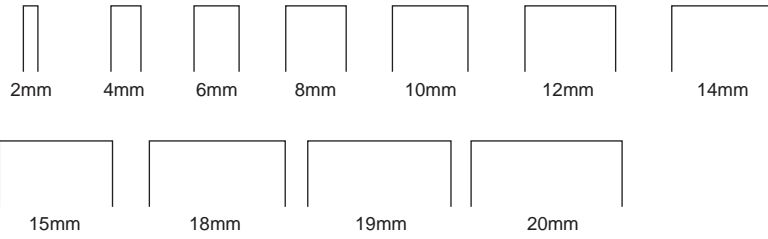
gS 51.5682	17" angled 40°	3mm
gS 51.5684	20" angled 30°	6mm

Cone Ring Curette

phenolic handle
round fenestrated cups

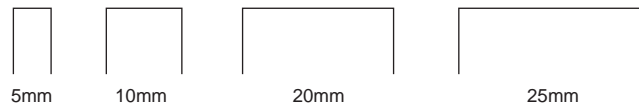


osteotomes - 52-53/1



straight		curved	
gS 52.4355	2mm	gS 52.4472	4mm
gS 52.4360	4mm	gS 52.4473	6mm
gS 52.4380	6mm	gS 52.4474	8mm
gS 52.4400	8mm	gS 52.4475	10mm
gS 52.4420	10mm	gS 52.4477	12mm
gS 52.4440	12mm	gS 52.4476	14mm
gS 52.4430	14mm	gS 52.4478	15mm
gS 52.4450	15mm	gS 52.4479	18mm
gS 52.4460	18mm	gS 52.4480	19mm
gS 52.4470	19mm		
gS 52.4350	20mm		

Mini Lambotte Osteotome
5"

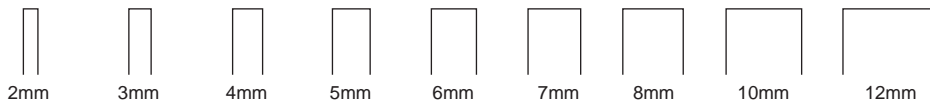


gS 52.0400	str	10mm
gS 52.0460	str	20mm
gS 52.0500	str	25mm
gS 52.0700	cvd	5mm
gS 52.0750	cvd	10mm

Long Bevel Osteotome
7" with calibration lines
long bevelled cutting end



52-53/2 - osteotomes

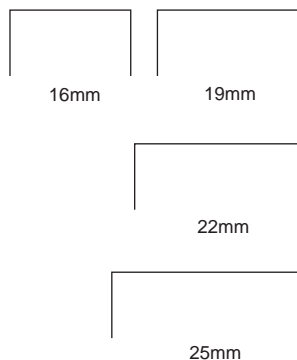


straight

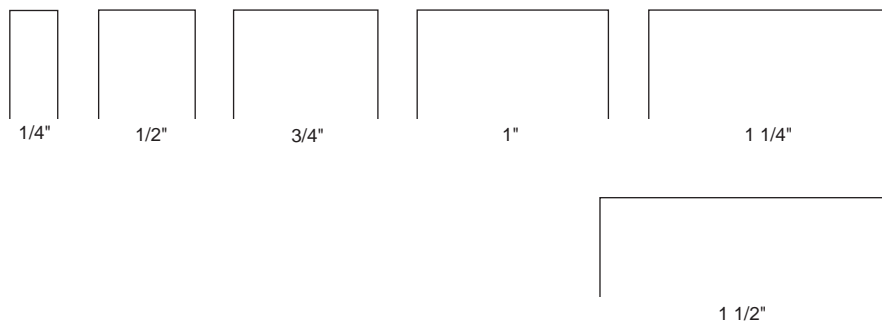
gS 52.4495	2mm
gS 52.4496	3mm
gS 52.4498	4mm
gS 52.4499	5mm
gS 52.4500	6mm
gS 52.4507	7mm
gS 52.4508	8mm
gS 52.4510	10mm
gS 52.4520	12mm
gS 52.4530	16mm
gS 52.4540	19mm
gS 52.4550	22mm
gS 52.4560	25mm

curved

gS 52.3903	3mm
gS 52.3904	4mm
gS 52.3905	5mm
gS 52.3906	6mm
gS 52.3907	7mm
gS 52.3908	8mm
gS 52.3910	10mm
gS 52.3912	12mm
gS 52.3916	16mm
gS 52.3919	19mm
gS 52.3922	22mm
gS 52.3925	25mm



Lambotte Osteotome
7"
with calibration lines



straight

gS 52.4040	1/4" (6mm)
gS 52.4060	1/2" (13mm)
gS 52.4100	3/4" (19mm)
gS 52.4140	1" (25mm)
gS 52.4180	1 1/4" (32mm)
gS 52.4220	1 1/2" (38mm)

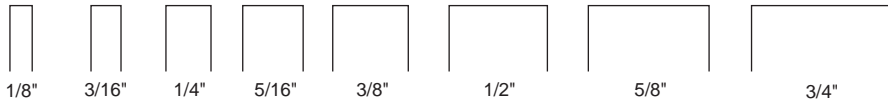
curved

gS 52.4280	1/4" (6mm)
gS 52.4290	1/2" (13mm)
gS 52.4300	3/4" (19mm)
gS 52.4310	1" (25mm)
gS 52.4320	1 1/4" (32mm)
gS 52.4330	1 1/2" (38mm)

Lambotte Osteotome
9"



osteotomes - 52-53/3

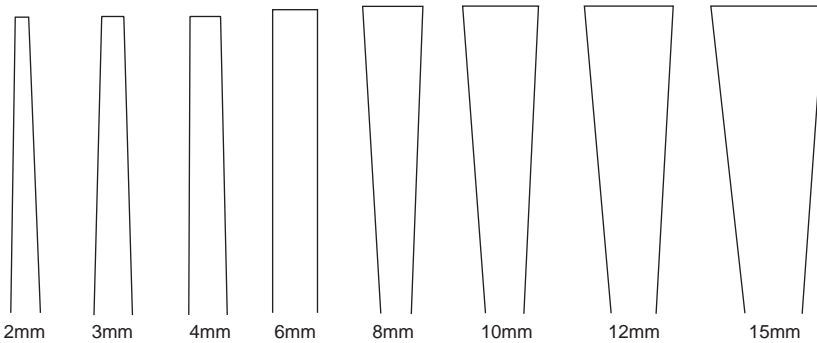


	straight		curved
gS 52.5970	1/8" (3mm)	gS 52.6053	1/8" (3mm)
gS 52.5980	3/16" (4mm)	gS 52.6054	3/16" (4mm)
gS 52.5990	1/4" (6mm)	gS 52.6056	1/4" (6mm)
gS 52.6000	5/16" (8mm)	gS 52.6058	5/16" (8mm)
gS 52.6010	3/8" (10mm)	gS 52.6060	3/8" (10mm)
gS 52.6020	1/2" (13mm)	gS 52.6063	1/2" (13mm)
gS 52.6030	5/8" (16mm)	gS 52.6066	5/8" (16mm)
gS 52.6040	3/4" (19mm)	gS 52.6069	3/4" (19mm)

Hoke Osteotome

5 1/4"

hexagonal handle



gS 52.3680	2mm
gS 52.3690	3mm
gS 52.3700	4mm
gS 52.3720	6mm
gS 52.3740	8mm
gS 52.3760	10mm
gS 52.3780	12mm
gS 52.3800	15mm

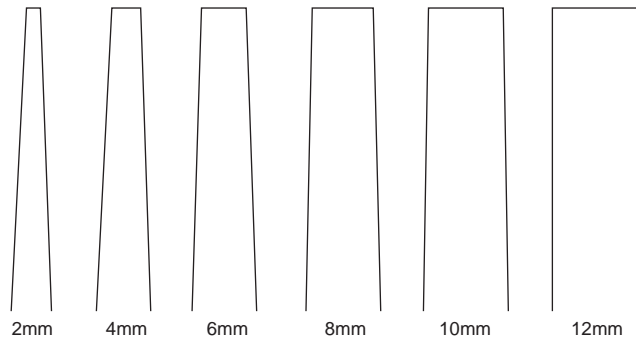
Sheehan Osteotome

6 1/4", straight

hexagonal handle



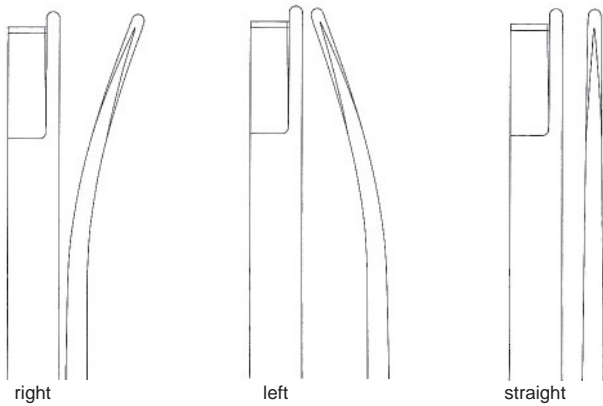
52-53/4 - osteotomes



- gS 52.4902** 2mm
- gS 52.4904** 4mm
- gS 52.4906** 6mm
- gS 52.4908** 8mm
- gS 52.4910** 10mm
- gS 52.4912** 12mm

Converse Osteotome

7"
straight

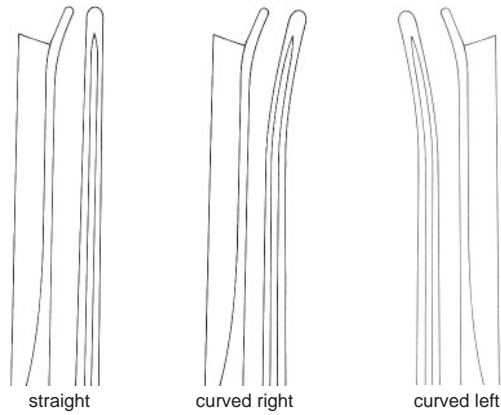


- gS 52.1220** 8" curved right guard
- gS 52.1222** 8" curved left guard
- gS 52.1318** 7 1/4" straight with guard

Anderson-Neivert Osteotome

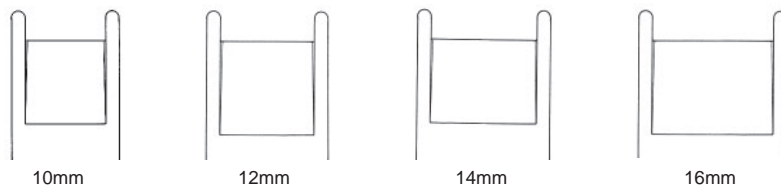
single guard
4mm





- gS 52.0300** straight with guard
- gS 52.0301** curved right with guard
- gS 52.0302** curved left with guard

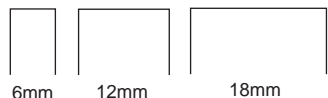
Silver Osteotome
7" with single guard



- gS 52.0310** str 10mm
- gS 52.0311** str 12mm
- gS 52.0312** str 14mm
- gS 52.0313** str 16mm

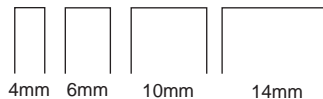
Cinelli Osteotome
6 1/2" double guard

52-53/6 - osteotomes



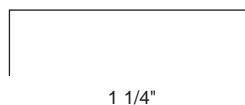
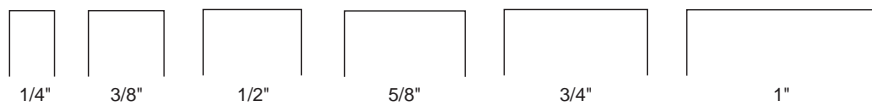
- gS 52.3840** 6mm
- gS 52.3860** 12mm
- gS 52.3880** 18mm

Army Pattern Osteotome
6 1/2"
straight



- gS 52.1008** 4mm
- gS 52.1010** 6mm
- gS 52.1020** 10mm
- gS 52.1040** 14mm
- gS 52.1060** 18mm
- gS 52.1080** 22mm

Stille Osteotome
8"
straight



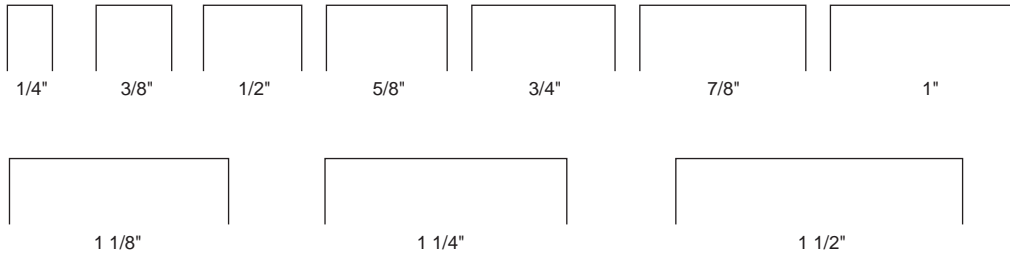
- | | straight | |
|-------------------|----------|--------|
| gS 52.5480 | 1/4" | (6mm) |
| gS 52.5490 | 3/8" | (10mm) |
| gS 52.5500 | 1/2" | (13mm) |
| gS 52.5510 | 5/8" | (16mm) |
| gS 52.5520 | 3/4" | (19mm) |
| gS 52.5530 | 1" | (25mm) |
| gS 52.5540 | 1 1/4" | (32mm) |

- | | curved | |
|-------------------|--------|--------|
| gS 52.5570 | 1/4" | (6mm) |
| gS 52.5580 | 3/8" | (10mm) |
| gS 52.5590 | 1/2" | (13mm) |
| gS 52.5600 | 5/8" | (16mm) |
| gS 52.5610 | 3/4" | (19mm) |
| gS 52.5620 | 1" | (25mm) |
| gS 52.5630 | 1 1/4" | (32mm) |

Smith Peterson Osteotome
8"
solid handle

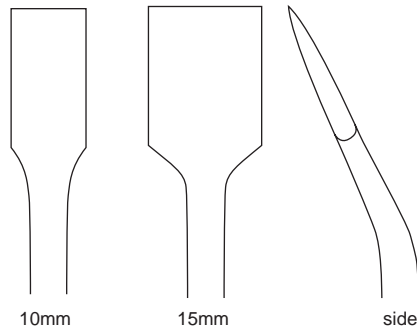


osteotomes - 52-53/7



straight			curved		
gS 52.4590	1/4"	(6mm)	gS 52.4730	1/4"	(6mm)
gS 52.4600	3/8"	(10mm)	gS 52.4760	3/8"	(10mm)
gS 52.4610	1/2"	(13mm)	gS 52.4770	1/2"	(13mm)
gS 52.4620	5/8"	(16mm)	gS 52.4780	5/8"	(16mm)
gS 52.4630	3/4"	(19mm)	gS 52.4790	3/4"	(19mm)
gS 52.4640	7/8"	(22mm)	gS 52.4800	7/8"	(22mm)
gS 52.4650	1"	(25mm)	gS 52.4810	1"	(25mm)
gS 52.4660	1 1/8"	(29mm)	gS 52.4820	1 1/8"	(29mm)
gS 52.4670	1 1/4"	(32mm)	gS 52.4830	1 1/4"	(32mm)
gS 52.4680	1 1/2"	(38mm)	gS 52.4840	1 1/2"	(38mm)

Hibbs Osteotome
 9 1/2"
 solid hexagonal handle

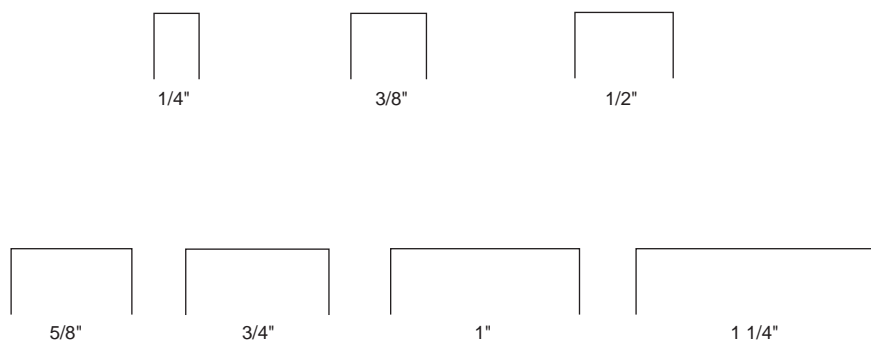


gS 53.4410 10mm
gS 53.4415 15mm

Lexer Osteotome
 11"
 angled shaft, phenolic handle



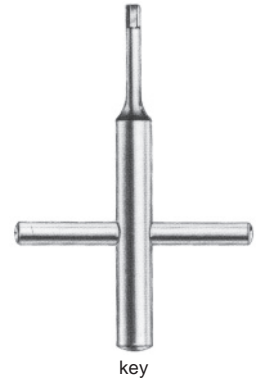
52-53/8 - osteotomes



	straight		curved
gS 53.4500	1/4" (6mm)	gS 53.4570	1/4" (6mm)
gS 53.4510	3/8" (10mm)	gS 53.4580	3/8" (10mm)
gS 53.4520	1/2" (13mm)	gS 53.4590	1/2" (13mm)
gS 53.4530	5/8" (16mm)	gS 53.4600	5/8" (16mm)
gS 53.4540	3/4" (19mm)	gS 53.4610	3/4" (19mm)
gS 53.4550	1" (25mm)	gS 53.4620	1" (25mm)
gS 53.4560	1 1/4" (32mm)	gS 53.4630	1 1/4" (32mm)

Cobb Osteotome
11"
knurled stainless steel handle

osteotomes - 52-53/9



chisel blade

- gS 52.0105** 5mm
- gS 52.0106** 10mm
- gS 52.0107** 16mm
- gS 52.0108** 25mm

osteotome blade

- gS 52.0110** 5mm
- gS 52.0111** 10mm
- gS 52.0112** 16mm
- gS 52.0113** 25mm



- gS 52.0100** handle only
- gS 52.0101** key only
- gS 52.0102** replacement screw only

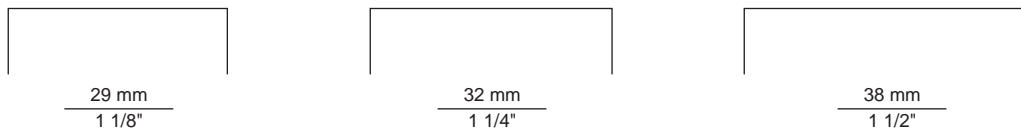
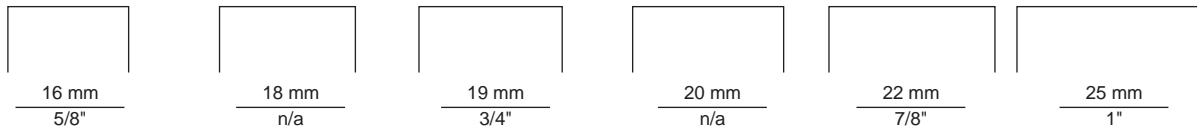
Interchangeable Osteotome and Chisel

7"

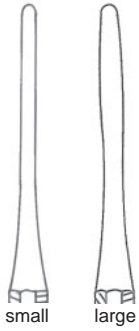
phenolic handle



52-53/10 - osteotomes

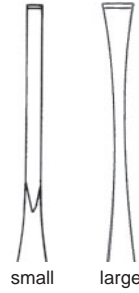


Size Conversion Chart



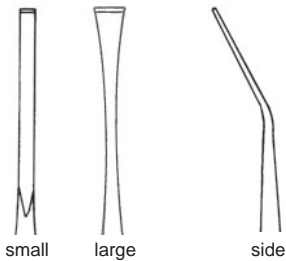
gS 54.6240 #71 small
gS 54.6280 #73 large

Nucleus Knife
5 1/4" straight, single ended
blunt blade



gS 54.6570 #59 small
gS 54.6600 #61 large

Nail Splitter
5" straight, single ended
sharp blade



gS 54.6620 #60 small
gS 54.6680 #62 large

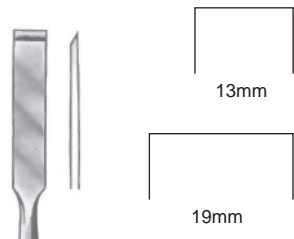
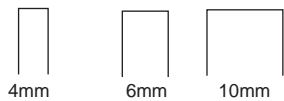
Nail Splitter
5" angled, single ended
sharp blade



gS 54.7500
Chisel Spade
5 1/4" curved edge
single ended

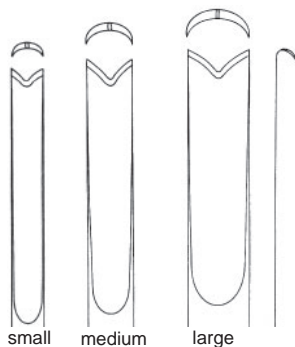


54/2 - chisels



- gS 54.6050** 4mm
- gS 54.6060** 6mm
- gS 54.6070** 10mm
- gS 54.6080** 13mm
- gS 54.6090** 19mm

Hoke Chisel
5 1/4" straight

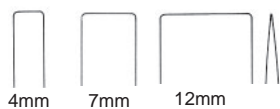


- gS 54.1090** small 4mm
- gS 54.1092** medium 6mm
- gS 54.1094** large 8mm

Hajek Septum Chisel
6" straight
sharp "V" edge

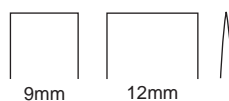
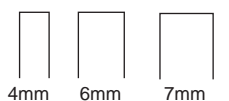
Tapered osteotome end.

Serrated tamp end.



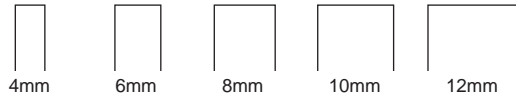
- gS 54.1085** 4mm
- gS 54.1086** 7mm
- gS 54.1087** 12mm

Cottle Septum Chisel
7" straight tapered end
graduation lines



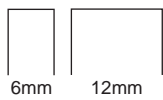
- gS 54.2004** str 4mm
- gS 54.2007** str 7mm
- gS 54.2009** str 9mm
- gS 54.2012** str 12mm
- gS 54.2106** cvd 6mm

Cottle Septum Chisel
7" tapered end
graduation lines



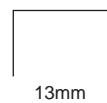
- gS 54.3600** 4mm
- gS 54.3620** 6mm
- gS 54.3640** 8mm
- gS 54.3660** 10mm
- gS 54.3680** 12mm

Lexer-Mini Chisel
7" straight
phenolic handle



- gS 54.3890** 6mm
- gS 54.3900** 12mm
- gS 54.3910** 18mm

Army Pattern Chisel
6 1/2"

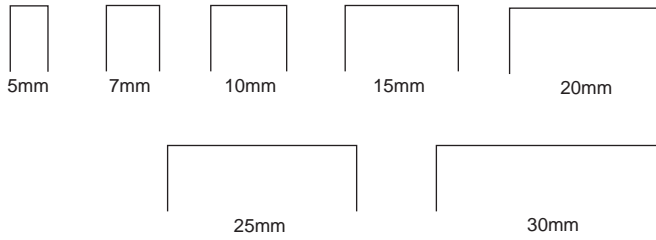


- gS 54.3213** 13mm

D'Errico Lamina Chisel
7 1/2" straight

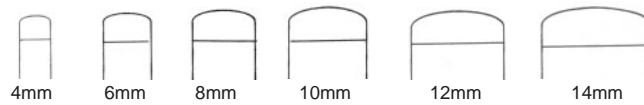


54/4 - chisels



- gS 54.3460** 5mm
- gS 54.3480** 7mm
- gS 54.3500** 10mm
- gS 54.3520** 15mm
- gS 54.3540** 20mm
- gS 54.3560** 25mm
- gS 54.3580** 30mm

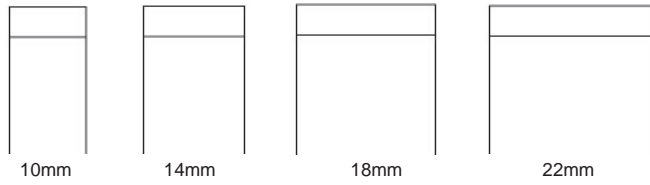
Lexer Chisel
8 1/2" straight
phenolic handle



- gS 54.1400** 4mm
- gS 54.1410** 6mm
- gS 54.1420** 8mm
- gS 54.1430** 10mm
- gS 54.1440** 12mm
- gS 54.1450** 14mm

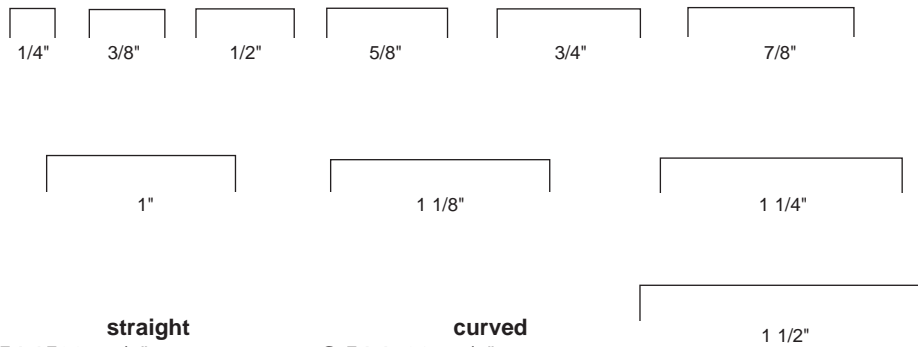
Alexander Chisel
7" straight chisel
rounded edge





- gS 54.1100** 10mm
- gS 54.1120** 14mm
- gS 54.1140** 18mm
- gS 54.1160** 22mm

Stille Type Chisel
8"
straight edge

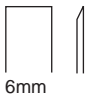


- | | straight | | curved |
|-------------------|----------|-------------------|--------|
| gS 54.1590 | 1/4" | gS 54.1730 | 1/4" |
| gS 54.1600 | 3/8" | gS 54.1740 | 3/8" |
| gS 54.1610 | 1/2" | gS 54.1750 | 1/2" |
| gS 54.1620 | 5/8" | gS 54.1760 | 5/8" |
| gS 54.1630 | 3/4" | gS 54.1770 | 3/4" |
| gS 54.1640 | 7/8" | gS 54.1780 | 7/8" |
| gS 54.1650 | 1" | gS 54.1790 | 1" |
| gS 54.1660 | 1 1/8" | gS 54.1800 | 1 1/8" |
| gS 54.1670 | 1 1/4" | gS 54.1810 | 1 1/4" |
| gS 54.1680 | 1 1/2" | gS 54.1820 | 1 1/2" |

Hibbs Chisel
9"
solid hexagonal handle

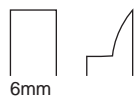


54/6 - chisels



gS 54.1906 6mm

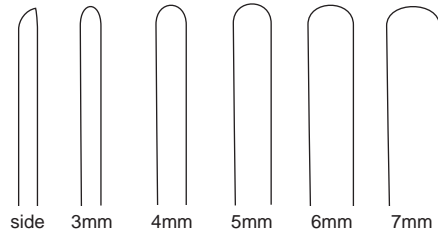
Spinal Fusion Chisel
9 1/2" straight
knurled handle



gS 54.1920 6mm

Harmon Chisel
10" with stepped edge
knurled handle

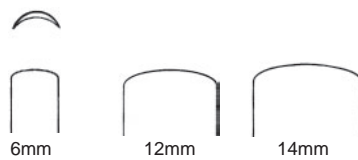




- gS 56.0003** 5 1/2" 3mm
- gS 56.0004** 5 1/2" 4mm
- gS 56.0005** 5 1/2" 5mm
- gS 56.0006** 5 1/2" 6mm

- gS 56.0013** 6 1/2" 3mm
- gS 56.0014** 6 1/2" 4mm
- gS 56.0015** 6 1/2" 5mm
- gS 56.0016** 6 1/2" 6mm
- gS 56.0017** 6 1/2" 7mm

Partsch Gouge
straight gouge
rounded edge

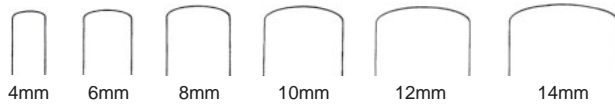


- gS 56.3920** 6mm
- gS 56.3930** 12mm
- gS 56.3940** 14mm

Army Pattern Gouge
6 1/2" straight gouge
rounded edge

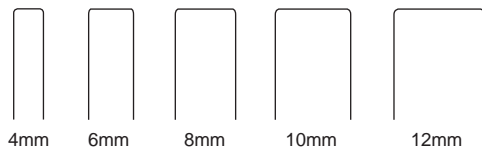


56/2 - gouges



- gS 56.1500** 4mm
- gS 56.1510** 6mm
- gS 56.1520** 8mm
- gS 56.1530** 10mm
- gS 56.1540** 12mm
- gS 56.1550** 14mm

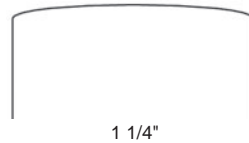
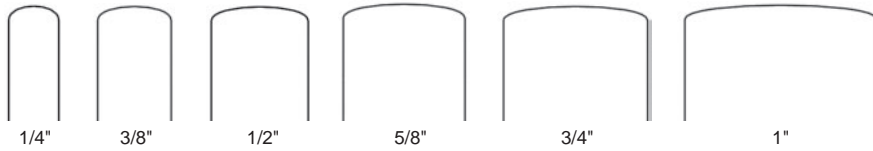
Alexander Gouge
7" straight gouge
rounded edge



- gS 56.0104** 4mm
- gS 56.0106** 6mm
- gS 56.0108** 8mm
- gS 56.0110** 10mm
- gS 56.0112** 12mm

Mini Lexer Gouge
7" straight gouge
phenolic handle





	straight		curved
gS 56.5660	1/4"	gS 56.5870	1/4"
gS 56.5670	3/8"	gS 56.5880	3/8"
gS 56.5680	1/2"	gS 56.5890	1/2"
gS 56.5760	5/8"	gS 56.5900	5/8"
gS 56.5770	3/4"	gS 56.5910	3/4"
gS 56.5780	1"	gS 56.5930	1"
gS 56.5790	1 1/4"	gS 56.5950	1 1/4"

Smith Peterson Gouge
8"
rounded edge



gS 56.0190 3mm

Shoulder Penetrating Gouge
8 1/2" straight

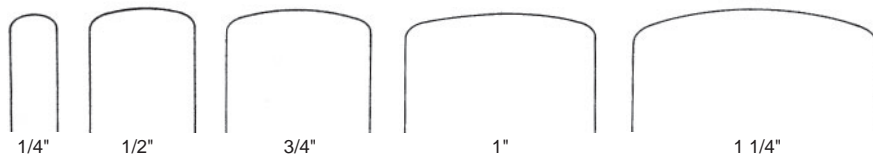


gS 56.1180 10mm
gS 56.1200 14mm
gS 56.1220 18mm
gS 56.1240 22mm

Stille Type Gouge
8" straight
rounded edge



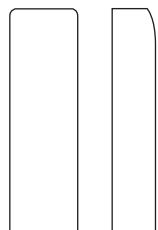
56/4 - gouges



straight		curved	
gS 56.4870	1/4"	gS 56.5020	1/4"
gS 56.4880	3/8"	gS 56.5030	3/8"
gS 56.4890	1/2"	gS 56.5040	1/2"
gS 56.4900	5/8"	gS 56.5050	5/8"
gS 56.4910	3/4"	gS 56.5070	3/4"
gS 56.4920	7/8"	gS 56.5080	7/8"
gS 56.4930	1"	gS 56.5090	1"
gS 56.4940	1 1/8"	gS 56.5100	1 1/8"
gS 56.4950	1 1/4"	gS 56.5110	1 1/4"
gS 56.5010	1 1/2"	gS 56.5120	1 1/2"

Hibbs Gouge

9" with solid hexagonal handle



gS 56.1009 9mm

Screw Removal Gouge

9" straight gouge
phenolic handle

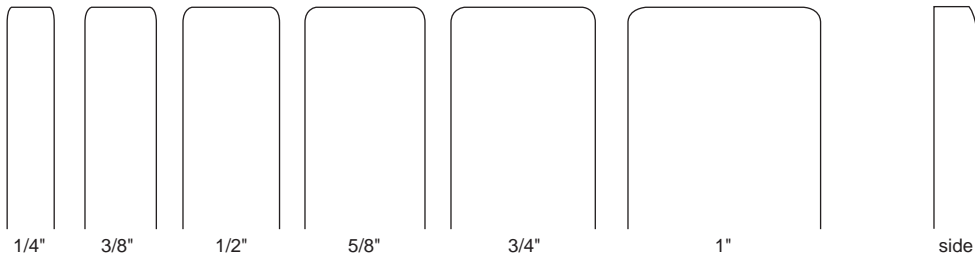


gS 56.1280 25mm

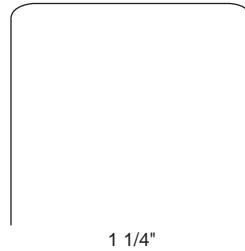
Swan Neck Gouge

9" curved gouge
solid hexagonal handle

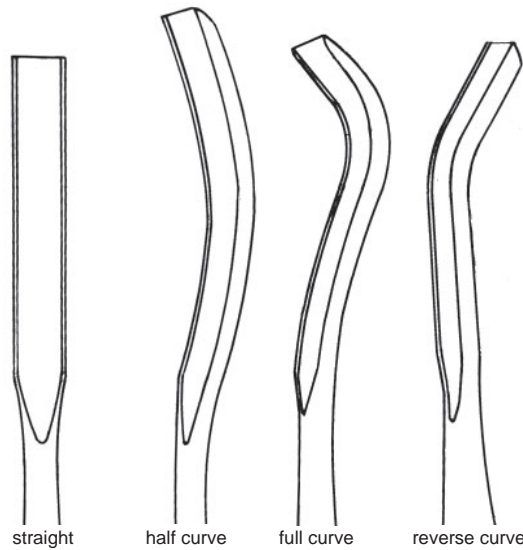




- gS 56.1410** 1/4"
- gS 56.1412** 3/8"
- gS 56.1414** 1/2"
- gS 56.1416** 5/8"
- gS 56.1418** 3/4"
- gS 56.1420** 1"
- gS 56.1422** 1 1/4"



Cobb Gouge
11" with knurled stainless steel handle
straight

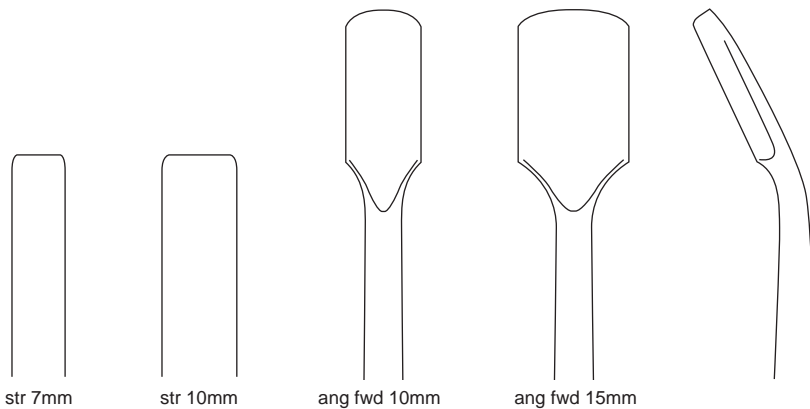


- gS 56.1300** straight
- gS 56.1320** half curve
- gS 56.1340** full curve
- gS 56.1360** reverse curve

Cobb Gouge
11" with knurled stainless steel handle

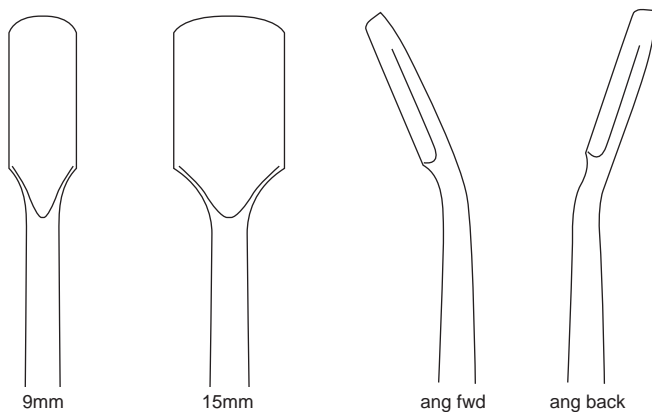


56/6 - gouges



- gS 56.5970** str 7mm
- gS 56.5972** str 10mm
- gS 56.5980** ang fwd 10mm
- gS 56.5982** ang fwd 15mm

Lexer Gouge
11"
phenolic handle



- gS 56.6018** str 9mm
- gS 56.6020** str 15mm
- gS 56.6010** ang fwd 9mm
- gS 56.6014** ang fwd 15mm
- gS 56.6012** ang back 9mm
- gS 56.6016** ang back 15mm

Wagner Gouge
13 1/2"
phenolic handle



Convex stainless steel head.

gS 59.7010 6 1/2"

Mini Mallet
weight: 4oz (113g)
head diameter: 20mm



Lead-filled head should only be used to strike flat surfaces.

gS 59.7014 6 1/2"

Mini Mallet
weight: 5oz (142g)
head diameter: 20mm



Solid stainless steel.

gS 59.7018 7"

Mini Mallet
weight: 4oz (113g)
head diameter: 20mm



Phenolic handle.

gS 59.7120 8"

Narrow Tip Mallet
weight: 6oz (170g)
head diameter: 7mm



59/2 - mallets

Solid stainless steel.
Convex/flat head.

gS 59.7590 7 1/2"

Lucae Mallet
weight: 7oz (198g)
head diameter: 19mm



gS 59.7595 7 1/2" convex/convex
gS 59.7600 8" convex/flat

Lucae Mallet
weight: 8oz (227g)
head diameter: 25mm



gS 59.7870 8"

Hajek Mallet
weight: 7oz (198g)
head diameter: 27mm



Lead-filled head should
only be used to strike flat
surfaces.

gS 59.7560 7 3/4"

Mallet #49
weight: 7oz (198g)
head diameter: 22mm



Nylon caps with aluminum handle.

gS 59.7620 7 1/2" mallet
gS 59.7621 nylon caps only (pair)

Nylon Mallet
weight: 7oz (198g)
head diameter: 25mm



Combination mallet with one replaceable nylon capped end and one stainless steel end. Aluminum handle.

gS 59.7860 7 1/2" mallet
gS 59.7821 nylon caps only (pair)

Combination Mallet
weight: 8oz (227g)
head diameter: 25mm



gS 59.7615 7"
Partsch Mallet
weight: 6oz (170g)
head diameter: 22mm



Convex/flat surfaces.

gS 59.7605 7 1/4"
Cottle Mallet
weight: 8oz (227g)
head diameter: 30mm



59/4 - mallets



gS 59.8600 8"

Collin Mallet
weight: 8oz (227g)
head diameter: 30mm



Phenolic head and handle.

gS 59.7876 10"

Phenolic Lightweight Mallet
weight: 9oz (255g)
head diameter: 43mm



Lead-filled head should only be used to strike flat surfaces.

gS 59.7610 7 1/2"

Gerzog Mallet
weight: 10oz (284g)
head diameter: 25mm



gS 59.7570 7 1/2" mallet
gS 59.7571 plastic caps only (pair)

Mead Mallet
weight: 11oz (312g)
head diameter: 20mm

gS 59.7818 7 1/2"

Cloward-style Mallet
weight: 8oz (227g)
head diameter: 20mm



gS 59.7821 9"

Cloward-style Mallet
weight: 14oz (397g)
head diameter: 25mm



Bronze filled head.
Short handle.

gS 59.7840 6 1/2"

Crane Mallet
weight: 12oz (340g)
head diameter: 32mm



Double nylon caps with
aluminum handle.

gS 59.8710 9 1/2" mallet
gS 59.8711 replacement key
gS 59.8712 nylon caps only (pair)

Nylon Mallet
weight: 1lb 1oz (482g)
head diameter: 37mm



59/6 - mallets



gS 59.8660 9 1/2"

Bergman Mallet
weight: 15oz (425g)
head diameter: 30mm



gS 59.8670 9 1/2"

Bergman Mallet
weight: 1lb 1oz (482g)
head diameter: 45mm



gS 59.7624 7"

Ortho Short Mallet
weight: 1lb 2oz (510g)
head diameter: 30mm



Stainless steel head with
aluminum handle.

gS 59.7710 9 1/2"

Ortho Mallet
weight: 1lb 2oz (510g)
head diameter: 30mm/40mm

One nylon cap/one solid end.
Phenolic handle.
Repercussion free.

gS 59.7878 10 1/2" mallet
gS 59.7879 nylon cap only

Repercussion Free Mallet
weight: 1lb 5oz (595g)
head diameter: 30mm



Brass-filled head.

gS 59.7580 8"

Kirk Mallet
weight: 1lb 6oz (624g)
head diameter: 38mm



Stainless steel head with
smooth phenolic handle.

gS 59.7642 9"

Phenolic Handle Mallet
weight: 1lb 4oz (570g)
head diameter: 35mm



Stainless steel head with
smooth phenolic handle.

gS 59.7644 9"

Phenolic Handle Mallet
weight: 1lb 9oz
head diameter: 40mm



59/8 - mallets



Stainless steel head with aluminum handle.

gS 59.7650 9 1/2"

Ombredanne Mallet
weight: 1lb 9oz (709g)
head diameter: 40mm



Stainless steel head with phenolic handle.

gS 59.7880 12 1/2"

Phenolic Handle Mallet
weight: 1lb 10oz (737g)
head diameter: 35mm



Stainless steel head attached to knurled aluminum handle. Secured with holding screw.

gS 59.7635 9"

Aluminum Handle Mallet
weight: 1lb 12oz (794g)
head diameter: 38mm



gS 59.7626 7 1/2"

Ortho Heavy Short Mallet
weight: 1lb 14oz (850g)
head diameter: 38mm



gS 59.7628 7 1/4"

Heath Mallet
weight: 1lb 15oz (879g)
head diameter: 40mm



gS 59.7629 8"

Heath Mallet
weight: 2lb (907g)
head diameter: 45mm



gS 59.7660 11"

Ortho Mallet
weight: 2lb 2oz (964g)
head diameter: 35mm

Stainless steel head with
phenolic handle.



gS 59.7890 11"

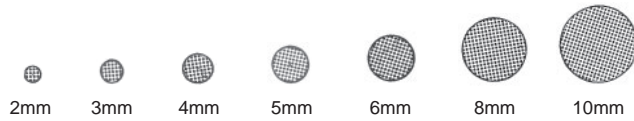
Phenolic Heavy Mallet
weight: 2lb 9oz (1162g)
head diameter: 45mm

59/10 - mallets



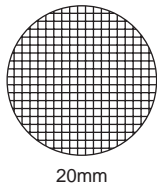
gS 59.7670 10 1/2"

Ortho Heavy Mallet
weight: 3lb 3oz (1,446g)
head diameter: 50mm



- gS 60.9930** 2mm
- gS 60.9940** 3mm
- gS 60.9950** 4mm
- gS 60.9960** 5mm
- gS 60.9970** 6mm
- gS 60.9980** 8mm
- gS 60.9990** 10mm

Bone Tamp
6"
cross-serrated end



Tap grafts into place with minimal bone trauma. Grid pattern on nylon cap helps prevent slippage.

- gS 60.0800** impactor
- gS 60.0801** nylon cap only

Bone Impactor
6 1/2" with nylon cap
aluminum handle

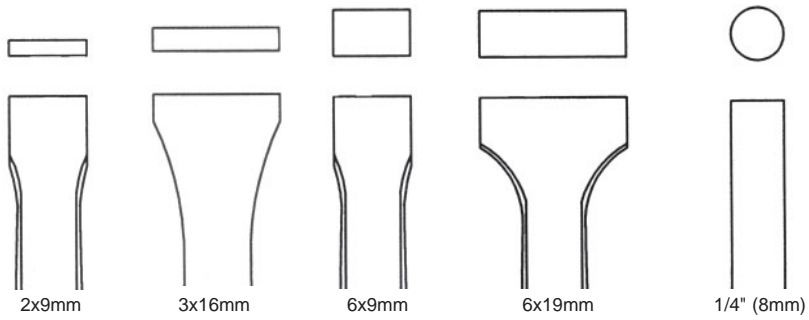


- gS 60.7503** 3mm
- gS 60.7505** 5mm
- gS 60.7508** 8mm

Caspar Bone Tamp
8" cross-serrated end
phenolic handle



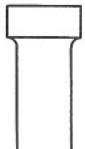
60/2 - tamps



gS 60.8510 2mm x 9mm
gS 60.8500 3mm x 16mm
gS 60.8520 6mm x 9mm
gS 60.8530 6mm x 19mm

gS 60.8540 1/4" (8mm) diameter

Bone Chip Packer
10"



gS 60.8743 17"

Bone Tamp
round 3/8" serrated end



bone files and rasps - 61-62/1



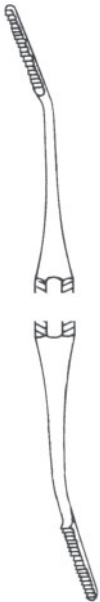
gS 61.6338 6"

Bone File #92A
2mm plain serr delicate
angled down



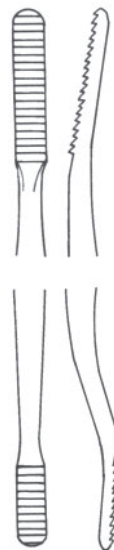
gS 61.6340 6"

Bone File #92B
2mm plain serr delicate
angled up



gS 61.6380 6 3/4"

Nail Rasp #93
2mm plain serr delicate
angled up and down



gS 61.1700 7"

Bone Rasp #64
3mm and 4mm plain serr.
slight angle and straight



61-62/2 - bone files and rasps



gS 62.6398 7"

Polokoff Rasp

3mm and 4mm plain serr
straight



gS 62.6400 8 1/2"

Polokoff Rasp

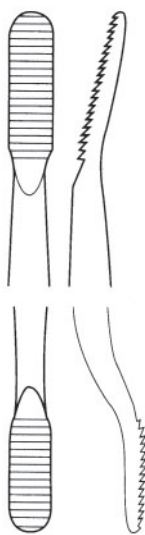
6mm plain serr
straight



gS 61.6420 7"

Bone File #10

5mm plain serr
curved up and straight



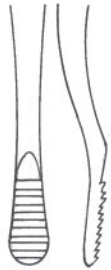
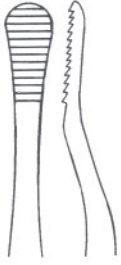
gS 61.6455 7"

Bone File #33

6mm and 5mm plain serr
angled up and straight

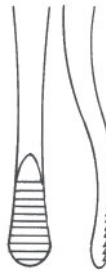


bone files and rasps - 61-62/3



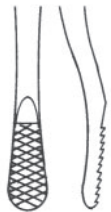
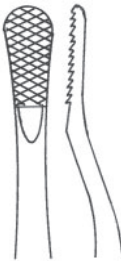
gS 61.6430 7"

Bone File #12 (Miller)
5mm and 7mm plain serr
straight



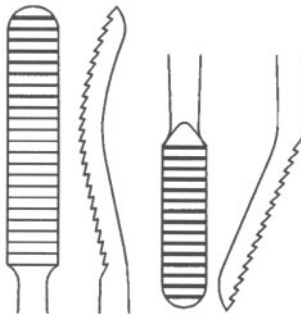
gS 61.6440 7"

Bone File #12A
5mm plain and cross serr
straight



gS 61.6450 7"

Bone File #12CA
5mm and 7mm cross serr
straight

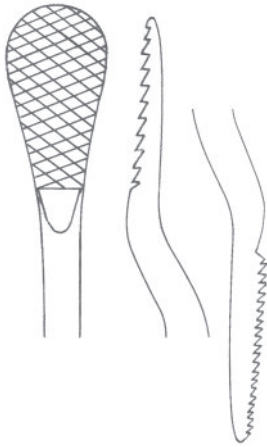


gS 61.6475 7 1/4"

Bone File #45
5mm and 6mm plain serr
curved up and angled up



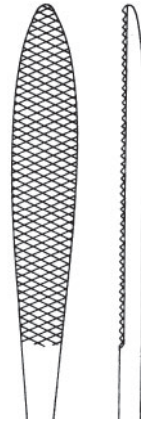
61-62/4 - bone files and rasps



gS 61.6477 8 1/2"

Bone Rasp

13mm fine and coarse serr
straight



gS 62.1710 6 1/4"

Joseph Rasp

8mm fine cross serr
straight



gS 62.1720 7 1/2"

Lewis Rasp

8mm fine serr
straight



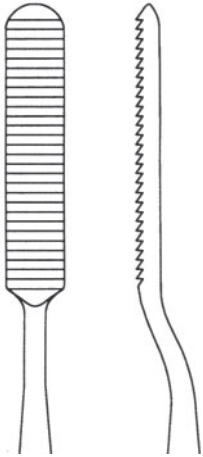
gS 62.1730 7 1/2"

Lewis Rasp

8mm coarse serr
straight



bone files and rasps - 61-62/5



gS 62.1660 8"

Cottle Rasp
7mm plain serr
straight downward cutting



gS 62.1665 7"

Maltz Rasp
9mm coarse plain serr
straight downward cutting



gS 62.1500 8"

Aufricht Rasp
9mm coarse serr
curved up forward cutting



gS 62.1520 8"

Aufricht Rasp
9mm coarse serr
curved up downward cutting



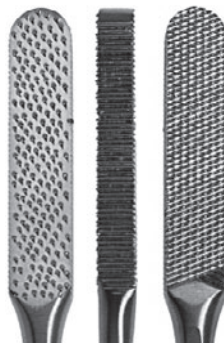
61-62/6 - bone files and rasps



Four sided rasp with convex and flat blades.
8mm x 40mm.

gS 62.7550 8 1/2"

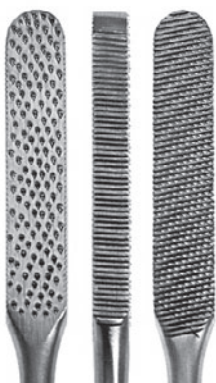
Fomon Rasp
8mm coarse serr
straight



Four sided rasp with convex and flat blades.
8mm x 40mm.

gS 62.7548 8 1/2"

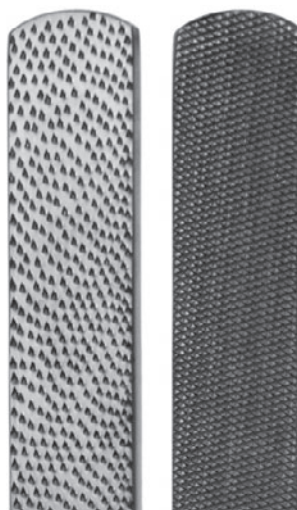
Fomon Rasp
8mm fine serr
straight



Four sided rasp with convex and flat blades.
8mm x 45mm.

gS 62.7680 8 1/2"

Kleinert Kutz Rasp
8mm fine and coarse serr
straight, serrated handle

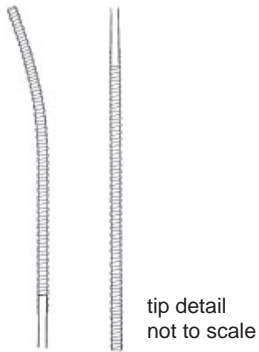


gS 62.7720 8 1/2"

Bone File Rasp
18mm fine and coarse serr
straight



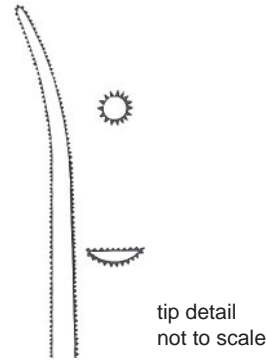
bone files and rasps - 61-62/7



One end curves up, one end curves sideways.

gS 62.7540 10 1/2"

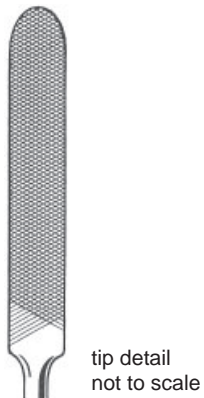
Putti Bone Rasp
18mm flat blades taper to 4mm



One round 10mm blade tapers to 4mm. One half round 15mm blade tapers to 5mm.

gS 62.7520 12"

Putti Bone Rasp
double ended
one round, one half-round blade



Half round blade with fine serrations.

gS 62.7500 9 1/2"

Bone File
bayonet handle
15mm x 85mm fine serr

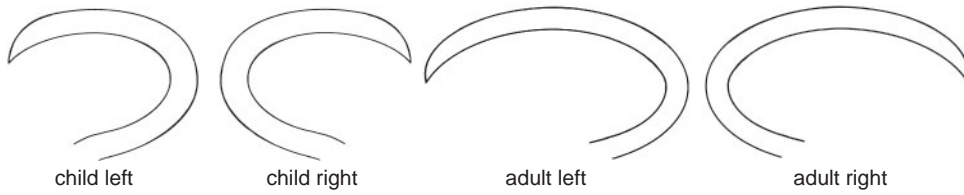


gS 62.8050 11"

Bone File
23mm blade tapers to 6mm



61-62/8 - bone files and rasps



- gS 62.8058** 7" child left
- gS 62.8059** 7" child right
- gS 62.8060** 7" adult left
- gS 62.8061** 7" adult right

Doyen Rib Rasp
sharp ends



gS 62.8060

gS 63.4811 6"
gS 63.4812 6 3/4"

Cleveland Bone Forceps
angled
delicate



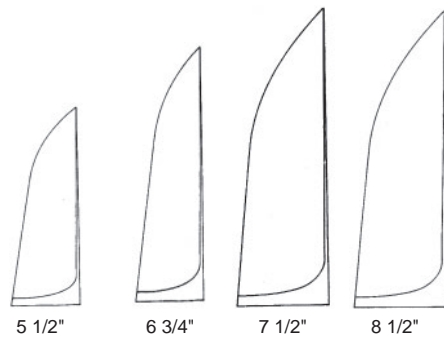
gS 63.4801 6"
Littauer Bone Forceps
straight



gS 63.6470 7 1/2"
Cottle Kazanjian Forceps
straight

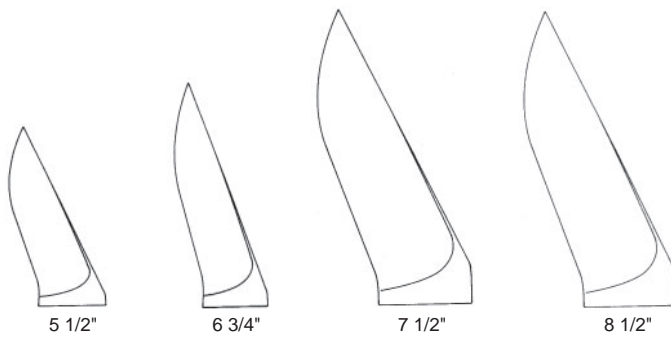


63/2 - bone cutters



- gS 63.4980** 5 1/2"
- gS 63.4981** 6 3/4"
- gS 63.4982** 7 1/2"
- gS 63.4983** 8 1/2"

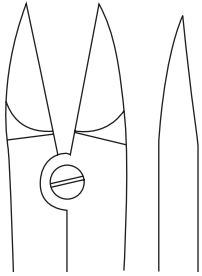
Liston Bone Forceps
straight



- gS 63.5100** 5 1/2"
- gS 63.5101** 6 3/4"
- gS 63.5102** 7 1/2"
- gS 63.5103** 8 1/2"

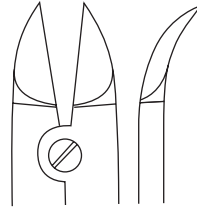
Liston Bone Forceps
angled





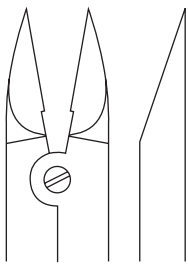
gS 63.4821 5 3/4"

Boehler Bone Forceps
curved
delicate jaw



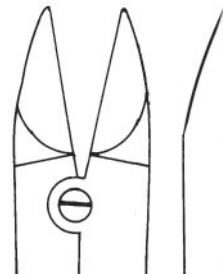
gS 63.6590 6"

Ruskin Liston Forceps
heavy curve



gS 63.6560 5 3/4"

Ruskin Liston Forceps
straight
delicate

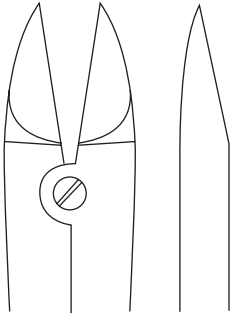


gS 63.6570 6"

Ruskin Liston Forceps
straight
(Kleinert-Kutz)



63/4 - bone cutters



gS 63.6580 6"

Ruskin Liston Forceps
angled



gS 63.6380 7 1/2"

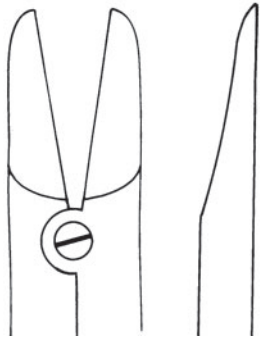
Ruskin Liston Forceps
straight



gS 63.6420 7 1/4"

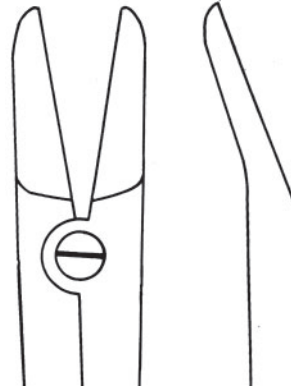
Ruskin Liston Forceps
angled





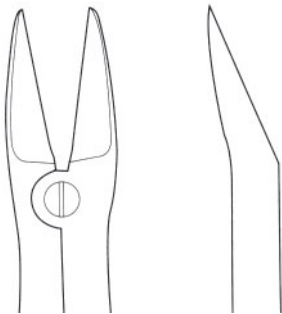
gS 63.4831 6 3/4"

Ruskin-Rowland Forceps
straight
delicate jaw



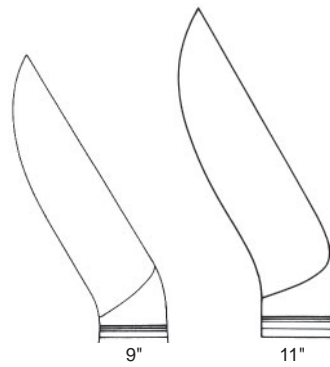
gS 63.4832 7 1/4"

Ruskin-Rowland Forceps
angled
delicate jaw



gS 63.6460 7"

McIndoe Forceps
very delicate
angled jaw



gS 63.4657 9"
gS 63.4700 11"

Stille-Liston Forceps
angled on flat



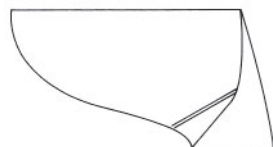
63/6 - bone cutters



11"

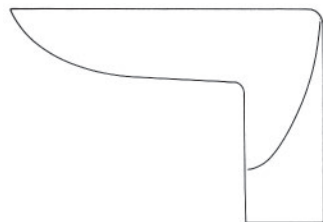
gS 63.4659 9"
gS 63.4660 11"

Stille-Liston Forceps
straight



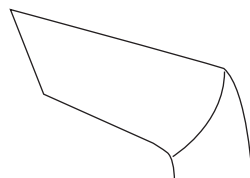
gS 63.4663 9 1/2"

Semb Forceps
angled 90° jaw



gS 63.4661 10 1/2"

Stille-Liston Forceps
angled 90° jaw



gS 63.4740 9 1/2"

Stille-Horsley Forceps
angled jaw



rib shears - 64/1

gS 64.4890 13"

Roos First Rib Shears
right angled jaw
with hook



gS 64.4900 14"

Coryllos Rib Shears
right angled jaw



gS 64.5000 13 1/2"

Bethune Rib Shears
S-shaped handles

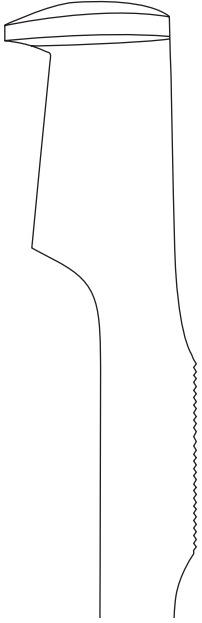


gS 64.5100 9 1/2"

Giertz-Stille Rib Shears



64/2 - rib shears



gS 64.8024 9 1/2"

Lebsche Sternum Chisel
T-handle



trephines - bone saws - 65/1

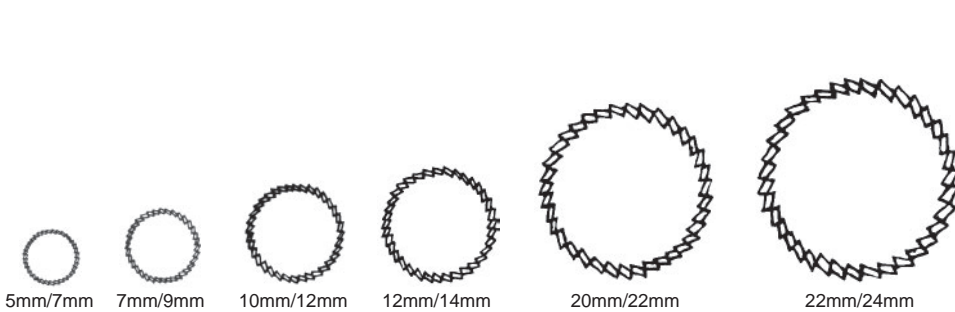
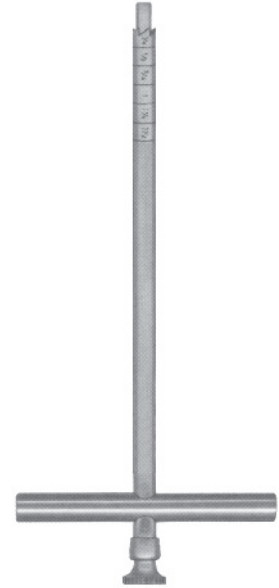
Designed for bone biopsy.
Can also be used to help
remove broken bone screws.



		ID	OD
gS 65.3390	small	3mm	5mm
gS 65.3392	medium	4mm	6mm
gS 65.3394	large	6mm	8mm

ID = inside diameter
OD = outside diameter

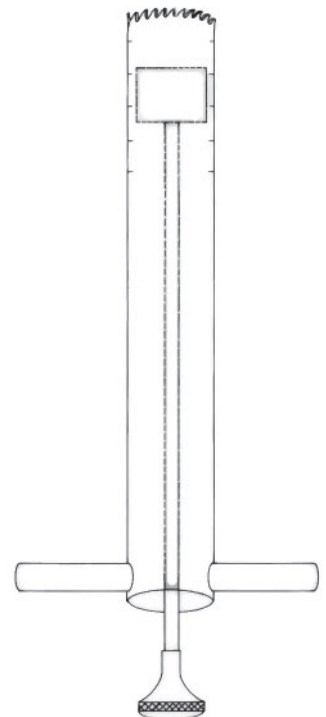
Michele Trephine
7"



	ID	OD
gS 65.3405	5mm	7mm
gS 65.3407	7mm	9mm
gS 65.3410	10mm	12mm
gS 65.3412	12mm	14mm
gS 65.3420	20mm	22mm
gS 65.3422	22mm	24mm

ID = inside diameter
OD = outside diameter

Bone Plug Cutter
6"

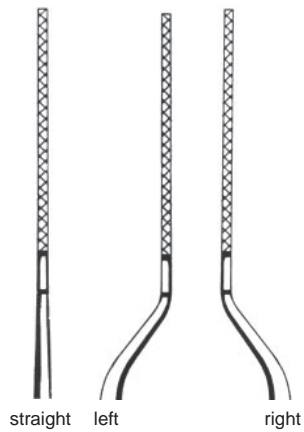


65/2 - trephines - bone saws

- gS 65.7120** chain saw 9" (23cm)
- gS 65.7130** chain saw 12" (30cm)
- gS 65.7135** chain saw 16" (40cm)
- gS 65.7140** chain saw 20" (50cm)
- gS 65.7150** chain saw 28" (70cm)

gS 65.7170 handle 2 1/2"

Gigli Saw Blades



- gS 65.3610** 7" straight
- gS 65.3620** 7" bayonet left
- gS 65.3630** 7" bayonet right

Joseph Bone Saw



gS 65.7010 9"

Langenbeck Metacarpal Saw



trephines - bone saws - 65/3

gS 65.8120 6 3/4" blade
gS 65.8125 8" blade

Liston Amputation Knife



gS 65.7440 11 1/2"

Charriere Bone Saw
ring handle
8" blade



gS 65.7431 13"

Satterlee Bone Saw
ring handle
10" blade

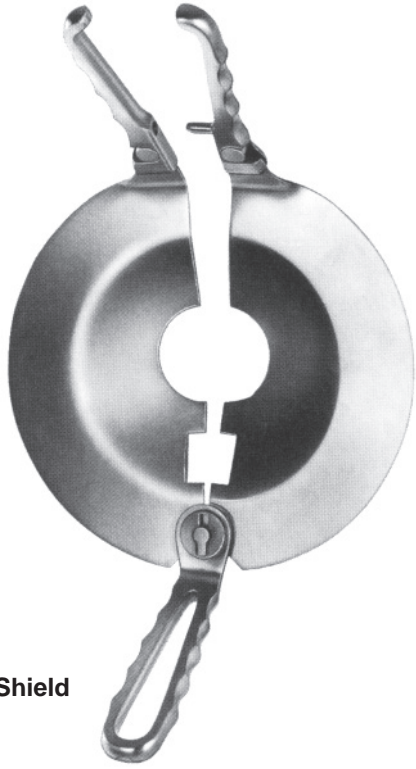


gS 65.7450 14" handle & 2 blades
gS 65.7452 12mm blade only
gS 65.7454 14mm blade only

Charriere Band Saw
ring handle



65/4 - trephines - bone saws



gS 65.8100 12"

Percy Amputation Shield

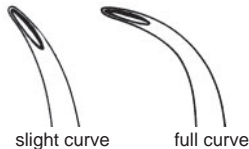
single action rongeurs - 66/1



2mm

gS 66.3616 5 1/2"

Mini Friedman Rongeur
curved 2mm bite

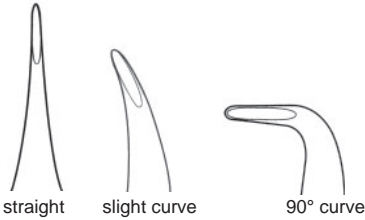


slight curve

full curve

gS 66.3520 6 3/4" slight curve
gS 66.3530 6 3/4" full curve

Stellbrink Rongeur
very delicate jaws
2mm bite



straight

slight curve

90° curve

Delicate jaws for soft tissue and cancellous bone only.

gS 66.3602 5 1/2" straight
gS 66.3604 5 1/2" slight curve
gS 66.3606 5 1/2" 90° curve

Friedman Rongeur Micro
1.7mm bite



66/2 - single action rongeurs



3mm

gS 66.3610 4 3/4"

Mini Friedman Rongeur
curved
3mm bite



3mm

gS 66.3860 5 3/4"

Dean Rongeur
slight curve
3mm bite



2mm
straight



3mm
straight



3mm
slight curve



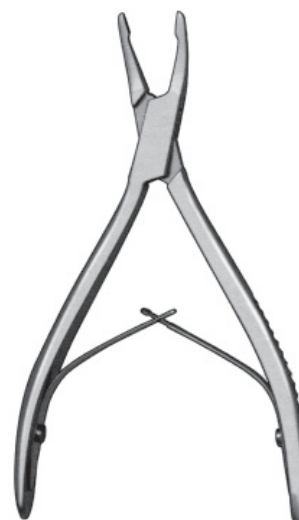
4mm
slight curve



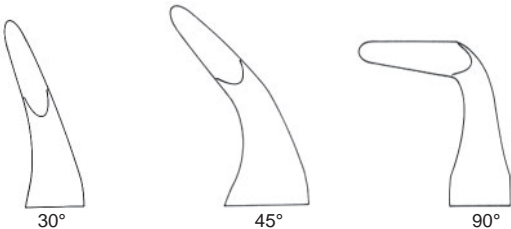
4mm
full curve

gS 66.3630 6" straight 2mm bite
gS 66.3619 5 3/4" straight 3mm bite
gS 66.3617 5 1/2" slight curve 3mm bite
gS 66.3620 5 1/2" slight curve 4mm bite
gS 66.3621 5 3/4" full curve 4mm bite

Friedman Rongeur

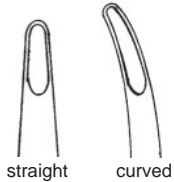


single action rongeurs - 66/3



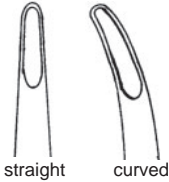
- gS 66.3660** 6" curved 30°
- gS 66.3670** 6" curved 45°
- gS 66.3680** 6" curved 90°

Blumenthal Rongeur
 curved
 3mm bite



- gS 66.3580** 6" straight
- gS 66.3600** 6" curved

Lempert Rongeur
 3mm bite

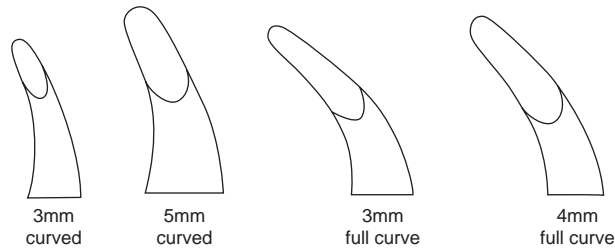


- gS 66.3540** 7 1/2" straight
- gS 66.3560** 7 1/2" curved

Lempert Rongeur
 3mm bite



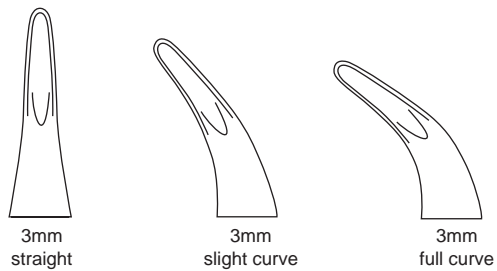
66/4 - single action rongeurs



gS 66.3771 curved 3mm bite
gS 66.3765 curved 5mm bite

gS 66.3772 full curve 3mm bite
gS 66.3773 full curve 4mm bite

Luer Rongeur
6"



gS 66.3691 straight 3mm bite
gS 66.3692 slight curve 3mm bite
gS 66.3693 full curve 3mm bite

Luer Rongeur
6 1/2"



single action rongeurs - 66/5



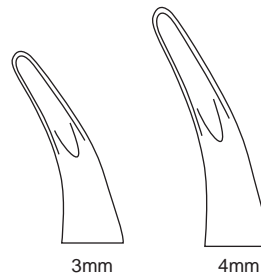
gS 66.3404 5 1/2"
Cleveland Rongeur
curved
4mm bite



gS 66.3760 6 1/4"
Mead Rongeur
curved
4mm bite



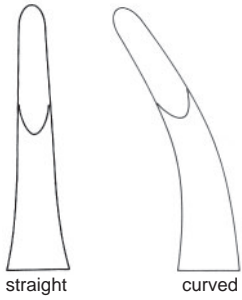
gS 66.3414 6 3/4"
Cleveland Rongeur
curved
4mm bite



gS 66.3703 7" 3mm
gS 66.3704 7" 4mm
Reiner Rongeur
curved



66/6 - single action rongeurs



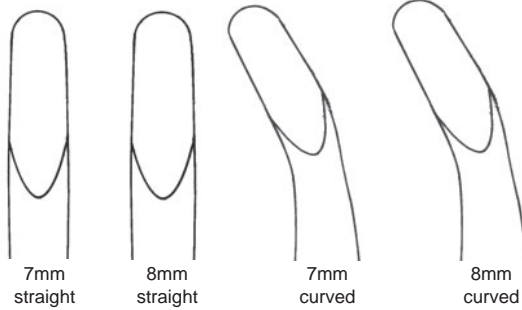
gS 66.3531 7" straight
gS 66.3532 7" curved

Jansen Rongeur
 4mm bite



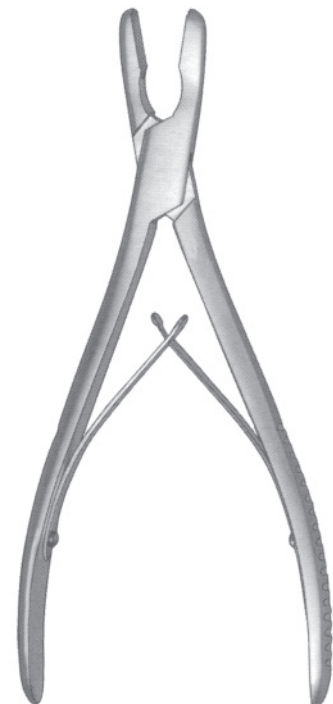
gS 66.3850 7 1/4" curved

Hartmann Rongeur
 5mm bite

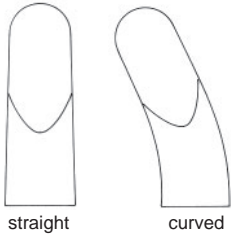


gS 66.4020 8" straight 7mm bite
gS 66.4028 8" straight 8mm bite
gS 66.4060 8" curved 7mm bite
gS 66.4068 8" curved 8mm bite

Adson Rongeur



single action rongeurs - 66/7

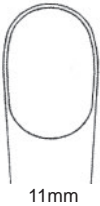
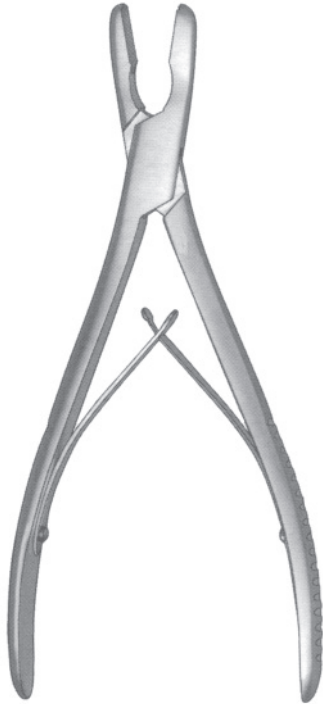


gS 66.3780 6 3/4" straight
gS 66.3840 6 3/4" curved

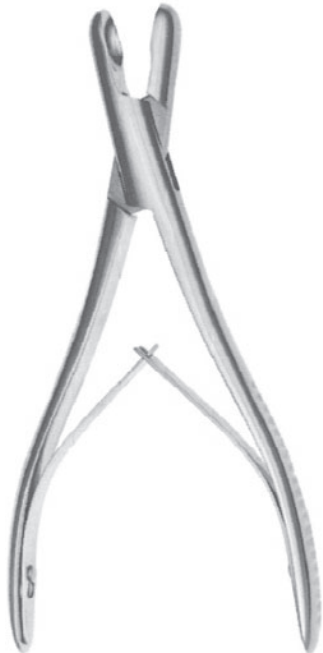
Luer Rongeur
8mm bite



gS 66.4040 8"
Rat Tooth Rongeur
straight
8mm bite with teeth



gS 66.3880 7 1/4"
Luer Rongeur
straight
11mm bite



66/8 - double action rongeurs



2mm

gS 66.6600 6"

Kleinert-Kutz Rongeur
slightly curved
2mm bite



3mm

gS 66.6580 6"

Kleinert-Kutz Rongeur
fully curved
3mm bite



3mm

gS 66.6620 6"

Kleinert-Kutz Rongeur
slightly curved
3mm bite



3mm

4mm

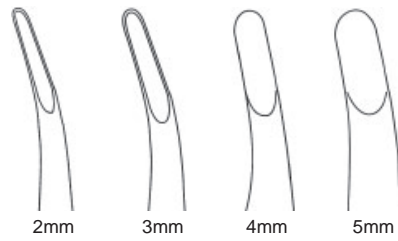
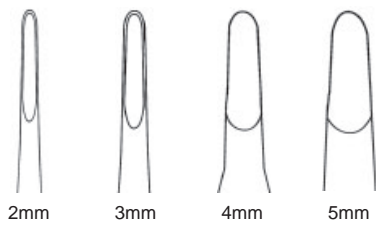
gS 66.6200 7" 3mm

gS 66.6220 7" 4mm

Beyer Rongeur
curved



double action rongeurs - 66/9



gS 66.6230 6" straight 2mm bite
gS 66.6250 6" straight 3mm bite
gS 66.6252 6" straight 4mm bite
gS 66.6253 6" straight 5mm bite

gS 66.6255 6" curved 2mm bite
gS 66.6256 6" curved 3mm bite
gS 66.6257 6" curved 4mm bite
gS 66.6258 6" curved 5mm bite

Ruskin Rongeur
a.k.a. Bohler



66/10 - double action rongeurs



gS 66.6573 7"

Mayfield Rongeur
curved delicate jaw
3mm bite



gS 66.6344 8"

Marquardt Rongeur
slightly curved
3mm bite

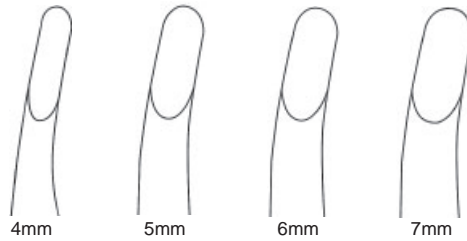


gS 66.6260 7 1/2" 4mm bite
gS 66.6265 7 1/2" 5mm bite
gS 66.6280 7" 6mm bite
gS 66.6267 7" 7mm bite

Ruskin Rongeur
straight



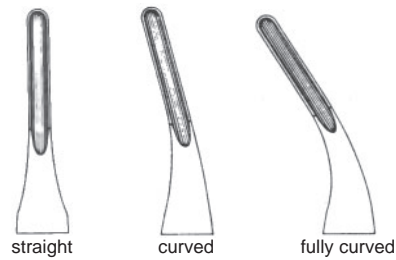
double action rongeurs - 66/11



gS 66.6270 7 1/2" 4mm bite
gS 66.6275 7 1/2" 5mm bite
gS 66.6310 7 1/2" 6mm bite
gS 66.6277 7" 7mm bite

gS 66.6335 9" 5mm bite
gS 66.6336 9" 6mm bite
gS 66.6337 9" 7mm bite

Ruskin Rongeur
curved

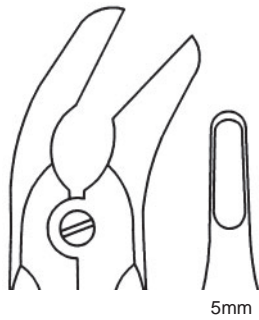


gS 66.5740 9 1/2" straight
gS 66.5760 9 1/2" curved
gS 66.5780 9 1/2" full curve

Smith Peterson Rongeur
3mm bite

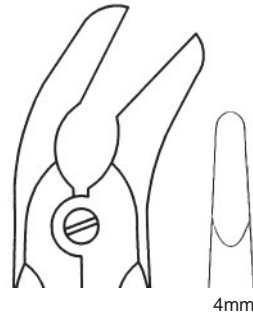


66/12 - double action rongeurs



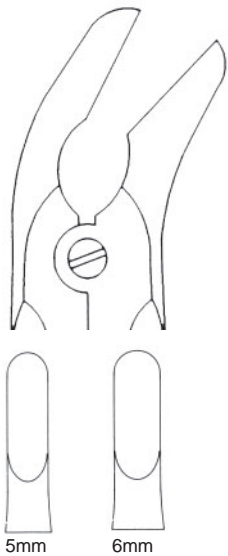
gS 66.6339 7" 5mm
gS 66.6340 7" 6mm

Ruskin Rongeur
angled



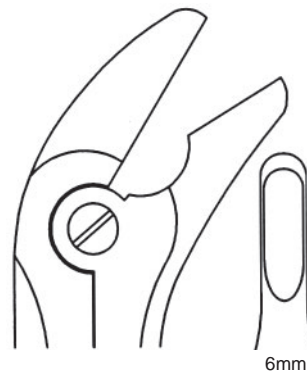
gS 66.6354 9 1/2"

Frykholm Rongeur
angled
4mm bite



gS 66.5715 9" 5mm
gS 66.5720 9" 6mm

Stille-Luer Rongeur
angled

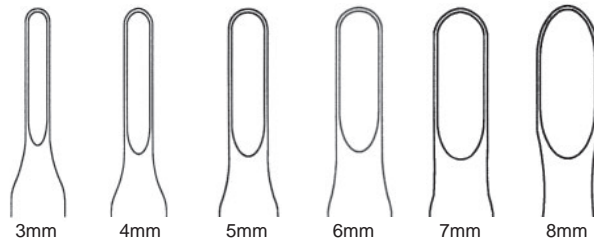
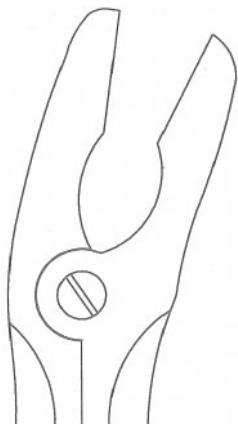


gS 66.5845 9"

Stille-Luer Echlin Rongeur
angled
6mm bite

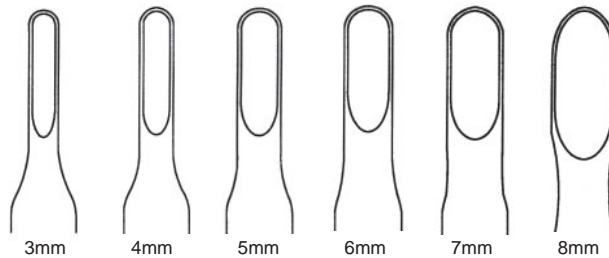
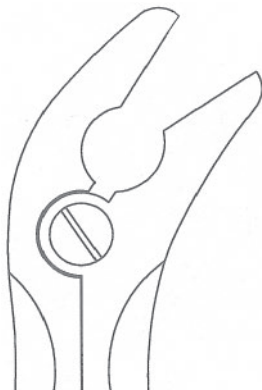


double action rongeurs - 66/13



- gS 66.5859** 9 1/2" 3mm bite
- gS 66.5860** 9 1/2" 4mm bite
- gS 66.5870** 9 1/2" 5mm bite
- gS 66.5880** 9 1/2" 6mm bite
- gS 66.5890** 9 1/2" 7mm bite
- gS 66.5900** 9 1/2" 8mm bite

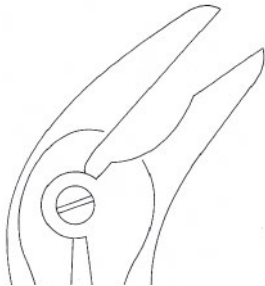
Leksell-Stille Rongeur
slightly angled jaw



- gS 66.5940** 9 1/2" 3mm bite
- gS 66.5950** 9 1/2" 4mm bite
- gS 66.5970** 9 1/2" 5mm bite
- gS 66.5980** 9 1/2" 6mm bite
- gS 66.5990** 9 1/2" 7mm bite
- gS 66.5991** 9 1/2" 8mm bite

Leksell Rongeur
strongly angled jaw

66/14 - double action rongeurs



2mm



3mm



4mm

- gS 66.5800** 9" 2mm bite
- gS 66.5820** 9" 3mm bite
- gS 66.5840** 9" 4mm bite

Echlin Duckbill Rongeur
angled jaw



4mm



5mm



8mm



12mm

- gS 66.4800** 14 1/2" 4mm
- gS 66.4820** 14 1/2" 5mm
- gS 66.4840** 14 1/2" 8mm
- gS 66.4860** 14 1/2" 12mm

Sybert Rongeur



double action rongeurs - 66/15



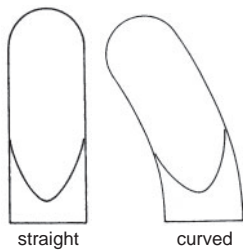
gS 66.4960 14"

Dale Rongeur
curved
3mm bite



gS 66.6348 9 1/2"

Stille Ruskin Rongeur
curved
8mm bite



gS 66.5580 8 1/2" straight
gS 66.5600 8 1/2" curved

Stille-Luer Rongeur
10mm bite

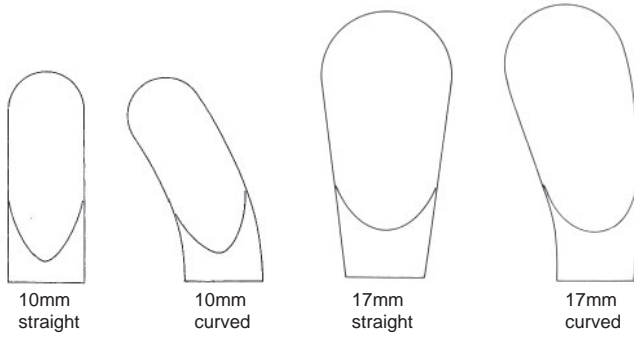


gS 66.6357 9"

Semb Rongeur
curved
round 17mm bite

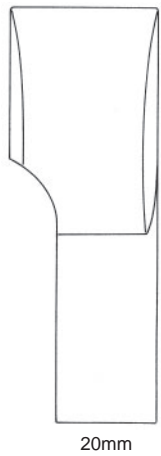


66/16 - double action rongeurs



gS 66.5611	9 1/2"	straight	17mm bite
gS 66.5612	9 1/2"	curved	17mm bite
gS 66.5620	10 1/2"	straight	10mm bite
gS 66.5640	10 1/2"	curved	10mm bite
gS 66.5651	10 1/2"	straight	17mm bite
gS 66.5652	10 1/2"	curved	17mm bite

Stille-Luer Rongeur



gS 66.6358 13"
Sauerbruch Rongeur
 square 20mm bite



gS 66.6359 13"
Sauerbruch Rongeur
 oval 20mm bite





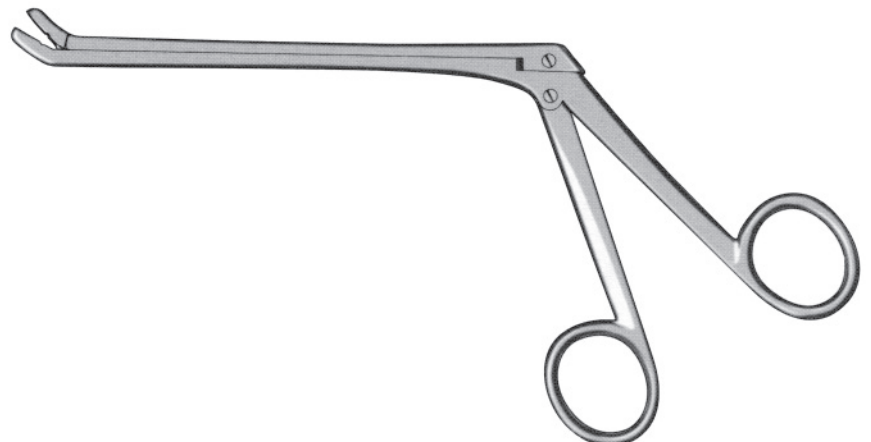
gS 68.9543 6" straight 2x3mm bite
gS 68.9545 6" straight 2x5mm bite

Silverstone Rongeur

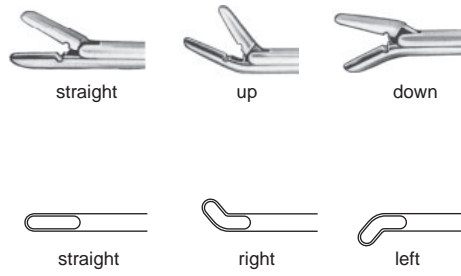


gS 68.9571 5 1/2" up 2x6mm bite

Peapod Rongeur



68/2 - ivd rongeurs



- gS 68.9575** 6" straight
- gS 68.9576** 6" up
- gS 68.9577** 6" down
- gS 68.9578** 6" right
- gS 68.9579** 6" left

Decker Rongeur
2x6mm bite



- gS 68.9553** 5" straight 3x8mm bite
- gS 68.9554** 5" straight 4x8mm bite

Takahashi IVD Rongeur





gS 68.8100 5" straight
gS 68.8120 5" up
gS 68.8140 5" down

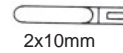
gS 68.8210 6" straight
gS 68.8230 6" up
gS 68.8240 6" down

gS 68.8300 7" straight
gS 68.8320 7" up
gS 68.8340 7" down

gS 68.8402 8" straight
gS 68.8404 8" up
gS 68.8406 8" down

gS 68.8525 9" straight
gS 68.8527 9" up
gS 68.8529 9" down

gS 68.8602 10" straight
gS 68.8604 10" up
gS 68.8606 10" down



gS 68.8535 12" straight
gS 68.8537 12" up
gS 68.8539 12" down



Cushing Rongeur
 2x10mm bite



gS 68.8610 5" straight
gS 68.8620 5" up
gS 68.8640 5" down

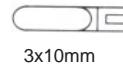
gS 68.8702 6" straight
gS 68.8704 6" up
gS 68.8706 6" down

gS 68.8800 7" straight
gS 68.8820 7" up
gS 68.8840 7" down

gS 68.8900 8" straight
gS 68.8901 8" up
gS 68.8903 8" down

gS 68.8912 9" straight
gS 68.8914 9" up
gS 68.8916 9" down

gS 68.8922 10" straight
gS 68.8924 10" up
gS 68.8926 10" down



gS 68.8932 12" straight
gS 68.8934 12" up
gS 68.8936 12" down



Love Gruenwald Rongeur
 3x10mm bite

68/4 - ivd rongeurs



gS 68.9000 5" straight
gS 68.9020 5" up
gS 68.9040 5" down

gS 68.9202 6" straight
gS 68.9204 6" up
gS 68.9206 6" down

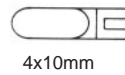
gS 68.9400 7" straight
gS 68.9420 7" up
gS 68.9440 7" down

gS 68.9502 8" straight
gS 68.9504 8" up
gS 68.9506 8" down

gS 68.9512 9" straight
gS 68.9514 9" up
gS 68.9516 9" down

gS 68.9522 10" straight
gS 68.9524 10" up
gS 68.9526 10" down

gS 68.9532 12" straight
gS 68.9534 12" up
gS 68.9536 12" down

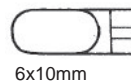


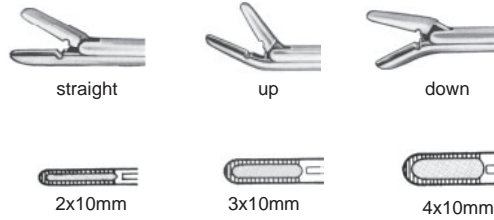
Spurling Rongeur
 4x10mm bite



gS 68.8052 6" straight
gS 68.8054 6" up
gS 68.8056 6" down

Cloward Rongeur
 6x10mm bite





- gS 68.8000** 6" straight 2x10mm
- gS 68.8020** 6" straight 3x10mm
- gS 68.8040** 6" straight 4x10mm
- gS 68.8030** 6" up 3x10mm

- gS 68.7702** 7" straight 2x10mm
- gS 68.7732** 7" up 2x10mm
- gS 68.7762** 7" down 2x10mm

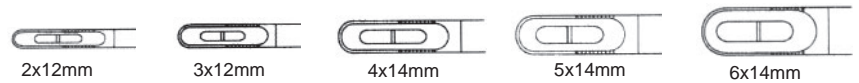
- gS 68.7900** 9" straight 2x10mm
- gS 68.7930** 9" up 2x10mm
- gS 68.7960** 9" down 2x10mm

Schlesinger IVD Rongeur
serrated jaws



- gS 68.0202** 6" straight 2x12mm
- gS 68.0203** 6" straight 3x12mm
- gS 68.0204** 6" straight 4x14mm
- gS 68.0205** 6" straight 5x14mm

- gS 68.0222** 7" straight 2x12mm
- gS 68.0223** 7" straight 3x12mm
- gS 68.0224** 7" straight 4x14mm
- gS 68.0225** 7" straight 5x14mm
- gS 68.0226** 7" straight 6x14mm

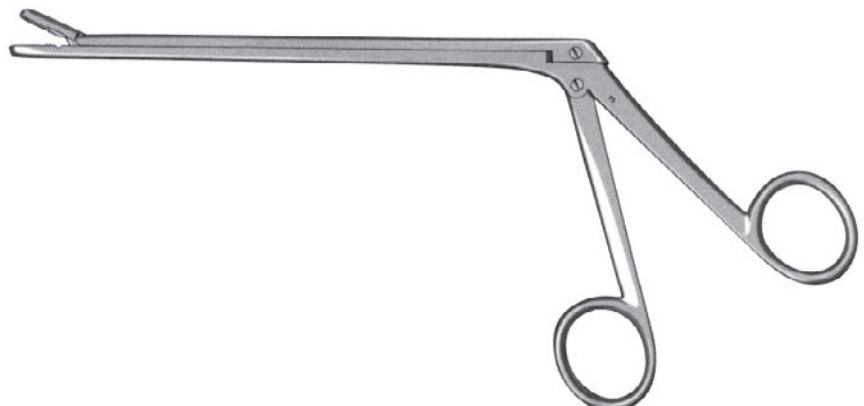


- gS 68.0212** 6" up 2x12mm
- gS 68.0213** 6" up 3x12mm
- gS 68.0214** 6" up 4x14mm
- gS 68.0215** 6" up 5x14mm

- gS 68.0242** 7" up 2x12mm
- gS 68.0243** 7" up 3x12mm
- gS 68.0244** 7" up 4x14mm
- gS 68.0245** 7" up 5x14mm

- gS 68.0233** 7" down 3x12mm
- gS 68.0234** 7" down 4x14mm

Caspar IVD Rongeur
fenestrated cup
serrated side jaws



68/6 - ivd rongeurs



gS 68.9560 7" straight

Oldberg Rongeur
round 6mm bite



gS 68.9580 7" straight 2x10mm
gS 68.9600 7" up 2x10mm
gS 68.9620 7" down 2x10mm



gS 68.9640 7" straight 3x10mm
gS 68.9660 7" up 3x10mm
gS 68.9680 7" down 3x10mm

gS 68.9700 7" straight 4x10mm
gS 68.9720 7" up 4x10mm
gS 68.9725 7" down 4x10mm

gS 68.9780 7" straight 6x12mm
gS 68.9730 7" up 6x12mm
gS 68.9750 7" down 6x12mm

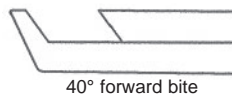
Ferris Smith Rongeur
ring handle



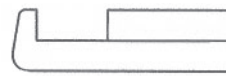
kerrison identification chart - 70/1



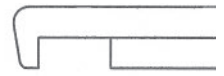
Shaft Length



40° forward bite



90° up bite

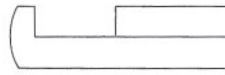


90° down bite

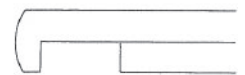
Thin foot plate bite styles



40° forward bite

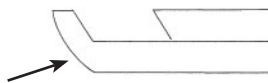


90° up bite

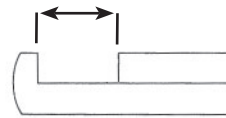


90° down bite

Regular plate bite styles



foot plate



bite opening



bite size

Kerrison identification terms

70/2 - kerrisons with regular foot plate



U



5 1/2" 90° down 3mm **gS 70.0500**

Hajek-Kofler Rongeur



2mm

3mm

4mm

5mm

6mm

4" 90° up 2mm **gS 70.5213**

4" 90° up 3mm **gS 70.5215**

4" 90° up 4mm **gS 70.5217**

4" 90° up 5mm **gS 70.5219**

4" 90° up 6mm **gS 70.5221**

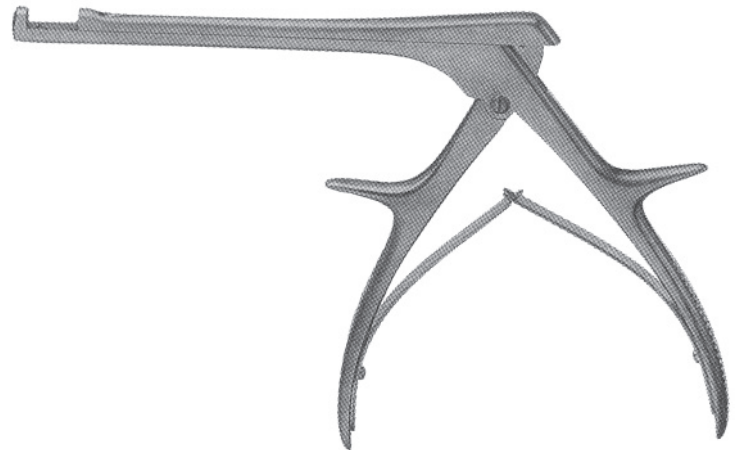
Kerrison Mastoid Rongeur

kerrisons with regular foot plate - 70/3



6" 90° up 6mm **gS 70.0615**
7" 90° up 6mm **gS 70.0618**

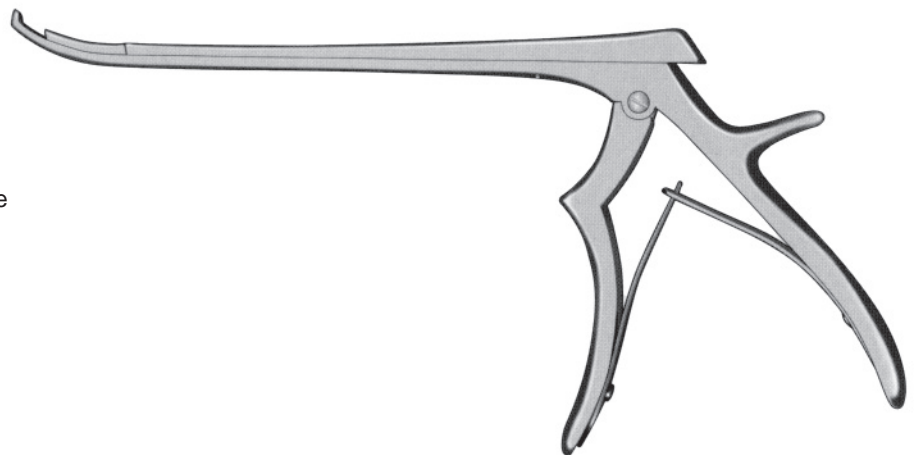
Raney Rongeur



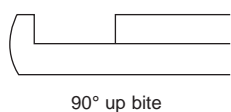
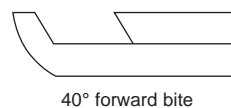
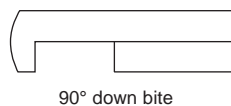
- Upward curved shaft and forward angle footplate make the underside of the foramen accessible.
- Hinge in upper shaft enables smooth cutting function.

8" curved up 2mm **gS 70.1300**
8" curved up 3mm **gS 70.1330**
8" curved up 4mm **gS 70.1340**

Foramenotomy Rongeur



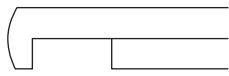
70/4 - kerrisons with regular foot plate



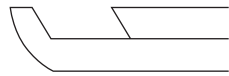
	bite	7" shaft	8" shaft	9" shaft	10" shaft	11" shaft
down	1mm	gS 70.5701	gS 70.5801	—	—	—
down	2mm	gS 70.5702	gS 70.5802	—	—	—
down	3mm	gS 70.5703	gS 70.5803	—	—	—
down	4mm	gS 70.5704	gS 70.5804	—	—	—
down	5mm	gS 70.5705	gS 70.5805	—	—	—
forward	1mm	gS 70.5711	gS 70.5811	gS 70.5911	—	—
forward	2mm	gS 70.5712	gS 70.5812	gS 70.5912	gS 70.6012	gS 70.9112
forward	3mm	gS 70.5713	gS 70.5813	gS 70.5913	gS 70.6013	gS 70.9113
forward	4mm	gS 70.5714	gS 70.5814	gS 70.5914	gS 70.6014	gS 70.9114
forward	5mm	gS 70.5715	gS 70.5815	gS 70.5915	—	gS 70.9115
forward	6mm	gS 70.5716	gS 70.5816	—	—	—
up	1mm	gS 70.5721	gS 70.5821	—	—	—
up	2mm	gS 70.5722	gS 70.5822	—	—	—
up	3mm	gS 70.5723	gS 70.5823	—	—	—
up	4mm	gS 70.5724	gS 70.5824	—	—	—
up	5mm	gS 70.5725	gS 70.5825	—	—	—
up	6mm	gS 70.5726	gS 70.5826	—	—	—

Spurling Kerrison
 regular handle
 regular foot plate

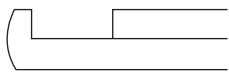
kerrisons with regular foot plate - 70/5



90° down bite



40° forward bite



90° up bite



	bite	6" shaft	7" shaft	8" shaft	10" shaft	11" shaft
down	2mm	—	gS 70.7702	gS 70.7802	—	—
down	3mm	gS 70.7603	gS 70.7703	gS 70.7803	—	—
down	4mm	gS 70.7604	gS 70.7704	gS 70.7804	—	—
down	5mm	gS 70.7605	gS 70.7705	gS 70.7805	—	—
down	6mm	gS 70.7606	gS 70.7706	gS 70.7806	—	—
forward	1mm	—	gS 70.7711	—	—	—
forward	2mm	gS 70.7612	gS 70.7712	gS 70.7812	—	—
forward	3mm	gS 70.7613	gS 70.7713	gS 70.7813	—	—
forward	4mm	gS 70.7614	gS 70.7714	gS 70.7814	gS 70.8014	—
forward	5mm	gS 70.7615	gS 70.7715	gS 70.7815	—	—
forward	6mm	gS 70.7616	gS 70.7716	gS 70.7816	—	gS 70.7890
up	1mm	—	gS 70.7721	—	—	—
up	2mm	gS 70.7622	gS 70.7722	gS 70.7822	—	—
up	3mm	gS 70.7623	gS 70.7723	gS 70.7823	—	—
up	4mm	gS 70.7624	gS 70.7724	gS 70.7824	—	—
up	5mm	gS 70.7625	gS 70.7725	gS 70.7825	—	—
up	6mm	gS 70.7626	gS 70.7726	gS 70.7826	—	—

Love Kerrison
 large handle
 regular foot plate

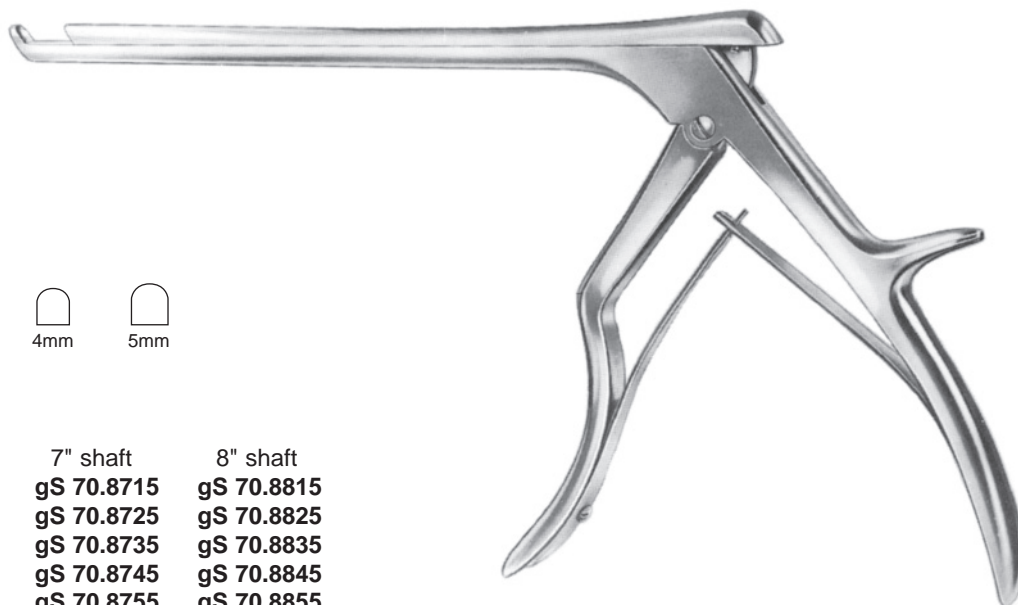
70/6 - kerrisons with regular foot plate



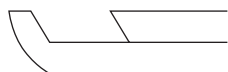
15mm bite opening



	bite	7" shaft	8" shaft
forward	1mm x 15mm	gS 70.8715	gS 70.8815
forward	2mm x 15mm	gS 70.8725	gS 70.8825
forward	3mm x 15mm	gS 70.8735	gS 70.8835
forward	4mm x 15mm	gS 70.8745	gS 70.8845
forward	5mm x 15mm	gS 70.8755	gS 70.8855



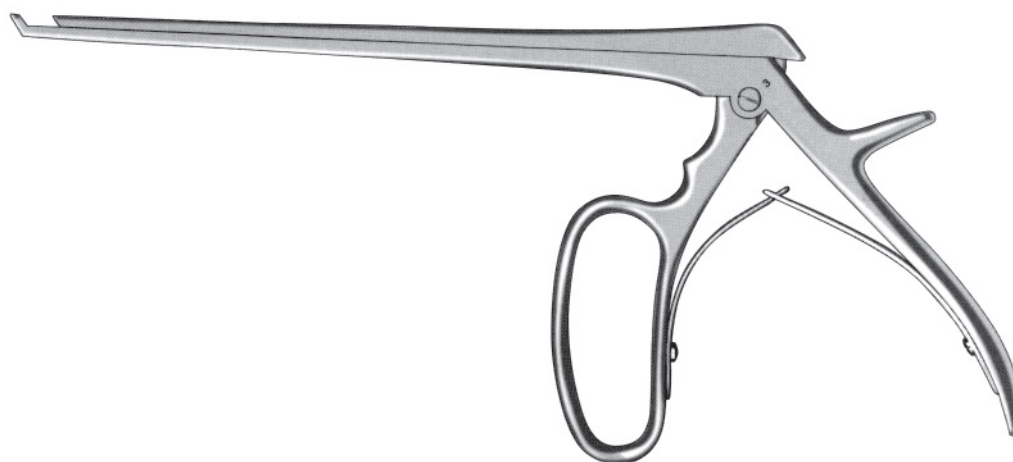
Love Kerrison
large handle
large bite opening



40° forward bite

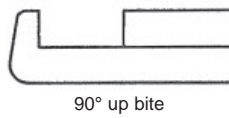
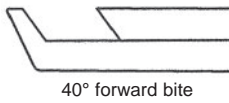


	bite	7" shaft	8" shaft
forward	3mm	gS 70.9130	gS 70.9230
forward	5mm	gS 70.9350	gS 70.9240



Ferris Smith Rongeur
ring handle

kerrisons with thin foot plate - 71/1



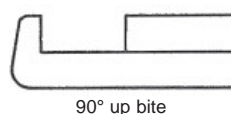
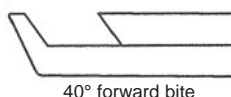
	bite	6" shaft	7" shaft	8" shaft	9" shaft
Down	1mm	—	gS 71.5701	gS 71.5801	—
Down	2mm	—	gS 71.5702	gS 71.5802	—
Down	3mm	—	gS 71.5703	gS 71.5803	—
Down	4mm	—	gS 71.5704	gS 71.5804	—
Down	5mm	—	gS 71.5705	gS 71.5805	—
Forward	1mm	gS 71.5601	gS 71.5711	gS 71.5811	gS 71.5911
Forward	2mm	gS 71.5602	gS 71.5712	gS 71.5812	gS 71.5912
Forward	3mm	gS 71.5603	gS 71.5713	gS 71.5813	gS 71.5913
Forward	4mm	gS 71.5604	gS 71.5714	gS 71.5814	gS 71.5914
Forward	5mm	gS 71.5605	gS 71.5715	gS 71.5815	gS 71.5915
Forward	6mm	—	—	gS 71.5816	—
Up	1mm	—	gS 71.5721	gS 71.5821	—
Up	2mm	—	gS 71.5722	gS 71.5822	—
Up	3mm	—	gS 71.5723	gS 71.5823	—
Up	4mm	—	gS 71.5724	gS 71.5824	—
Up	5mm	—	gS 71.5725	gS 71.5825	—
Up	6mm	—	gS 71.5726	gS 71.5826	—

Spurling Kerrison

regular handle

thin foot plate, regular bite opening

7 1/2" - kerrisons with thin foot plate



	bite	6" shaft	7" shaft	8" shaft	9" shaft
Down	2mm	gS 71.7602	gS 71.7702	gS 71.7802	—
Down	3mm	gS 71.7603	gS 71.7703	gS 71.7803	—
Down	4mm	gS 71.7604	gS 71.7704	gS 71.7804	—
Down	5mm	gS 71.7605	gS 71.7705	gS 71.7805	—
Down	6mm	gS 71.7606	gS 71.7706	gS 71.7806	—
Forward	1mm	—	gS 71.7711	—	—
Forward	2mm	gS 71.7612	gS 71.7712	gS 71.7812	gS 71.7912
Forward	3mm	gS 71.7613	gS 71.7713	gS 71.7813	gS 71.7913
Forward	4mm	gS 71.7614	gS 71.7714	gS 71.7814	gS 71.7914
Forward	5mm	gS 71.7615	gS 71.7715	gS 71.7815	gS 71.7915
Forward	6mm	gS 71.7616	gS 71.7716	gS 71.7816	gS 71.7916
Up	1mm	—	gS 71.7721	—	—
Up	2mm	gS 71.7622	gS 71.7722	gS 71.7822	—
Up	3mm	gS 71.7623	gS 71.7723	gS 71.7823	—
Up	4mm	gS 71.7624	gS 71.7724	gS 71.7824	—
Up	5mm	gS 71.7625	gS 71.7725	gS 71.7825	—
Up	6mm	gS 71.7626	gS 71.7726	gS 71.7826	—

Love Kerrison

large handle

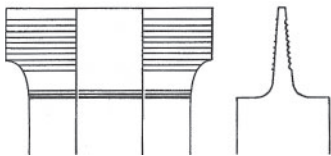
thin foot plate, regular bite opening



gS 73.2260 6"
Engel Plaster Saw



gS 73.2270 7"
Reiner Plaster Knife



gS 73.2330 9"
Walton Cast Spreader
serrated outside blades



gS 73.2380 11"
Hennig Plaster Spreader
serrated outside blades



73/2 - casting

gS 73.2382 12"

Beeson Cast Spreader
serrated outside blades



gS 73.2810 7"

Pediatric Cast Breaker



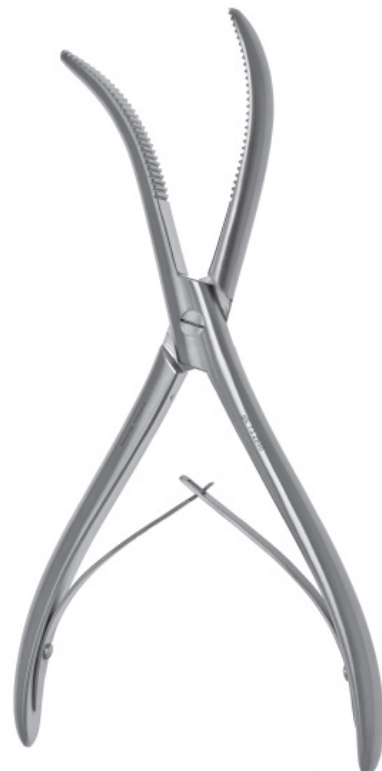
gS 73.2838 7"

Wolff Plaster Cast Breaker



gS 73.2840 9 1/2"

Wolff Plaster Cast Breaker



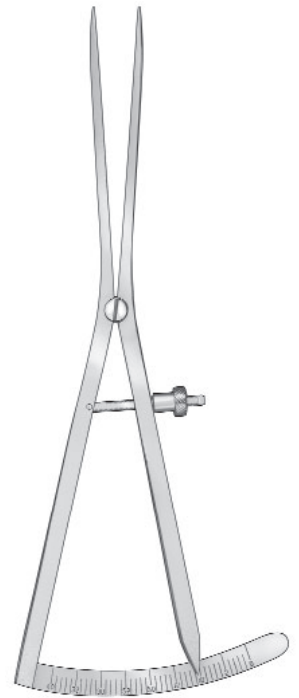
gS 74.1000 3 1/2"

Castroviejo Caliper
graduated from 0 to 20mm



gS 74.1040 6 1/2"

Castroviejo Caliper
graduated from 0 to 40mm



gS 74.2015 6"

Goniometer (Polk Finger)
inch and mm graduations



gS 74.4140 4"

Townley Caliper
measures inside and outside



74/2 - measuring



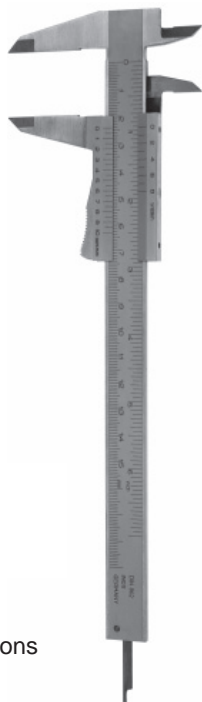
gS 74.4148 9"

Neuro Caliper
inch and mm graduations
60mm long delicate blades



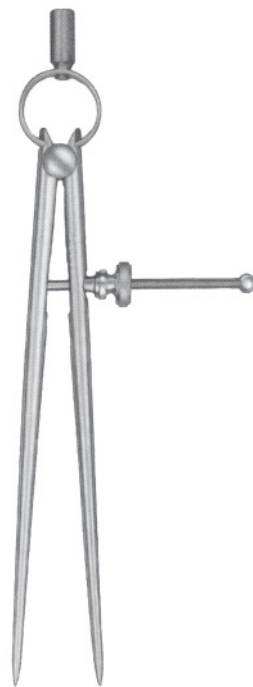
gS 74.4150 9"

Neuro Caliper
inch and mm graduations
60mm long blades



gS 74.4160 8 1/2"

Caliper
inch and mm graduations
measures up to 6"



gS 74.5100 8"

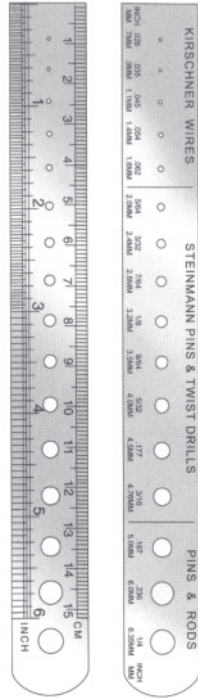
Bone Compass

Indispensable tool for measuring k-wires, steinmann pins, rods, and drill bits.

Gauges from diameter .028" to 1/4" (0.7mm to 6.35mm).

gS 74.7800 6 1/2"

K-Wire Ruler and Pin Gauge



gS 74.7920 6"
gS 74.7940 8"
gS 74.7980 12"
gS 74.8000 20"

Ruler Flexible
inch/mm graduations



gS 74.8400 20 1/2"

X-Ray Ruler
mm graduations



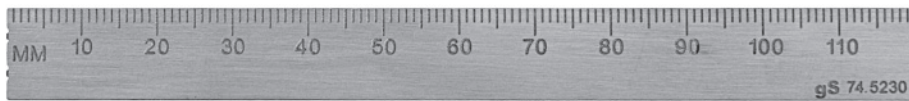
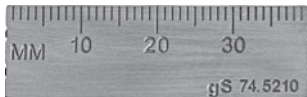
Measures up to 79 inches.

gS 74.8600

Tape Measure
metal (not stainless steel)
measures cm and inches



74/4 - measuring

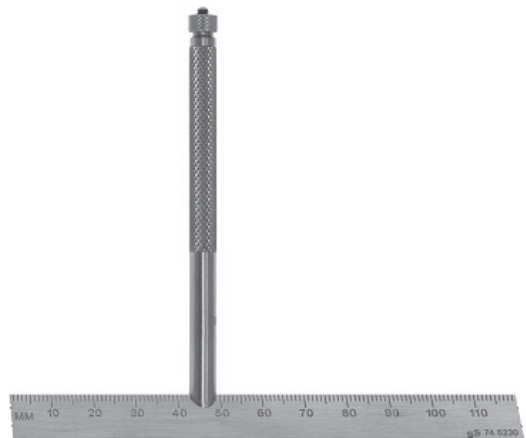


Designed to measure the femoral head/neck length.
Useful in minimally invasive surgery.

- gS 74.5200** handle 4" knurled
- gS 74.5210** ruler 40mm (1 1/2")
- gS 74.5220** ruler 80mm (3")
- gS 74.5230** ruler 120mm (4 3/4")

Ruler Handle

stainless steel
mm and inch graduations



suction tubes - 75-76/1

See page 75-76/4
for standard French
(Charriere) illustra-
tions.

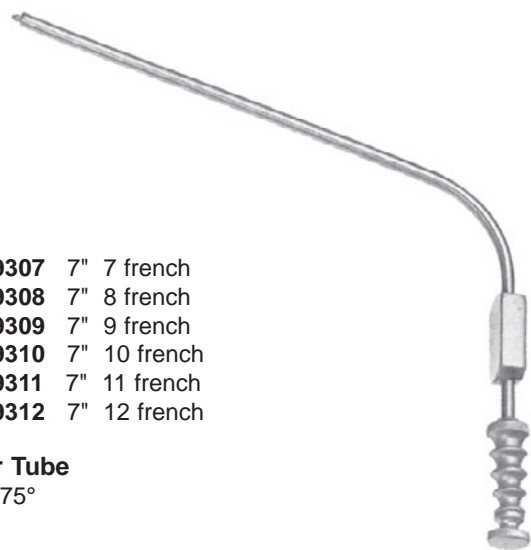
- gS 75.9230** 7" 6 french
- gS 75.9240** 7" 7 french
- gS 75.9250** 7" 8 french
- gS 75.9255** 7" 9 french
- gS 75.9260** 7" 10 french
- gS 75.9282** 7" 11 french
- gS 75.9300** 7" 12 french

Frazier Tube
angled 30°



- gS 75.9307** 7" 7 french
- gS 75.9308** 7" 8 french
- gS 75.9309** 7" 9 french
- gS 75.9310** 7" 10 french
- gS 75.9311** 7" 11 french
- gS 75.9312** 7" 12 french

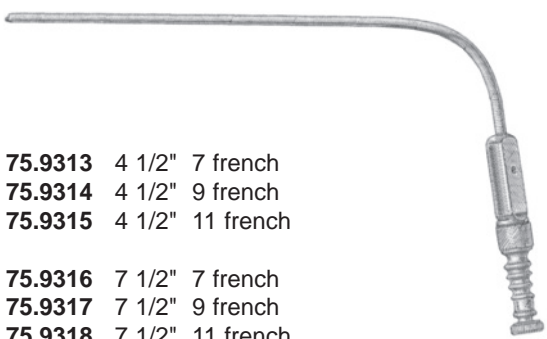
Frazier Tube
angled 75°



- gS 75.9313** 4 1/2" 7 french
- gS 75.9314** 4 1/2" 9 french
- gS 75.9315** 4 1/2" 11 french

- gS 75.9316** 7 1/2" 7 french
- gS 75.9317** 7 1/2" 9 french
- gS 75.9318** 7 1/2" 11 french

Frazier Tube
angled 90°



- gS 75.9320** 5 1/2" 3 french
- gS 75.9340** 5 1/2" 5 french
- gS 75.9360** 5 1/2" 7 french

Baron Suction Tube
angled 30°



75-76/2 - suction tubes

See page 75-76/4
for standard French
(Charriere) illustrations.

gS 75.9400 6" 11 french
gS 75.9410 7 1/2" 12 french
gS 75.9401 8" 12 french
gS 75.9402 8" 15 french

Adson Suction Tube
curved



gS 76.2412 4" 12 french

Rhoton-Merz Suction Tube



gS 76.2505 5" 5 french
gS 76.2507 5" 7 french
gS 76.2510 5" 10 french

Rhoton-Merz Suction Tube
angled 30°



gS 76.2614 4" 14 french
gS 76.2615 4" 15 french
gS 76.2616 4" 16 french
gS 76.2617 4" 17 french
gS 76.2618 4" 18 french
gS 76.2619 4" 19 french
gS 76.2620 4" 20 french
gS 76.2622 4" 22 french
gS 76.2624 4" 24 french
gS 76.2626 4" 26 french

Rosen Suction Tube
angled 30°



suction tubes - 75-76/3

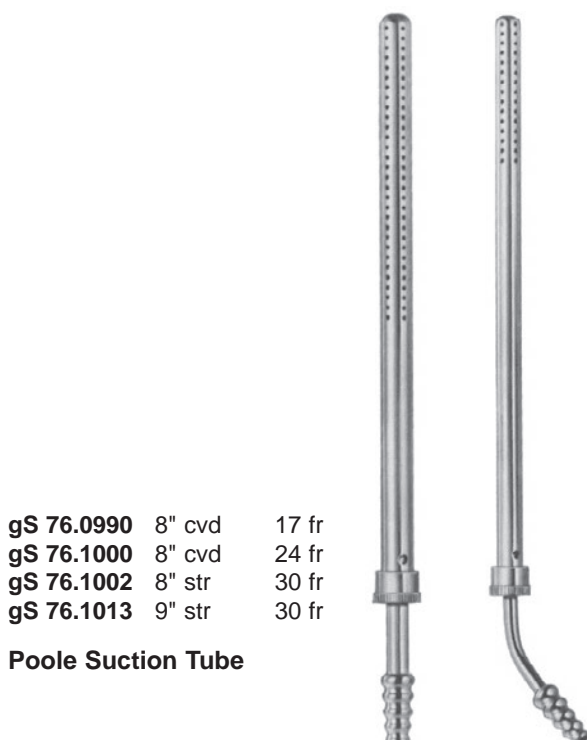
See page 75-76/4
for standard French
(Charriere) illustra-
tions.

- gS 75.9792** 6 1/4" 3 french
- gS 75.9800** 6 1/4" 4 french
- gS 75.9810** 6 1/4" 5 french
- gS 75.9820** 6 1/4" 6 french
- gS 75.9830** 6 1/4" 7 french
- gS 75.9840** 6 1/4" 8 french
- gS 75.9850** 6 1/4" 9 french

- gS 75.9880** 7" 3 french
- gS 75.9900** 7" 4 french
- gS 75.9910** 7" 5 french
- gS 75.9920** 7" 6 french
- gS 75.9930** 7" 7 french
- gS 75.9940** 7" 8 french
- gS 75.9950** 7" 9 french

- gS 76.0008** 8" 3 french
- gS 76.0010** 8" 4 french
- gS 76.0020** 8" 5 french
- gS 76.0030** 8" 6 french
- gS 76.0040** 8" 7 french
- gS 76.0050** 8" 8 french
- gS 76.0060** 8" 9 french
- gS 76.0062** 8" 10 french
- gS 76.0064** 8" 11 french
- gS 76.0066** 8" 12 french

Fukushima Suction Tube
teardrop opening



- gS 76.0990** 8" cvd 17 fr
- gS 76.1000** 8" cvd 24 fr
- gS 76.1002** 8" str 30 fr
- gS 76.1013** 9" str 30 fr

Poole Suction Tube

- gS 75.3124** 9 1/2"
- Andrews Pynchon Suction Tube**

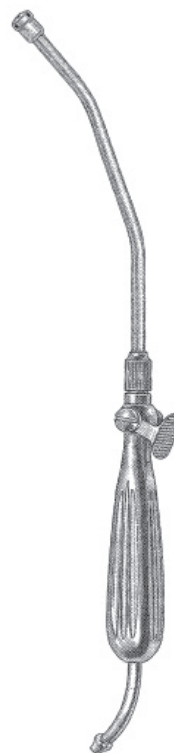


75-76/4 - suction tubes



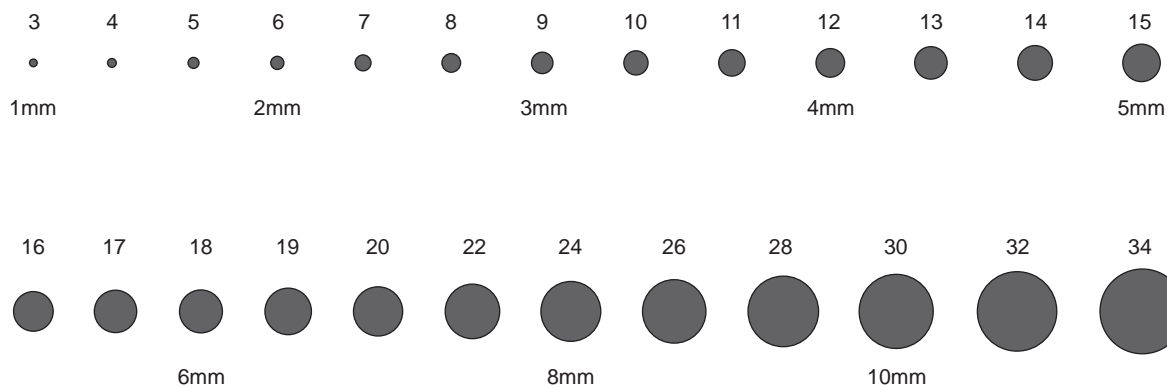
gS 75.3250 8 1/2"
gS 75.3280 11 1/2"
gS 75.3300 front tip only
gS 75.3302 end cap only

Yankauer Suction Tube
stainless



gS 75.3270 11 1/2"
gS 75.3300 front tip only
gS 75.3302 end cap only

Yankauer Suction Tube
stainless with control valve

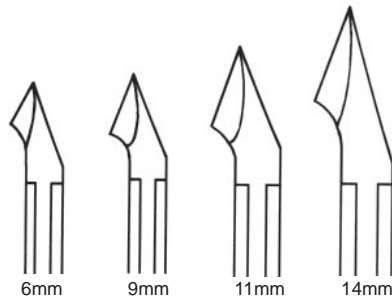


French Gauge Illustrations

tissue and nail nippers - 77/1

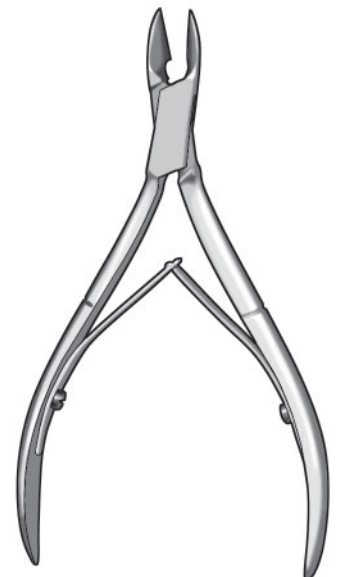
gS 77.3708 3" 6mm
gS 77.3710 4" 6mm

Cuticle Nipper
ring handle

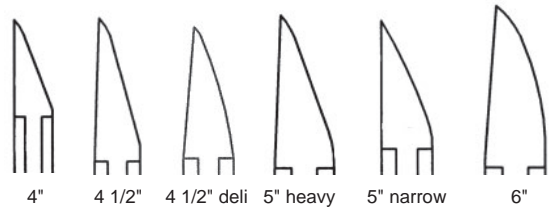
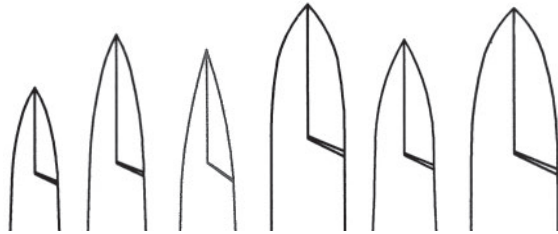


gS 77.3900 4" 6mm jaw
gS 77.3910 4" 9mm jaw
gS 77.3920 4 1/2" 11mm jaw
gS 77.3940 5" 14mm jaw

Tissue Nipper



77/2 - tissue and nail nippers



- gS 77.4200** 4"
- gS 77.4220** 4 1/2"
- gS 77.5480** 4 1/2" delicate
- gS 77.4260** 5" heavy
- gS 77.4270** 5" narrow
- gS 77.4400** 6"

Nail Splitter
regular jaw



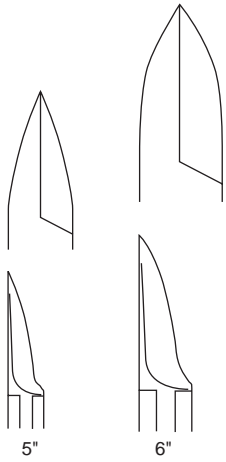
Fine pointed tips
for splitting
thin nails.

- gS 77.4410** 4"
- gS 77.4420** 4 1/2"
- gS 77.4430** 5"
- gS 77.4440** 6"

Nail Splitter
tapered jaw

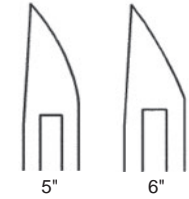
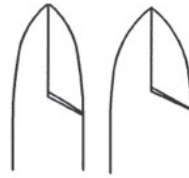


tissue and nail nippers - 77/3



gS 77.6007 5"
gS 77.6010 6"

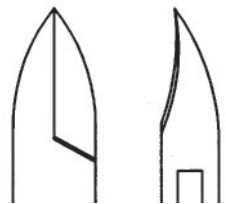
Nail Splitter
 thin line tapered jaw
 smooth handles



Short jaw design for
 cutting thick nails.

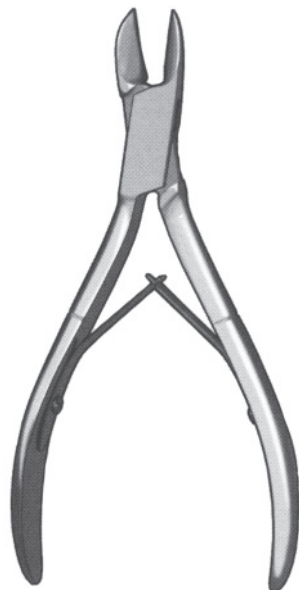
gS 77.5010 5"
gS 77.5020 6"

Short Jaw Nail Splitter
 grooved handles



gS 77.5180 5 1/2"

Nail Nipper
 concave narrow jaw

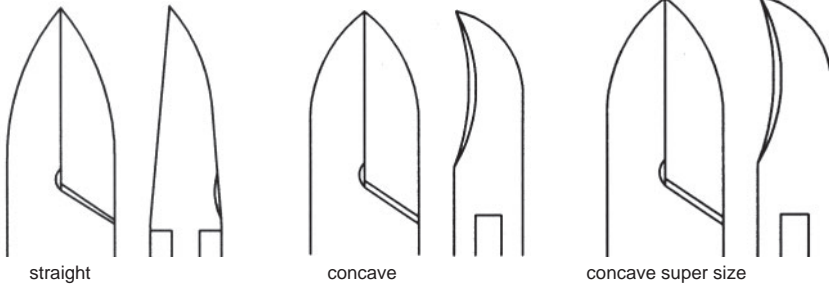


gS 77.4480 5"

Ingrown Nail Fcps
 English Anvil



77/4 - tissue and nail nippers



- gS 77.5320** 5 1/2" straight grooved handle
- gS 77.5300** 5 1/2" concave smooth handle
- gS 77.5301** 5 1/2" concave grooved handle
- gS 77.5325** 6 1/2" concave super size grooved handle

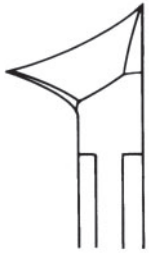
Nail Nipper
heavy jaw



- gS 77.5110** 4 1/2"
- gS 77.5120** 5 1/4"

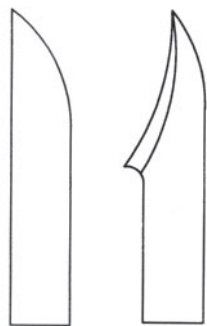
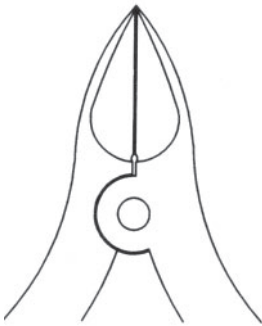
Nail Nipper
barrel spring
stainless





gS 77.5400 5 1/2"

Nail Nipper
angled concave jaw



straight concave

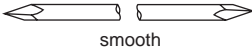
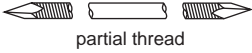

gS 77.5462 6" straight
gS 77.5460 6" concave

Mycotic Nail Nipper
barrel spring
double action jaw

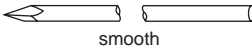
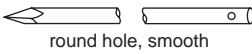




77/6 - tissue and nail nippers

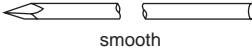

Double Trocar

		diameter	4"	5"	6"	9"	12"
 smooth		.028" [0.7mm]	gS 78.2000	gS 78.2050	gS 78.1210	gS 78.2105	—
		.035" [0.9mm]	gS 78.2010	gS 78.2060	gS 78.1220	gS 78.2110	gS 78.2210
		.045" [1.1mm]	gS 78.2020	gS 78.2070	gS 78.1230	gS 78.2120	gS 78.2220
		.050" [1.2mm]	—	—	—	gS 78.2125	—
		.054" [1.4mm]	gS 78.2040	gS 78.2080	gS 78.1240	gS 78.2140	gS 78.2240
		.062" [1.6mm]	gS 78.2030	gS 78.2090	gS 78.1250	gS 78.2130	gS 78.2230
		5/64" [2.0mm]	—	—	gS 78.1255	—	—
 partial thread		.054" 15mm part thr.	—	—	gS 78.4714	—	—
		.062" 15mm part thr.	—	—	gS 78.4716	—	—
		.062" 25mm part thr.	—	—	—	gS 78.4040	—
 full thread		.062" full thread	—	—	gS 78.4230	gS 78.4030	—

Single Trocar / Round End

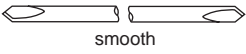
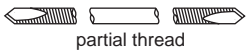

		diameter	4"	5"	6"	9"	12"
 smooth		.028" [0.7mm]	gS 78.2300	gS 78.2700	gS 78.2800	gS 78.2500	—
		.035" [0.9mm]	gS 78.2310	gS 78.2710	gS 78.2810	gS 78.2510	gS 78.2610
		.045" [1.1mm]	gS 78.2320	gS 78.2720	gS 78.2820	gS 78.2520	gS 78.2620
		.054" [1.4mm]	gS 78.2330	gS 78.2740	gS 78.2840	gS 78.2540	gS 78.2640
		.062" [1.6mm]	gS 78.2340	gS 78.2750	gS 78.2850	gS 78.2530	gS 78.2630
 round hole, smooth		.062" round hole	—	—	—	gS 78.4460	—
 partial thread		.062" 25mm part thr.	—	—	—	gS 78.9116	—
		.062" 45mm part thr.	—	—	—	gS 78.9216	—
 full thread		.062" full thread	—	—	—	gS 78.4100	—

Single Trocar / Round End

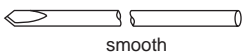
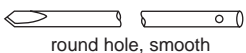

		diameter	2 3/4"	5"	6"	9"	12"
 smooth		[0.6mm]	gS 78.2276	—	—	—	—
		[0.8mm]	gS 78.2278	—	—	—	—
		[1.0mm]	—	—	gS 78.2815	—	—
		[1.2mm]	—	—	gS 78.2830	—	—
		[1.3mm]	—	—	gS 78.2835	—	—
		[2.0mm]	—	—	gS 78.2860	—	—
		[2.5mm]	—	—	gS 78.2864	—	—
 full thread		[2.5mm] full thread	—	—	gS 78.2925	—	—

78-79/2 - k-wires

Double Diamond

 smooth	diameter	4"	5"	6"	9"	12"
	.028" [0.7mm]	gS 78.3000	gS 78.3050	gS 78.1300	—	—
	.035" [0.9mm]	gS 78.3010	gS 78.3060	gS 78.1310	gS 78.3110	—
	.045" [1.1mm]	gS 78.3020	gS 78.3070	gS 78.1320	gS 78.3120	—
	.050" [1.2mm]	—	—	gS 78.1325	—	—
	.054" [1.4mm]	gS 78.3030	gS 78.3080	gS 78.1340	gS 78.3140	—
	.062" [1.6mm]	gS 78.3040	gS 78.3090	gS 78.1330	gS 78.3130	—
 partial thread	diameter	4"	5"	6"	9"	12"
	.054" 15mm part thr.	—	—	gS 78.4614	—	—
	.062" 15mm part thr.	—	—	gS 78.4616	—	—
 full thread	diameter	4"	5"	6"	9"	12"
	.062" full thread	—	—	—	gS 78.4130	—


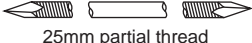

Single Diamond / Round End

 smooth	diameter	4"	5"	6"	9"	12"
	.028" [0.7mm]	gS 78.3300	—	—	—	—
	.035" [0.9mm]	—	gS 78.3342	—	gS 78.3410	gS 78.3510
	.045" [1.1mm]	—	gS 78.3344	—	gS 78.3420	gS 78.3520
	.054" [1.4mm]	—	gS 78.3346	—	gS 78.3440	—
	.062" [1.6mm]	—	—	—	gS 78.3430	gS 78.3530
	5/64" [2.0mm]	—	—	gS 78.7510	—	—
 round hole, smooth	diameter	4"	5"	6"	9"	12"
	.045" round hole	—	—	—	gS 78.3620	—
	.062" round hole	—	—	—	gS 78.3630	—
 full thread	diameter	4"	5"	6"	9"	12"
	.062" full thread	—	—	—	gS 78.4070	—



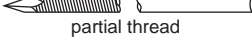

Kirscher Wires

Precision ground from certified implant stainless steel.
Smooth tapered points are expertly hand finished for easier penetration.
Six wires per package.


Double Trocar

	diameter	5"	9"	12"	9" 25mm thr.	9" full thread
 smooth	5/64" [2.0mm]	gS 78.5420	gS 78.5500	gS 78.5720	—	gS 78.8500
	3/32" [2.4mm]	—	gS 78.5530	—	gS 78.9424	gS 78.8530
	7/64" [2.8mm]	—	gS 78.5560	—	—	gS 78.8560
 25mm partial thread	1/8" [3.2mm]	—	gS 78.5590	—	gS 78.9432	gS 78.8590
	9/64" [3.5mm]	—	gS 78.5620	—	—	gS 78.8620
	5/32" [4.0mm]	—	gS 78.5650	—	gS 78.9440	gS 78.8650
 full thread	.177" [4.5mm]	—	gS 78.5680	—	—	gS 78.8680
	.197" [5.0mm]	—	gS 78.5690	—	—	—

Single Trocar / Round End

	diameter	9"	9" shank	9" 15mm thr	9" 25mm thr	9" 45mm thr	9" threaded
 smooth	5/64" [2.0mm]	gS 78.6100	gS 78.5800	gS 78.9050	gS 78.9120	gS 78.9220	gS 78.8700
	3/32" [2.4mm]	gS 78.6130	gS 78.5830	gS 78.9054	gS 78.9124	gS 78.9224	gS 78.8730
	7/64" [2.8mm]	gS 78.6160	gS 78.5860	gS 78.9058	gS 78.9128	gS 78.9228	gS 78.8760
 three shank end	1/8" [3.2mm]	gS 78.6190	gS 78.5890	gS 78.9062	—	—	gS 78.8780
	9/64" [3.5mm]	gS 78.6220	gS 78.5920	gS 78.9065	gS 78.9135	gS 78.9235	gS 78.8820
 partial thread	5/32" [4.0mm]	gS 78.6250	gS 78.5950	gS 78.9070	gS 78.9140	gS 78.9240	gS 78.8850
	.177" [4.5mm]	gS 78.6280	gS 78.5980	—	—	—	gS 78.8880
 threaded							

Single Trocar / Round End

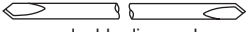

	diameter	4"	5"	12"
 smooth	5/64" [2.0mm]	gS 78.6420	gS 78.6520	—
	3/32" [2.4mm]	gS 78.6424	gS 78.6524	—
	7/64" [2.8mm]	gS 78.6428	gS 78.6528	—
	- [3.0mm]	gS 78.6430	—	—
	1/8" [3.2mm]	—	gS 78.6532	gS 78.7800
	9/64" [3.5mm]	—	—	—
	5/32" [4.0mm]	—	—	gS 78.7940

Steinmann Pins

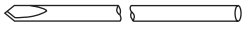



Precision ground from certified implant stainless steel.
Smooth tapered points are expertly hand finished for easier penetration.
Six wires per package.

78-79/4 - steinmann pins and cerclage wire

Double Diamond

	diameter	9"	9" full thread
 double diamond	5/64" [2.0mm]	gS 78.7000	gS 78.8300
	3/32" [2.4mm]	gS 78.7030	gS 78.8330
	7/64" [2.8mm]	gS 78.7060	gS 78.8360
	1/8" [3.2mm]	gS 78.7090	gS 78.8390
 full thread	9/64" [3.5mm]	gS 78.7120	gS 78.8420
	5/32" [4.0mm]	gS 78.7150	gS 78.8450
	.177" [4.5mm]	gS 78.7180	gS 78.8480

Single Diamond / Round end

	diameter	9"	9" threaded	9" shank	9" shank hole	12" threaded
 round end, smooth	5/64" [2.0mm]	gS 78.7780	gS 78.8000	gS 78.7300	gS 78.9800	—
	3/32" [2.4mm]	gS 78.7630	gS 78.8030	gS 78.7330	gS 78.9830	—
 threaded	7/64" [2.8mm]	gS 78.7660	gS 78.8060	gS 78.7360	gS 78.9860	—
	1/8" [3.2mm]	gS 78.7690	gS 78.8090	gS 78.7390	gS 78.9890	—
 three shank end	9/64" [3.5mm]	gS 78.7720	gS 78.8120	gS 78.7420	gS 78.9920	—
	5/32" [4.0mm]	gS 78.7750	gS 78.8150	gS 78.7450	gS 78.9950	gS 78.8210
 three shank end with hole	.177" [4.5mm]	gS 78.7782	gS 78.8180	gS 78.7480	gS 78.9980	—

Steinmann Pins

Precision ground from certified implant stainless steel.
Smooth tapered points are expertly hand finished for easier penetration.
Six wires per package.



	diameter	gauge
gS 79.2002	0.2mm	36 gauge
gS 79.2003	0.3mm	30 gauge
gS 79.2004	0.4mm	27 gauge
gS 79.2005	0.5mm	25 gauge
gS 79.2006	0.6mm	23 gauge
gS 79.2007	0.7mm	22 gauge
gS 79.2008	0.8mm	21 gauge
gS 79.2009	0.9mm	20 gauge
gS 79.2010	1.0mm	19 gauge
gS 79.2012	1.2mm	18 gauge
gS 79.2015	1.5mm	17 gauge

Cerclage Wire

rolls 10 meters in length

- gS 80.7160** round 5mm for Stille Drill
- gS 80.7210** cushioning 10mm
- gS 80.7215** cushioning 15mm
- gS 80.7609** cushioning perforator 9mm
- gS 80.7613** cushioning perforator 13mm



round

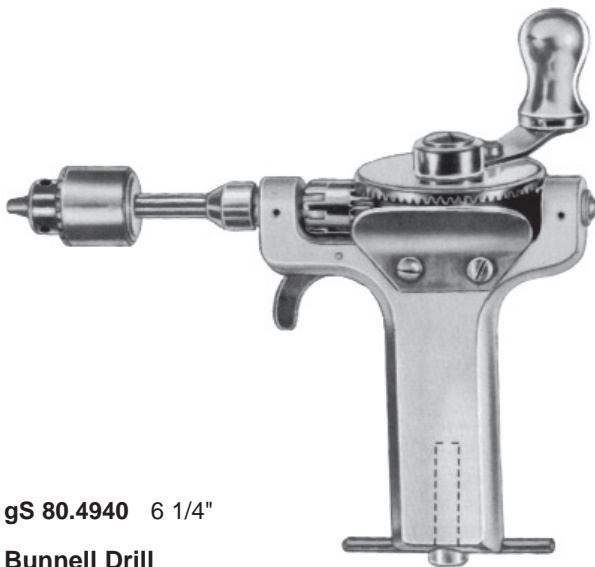


cushioning



cushioning
perforator

Burrs
stainless steel



gS 80.4940 6 1/4"

Bunnell Drill
cannulated, includes chuck key
accepts bits up to 5/32" (4.0mm)



gS 80.4900 5 3/4"

Ralks Drill
cannulated, includes chuck key
accepts bits up to 1/4" (6.35mm)

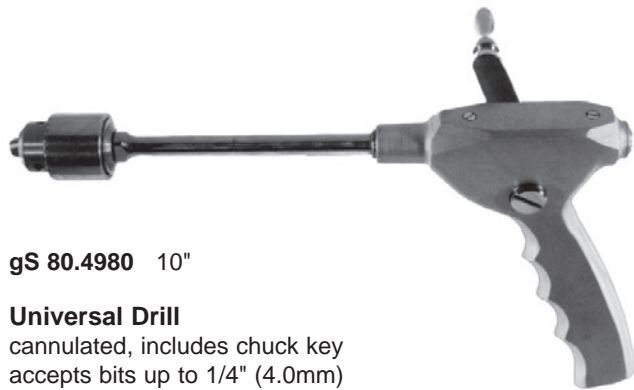
80/2 - hand drills



gS 80.4990 11"

Hand Drill

cannulated, includes chuck key
accepts bits up to 1/8" (3.2mm)



gS 80.4980 10"

Universal Drill

cannulated, includes chuck key
accepts bits up to 1/4" (4.0mm)



gS 80.4950 10"

Hudson Drill

snap lock chuck
key-less



6mm

Alligator teeth on jaws provide a secure grip for nail removal.

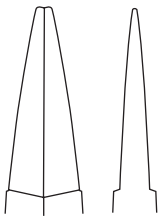
gS 81.8520 5 1/2"

Platypus Nail Pulling Forceps
6mm tip



gS 81.3190 6"

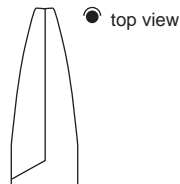
Extra Delicate Pliers
2mm tip
very delicate



For cerclage wire.

gS 81.3360 5 1/2"

Round Nose Pliers
smooth 1mm tip
delicate



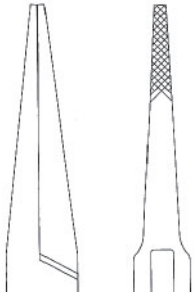
For cerclage wire.

gS 81.3370 5 1/2"

Needle Nose Pliers
one round 2mm tip
delicate



8 1/2 - pliers



gS 81.3480 6"

Flat Nose Pliers
delicate jaw tapers to 2mm
for cerclage wire



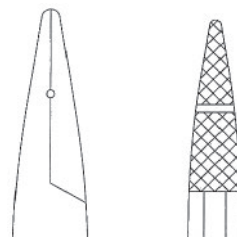
gS 81.3460 5 1/2"

Flat Nose Pliers
serrated jaw 5mm tip



gS 81.3220 5 1/2"

Needle Nose Pliers
fine cross serrations
tapers to 2mm tip

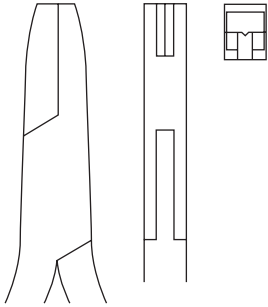


Delicate needle nose
pliers for cerclage wire.

gS 81.3214 5 1/4"

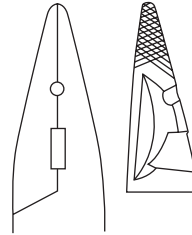
Needle Nose Pliers
delicate with wire guide
tapers to 2mm tip





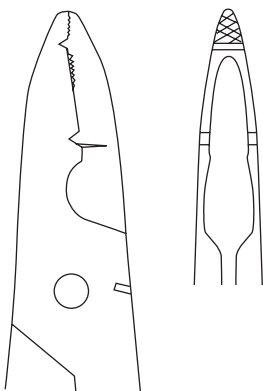
gS 81.3310 5"

Cerclage Bending Pliers
slotted jaw



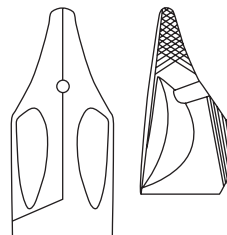
gS 81.3290 5 1/2"

Cerclage Pliers with Cutter
side groove and cutting edge



gS 81.3315 6"

Wire Bending Pliers
notched, serrated jaw



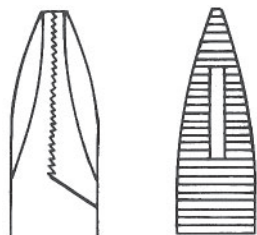
Delicate with groove and cutting edge for cerclage wire.

gS 81.3300 6"

Cerclage Pliers
with groove and cutting edge

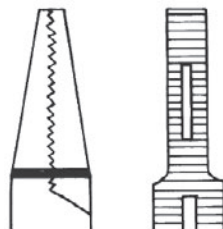


81/4 - pliers



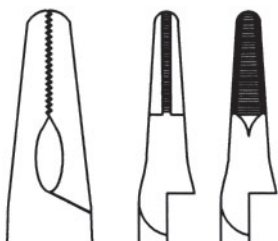
gS 81.3450 6"

Needle Nose Pliers
serrated jaw 2mm tip

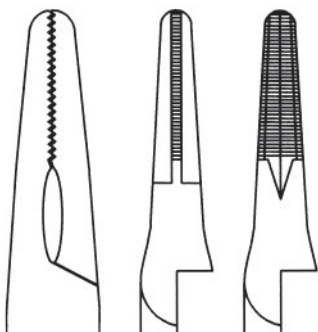


gS 81.3462 5 1/2"

Flat Nose Pliers
serrated jaw 5mm tip



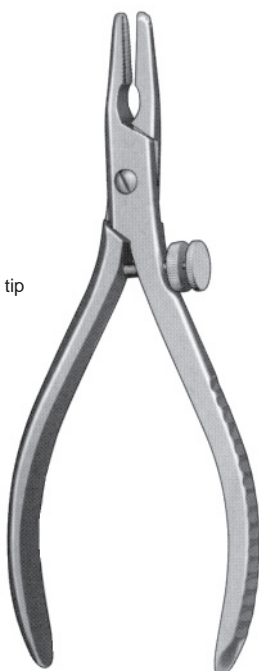
3mm tip



4mm tip

gS 81.3540 5" 3mm tip
gS 81.3542 7" 4mm tip

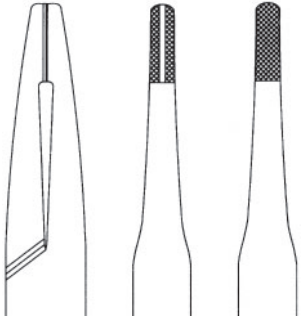
K-Wires Pliers
with screw lock and k-wire groove



gS 81.3546 7 1/2" TC

Screw and Pin Removing Pliers
with speedlock and TC inserts for 3.0/4.5 screws/pins



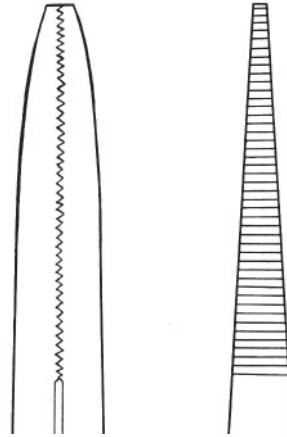


TC jaws have one grooved side to help grip small pins.

gS 81.6780 5 1/2"

Pin Puller

tungsten carbide inserts
tapers to 3mm at tip

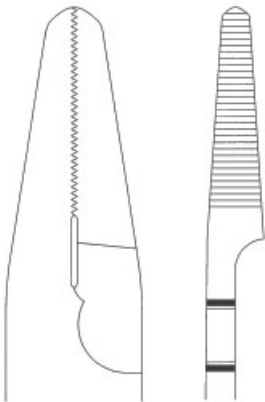


Long delicate needlenose jaws for hard-to-reach sites.

gS 81.3610 7"

Long Jaw Pliers

2" long delicate jaw
tapers to 2mm at tip

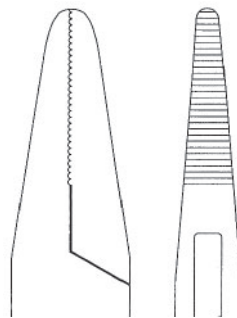


For cerclage wire.

gS 81.3490 6 1/2"

Flat Nose Pliers with Cutter

tapers to 3.5mm at tip



Heavy jaws for pulling wires and pins.

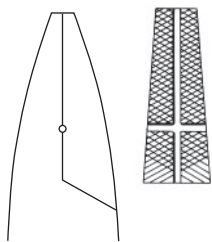
gS 81.3530 7 1/2"

Narrow Nose Pliers

tapers to 2mm at tip



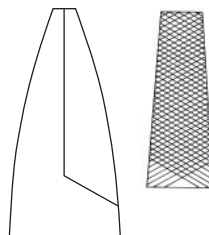
81/6 - pliers



End groove for pulling k-wire and side groove for cerclage wire.

gS 81.3464 7"

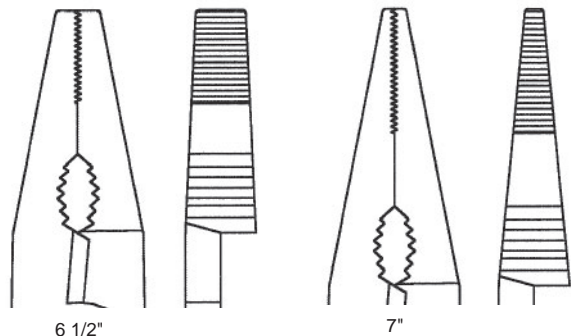
Flat Nose Pliers
with k-wire groove and side groove



Flat jaws with cross-serrated surface for pulling k-wires.

gS 81.3466 7"

Flat Nose Pliers
serrated jaws



6 1/2"

7"

- Combination pliers and wire cutter.
- Precision serrated jaws produce firm and secure gripping action.
- Tungsten carbide welded jaws cut all sizes of cerclage wire and k-wire up to .045" (1.1mm).
- Heavy duty spring for strong return.

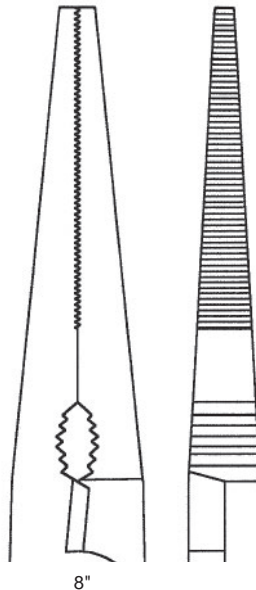
gS 81.3716 6 1/2" square 7mm jaw

gS 81.3717 7" tapers to 2mm at tip

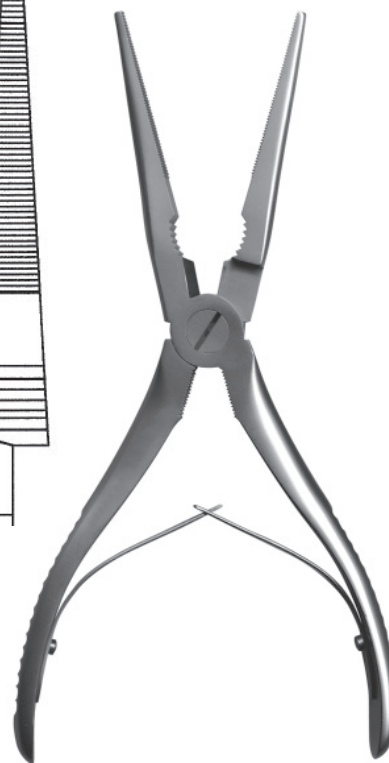
gS 81.3720 8" needle nose 2" long jaw tapers to 2mm at tip

Universal Pliers

serrated with spring and cutting edge
.045" (1.1mm) max cutting capacity



8"

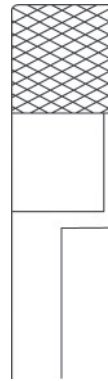
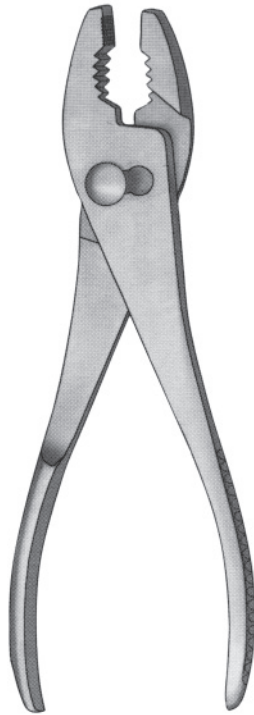




All purpose pliers for wires, pins, screws, and rods.

gS 81.3620 8"

Slip Joint Pliers
heavy duty
2" max opening



Heavy duty pliers for wires, pins, screws, and rods.

gS 81.7060 8 1/2"

Lineman Pliers
heavy duty with cutting edge
.062" (1.6mm) max capacity



Stainless steel flat nose pliers with double action for added power.

Jaws are serrated stainless steel.



gS 81.6715 7" 4mm jaw

gS 81.6717 7" 6mm jaw

Double Action Wire Extraction Pliers
without tungsten carbide inserts



81/8 - pliers



Double action power combined with tungsten carbide inserts makes these pliers ideal for heavy use.

Tungsten carbide inserts are harder and longer-lasting than regular stainless steel.

Pliers with 2mm jaws can be used to remove up to .062" (1.6mm) k-wires from hard-to-reach areas.

Pliers with 3mm and 6mm jaws can be used to grasp all sizes of wires and pins.

- gS 81.6720** 7" 2mm delicate jaw TC
- gS 81.6730** 7" 3mm jaw TC
- gS 81.6733** 7" 2mm long jaw TC
- gS 81.6740** 7" 6mm jaw TC

Double Action Wire Extraction Pliers
tungsten carbide inserts



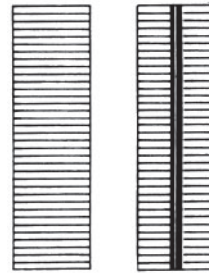
pliers/locking pliers - 81/9



Parallel jaws with one grooved side provides extra-ordinary gripping power.

gS 81.7040 7 1/4"

Parallel Pliers
10mm jaw



Parallel jaws with one grooved side provides extra-ordinary gripping power.

Side cutting jaws for k-wire up to .062" (1.6mm).

gS 81.7050 7 1/4"

Parallel Pliers and Cutter
max cutting capacity: .062"
10mm jaw



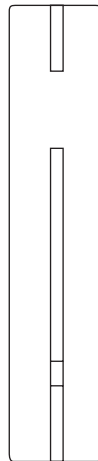
Heavy duty locking pliers with mallet strike plate.

For removal of wires, pins, and screws.

Adjustment screw and self-locking lever.



regular



long

- gS 81.7210** 9" regular jaw pliers
- gS 81.7211** 9" regular replacement jaws only
- gS 81.7215** 9" long jaw pliers
- gS 81.7216** 9" long replacement jaws only

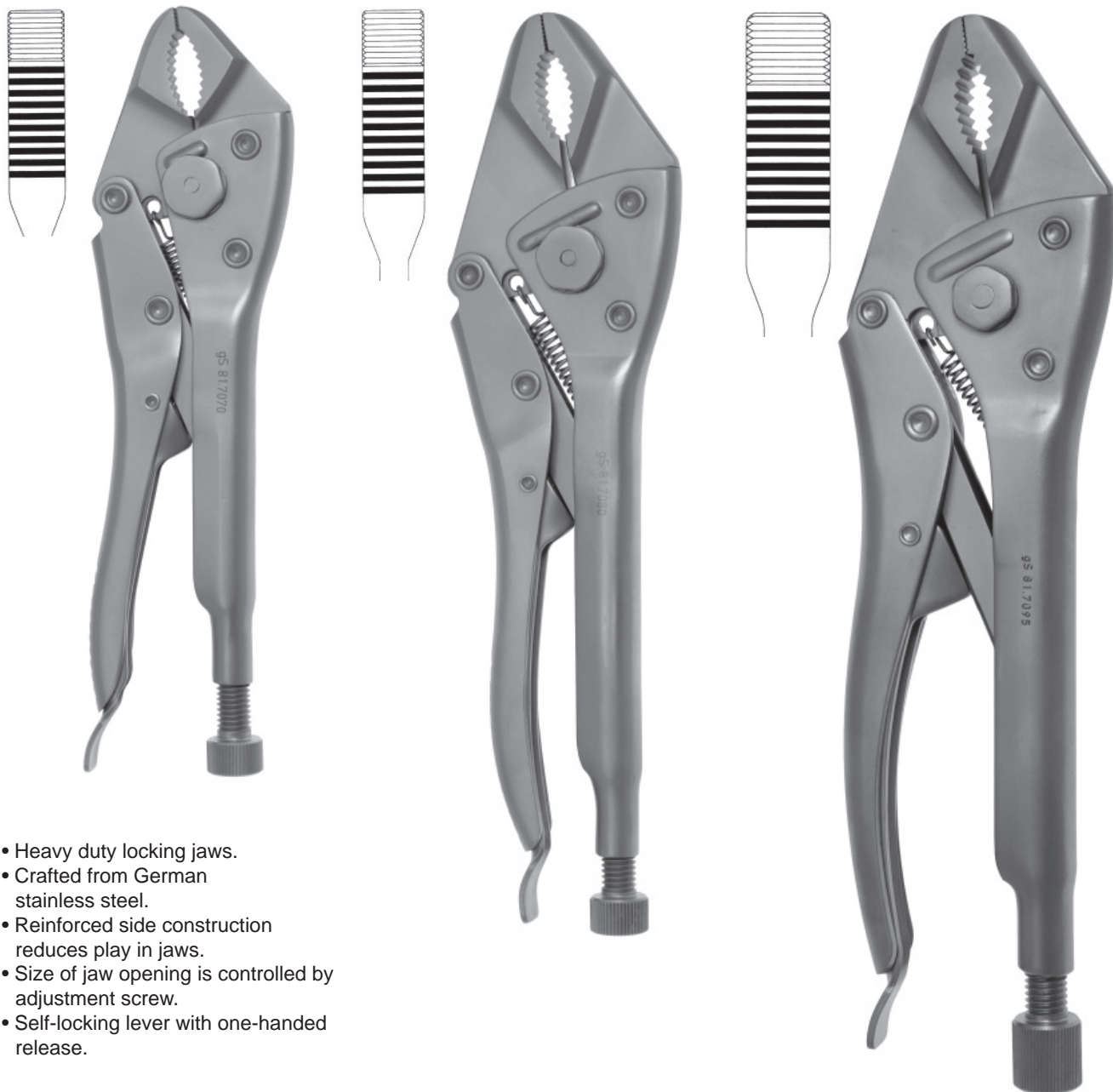
Locking Pliers with Strike Plate



regular

long

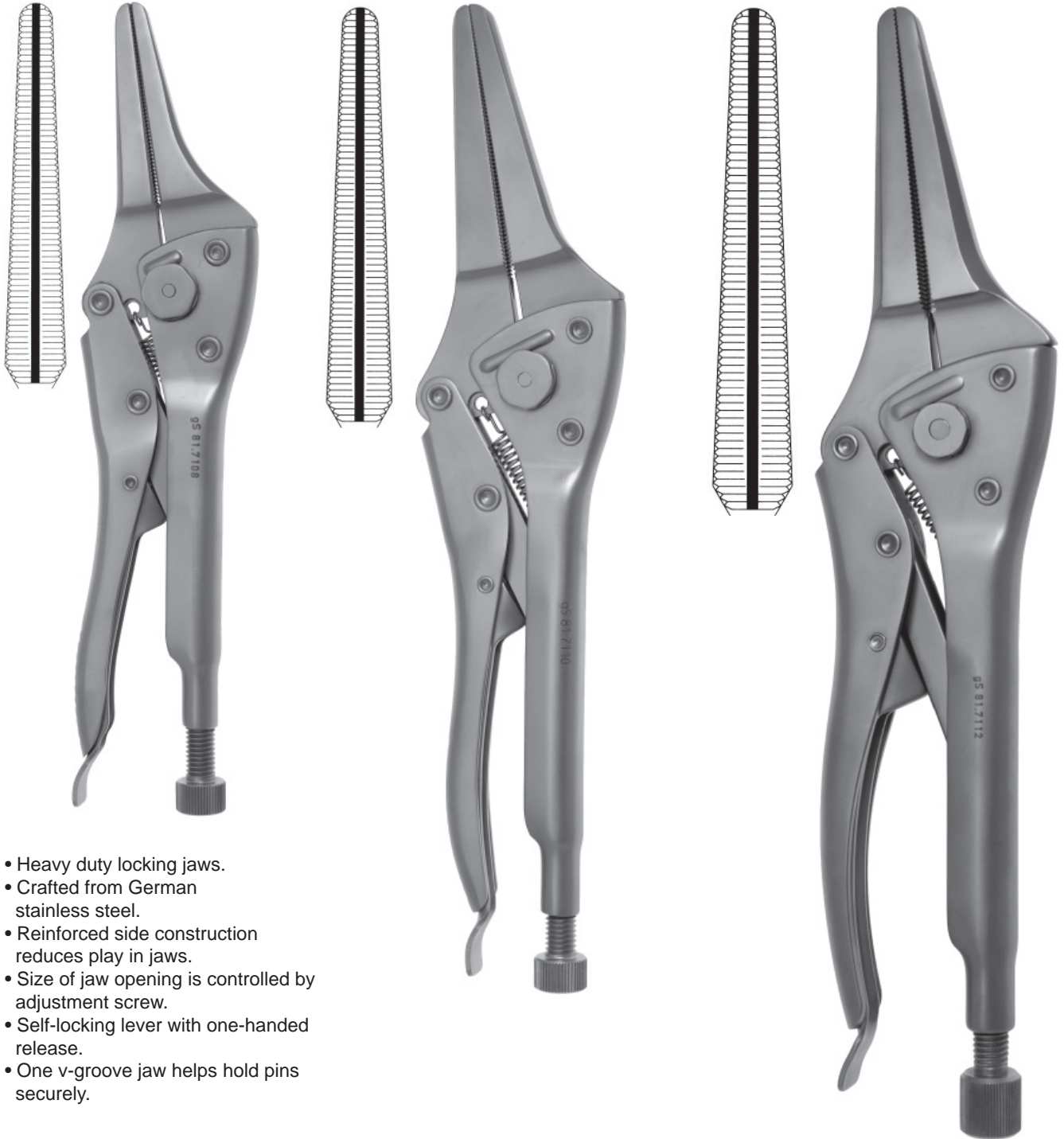
81/10 - locking pliers



- Heavy duty locking jaws.
- Crafted from German stainless steel.
- Reinforced side construction reduces play in jaws.
- Size of jaw opening is controlled by adjustment screw.
- Self-locking lever with one-handed release.

gS 81.7070 7" small
gS 81.7080 8" medium
gS 81.7095 9 1/2" large

Locking Pliers



- Heavy duty locking jaws.
- Crafted from German stainless steel.
- Reinforced side construction reduces play in jaws.
- Size of jaw opening is controlled by adjustment screw.
- Self-locking lever with one-handed release.
- One v-groove jaw helps hold pins securely.

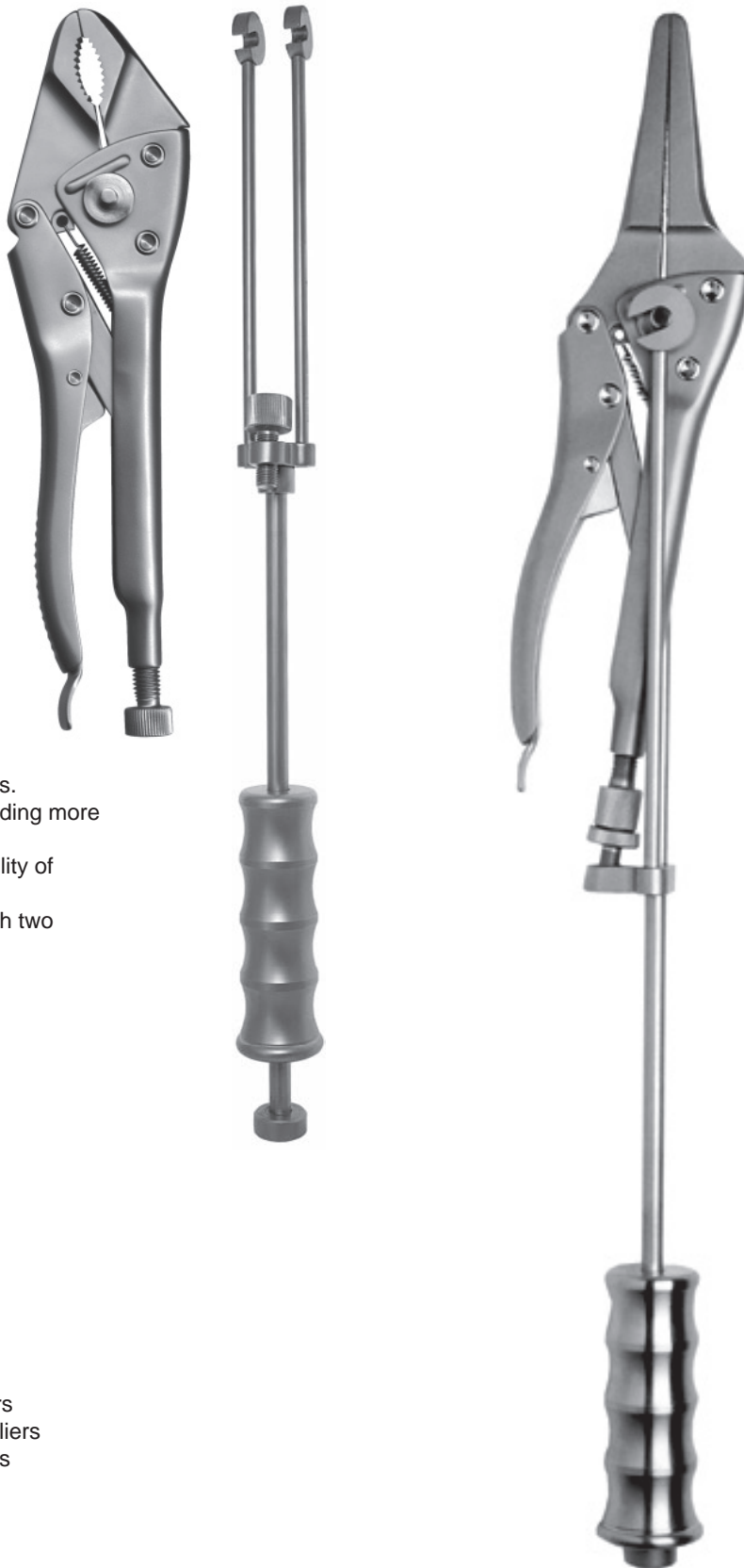
gS 81.7108 8 1/2" small

gS 81.7110 10" medium

gS 81.7112 12" large

Needle Nose Locking Pliers

81/12 - locking pliers



- Implants are removed more effectively with well-engineered slaphammer attachments.
- Force is applied directly in line with jaws providing more control during implant removal.
- Stable three point contact reduces the possibility of twisting or turning.
- Interchangeable slaphammer can be used with two different pliers.
- German stainless steel.

small pliers

gS 81.7138 7" regular jaw

gS 81.7144 8 1/2" needle nose jaw

medium pliers

gS 81.7140 8" regular jaw

gS 81.7145 10" needle nose jaw

large pliers

gS 81.7142 9 1/2" regular jaw

gS 81.7146 12" needle nose jaw

slaphammers

gS 81.7128 400gr slaphammer for small pliers

gS 81.7130 400gr slaphammer for medium pliers

gS 81.7132 700gr slaphammer for large pliers

Locking Pliers with Slaphammers

wire and pin management - 82/1

Keyless chuck for insertion and removal of steinmann pins.

Cannulation max cap: 5.0mm
Chuck max cap: 6.35mm

gS 82.0020 4 1/2" reverse lock
gS 82.0030 4 1/2"

Universal Chuck
cannulated

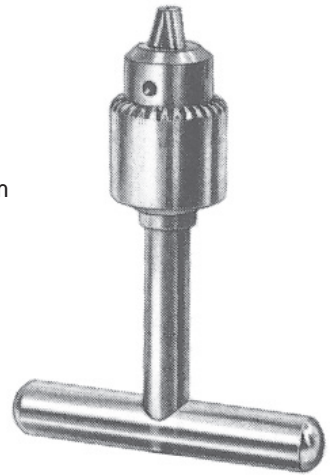


Chuck for insertion and removal of steinmann pins includes separate chuck key.

Cannulation max cap: 5.0mm
Chuck max cap: 7.0mm

gS 82.4740 4" chuck only
gS 82.4741 key only

Steinmann Pin Chuck
cannulated, with key



Drive, bend and pull k-wire with one instrument.

- one-handed operation
- depth gauge
- keyless operation
- for wires .028" to .062"

gS 82.0100 5 1/2"

Vickers Manual K-Wire Driver



gS 82.0240 5 1/2"

Pin Puller
grips, holds and pulls
2.8mm to 3.2mm pins



82/2 - wire and pin management

Bending aid for pins and wires.

gS 82.4760 6"

Wire and Pin Bender
max capacity: 1/8" (3.2mm)



gS 82.4755 4 1/2"

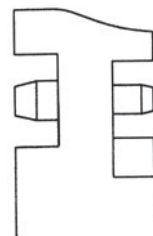
Wire Bending Iron
for 0.8mm to 1.25mm wires



For mini plates.

gS 82.0172 4 3/4"

Mini Plate Bending Iron
1.5mm/2.0mm



gS 82.0182 7 3/4"

Plate Bending Iron
3.5mm/4.5mm



wire and pin management - 82/3

Used in pairs with
gS 82.0174.

gS 82.0176 5 1/2"

Small Plate Bending Iron
2.7mm/3.5mm



Used in pairs with
gS 82.0176.

gS 82.0174 5 1/2"

Small Plate Bending Iron
2.7mm/3.5mm



Handle holes measure:
3.5mm, 5.0mm, 6.5mm
and 8.0mm.

gS 82.0180 9 1/2"

Standard Plate Bending Iron
5.0mm/7.0mm



gS 82.0184 7"

Plate Bender
double ended (Lane)
4.5mm/5.0mm



82/4 - wire and pin management

for 3/16" (4.76mm) rods
gS 82.7710 13" right
gS 82.7712 13" left

for 1/4" (6.35mm) rods
gS 82.7720 13" right
gS 82.7722 13" left

In Situ Rod Bender
 used in pairs



gS 82.0970 5"

Mini Plate Bending Pliers
 for 1.5mm and 2.0mm plates



For additional plate bending
 pliers see section 81.



Bends mini plates and
 k-wire up to .045" (1.1mm)
 to 90° angle.

Bends k-wire up to .062"
 (1.6mm) to 90° angle.

gS 82.1014 5"

K-Wire and Plate Bender
 max .045" (1.1mm)

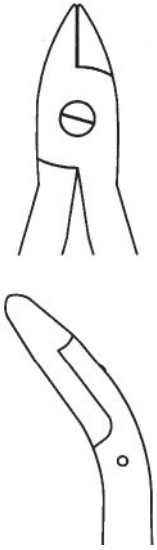


gS 82.1020 5 1/2"

K-Wire and Plate Bender
 max .062" (1.6mm)



wire and pin management - 82/5



gS 82.0980 5 1/2"

Plate Bending Pliers
for 2.0mm plates



gS 82.0296 8"

Plate Bending Pliers
for 1.6mm plates



gS 82.0298 9 1/2"

Plate Bending Pliers
for 3.0mm plates

gS 82.0315 8 1/2"

Plate Bending Pliers
for 2.7mm and 3.5mm
plates



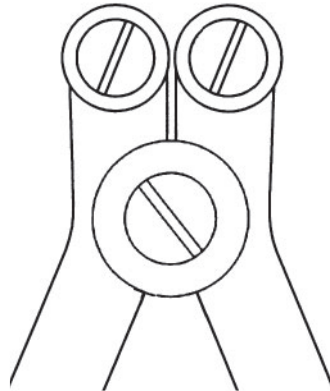
82/6 - wire and pin management



Includes two anvils
for narrow and
broad plates.

gS 82.0302 10"

Plate Bending Pliers
for straight plates 2 anvils



gS 82.7630 7 1/2"

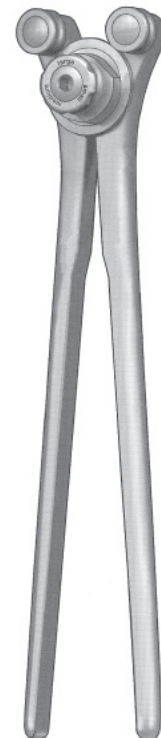
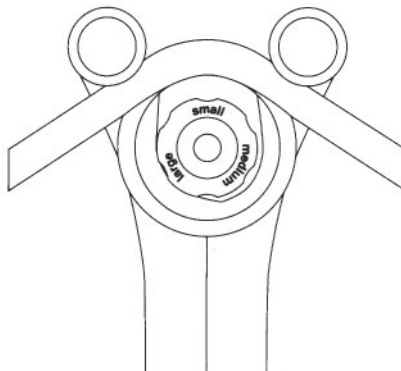
Rod Bender
one-handed bender
for 3mm and 4mm rods



- Bends rods up to 7mm to three different angles.
- Separate reduction ring not required.
- Adjustable center cam is spring loaded.

gS 82.7640 11"

Universal Rod Bender
for rods up to 7mm



wire and pin management - 82/7



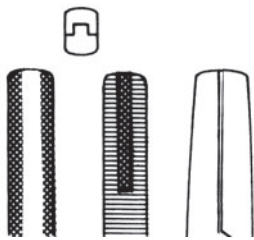
gS 82.0300 10"

Plate Bending Pliers
for reconstruction plates
max 12mm x 2.5mm



gS 82.0290 12"
gS 82.0292 anvil only

Plate Bending Press
table top

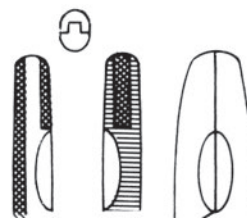


gS 82.4220 6 1/2"

Wire Pulling Fcps
one grooved jaw

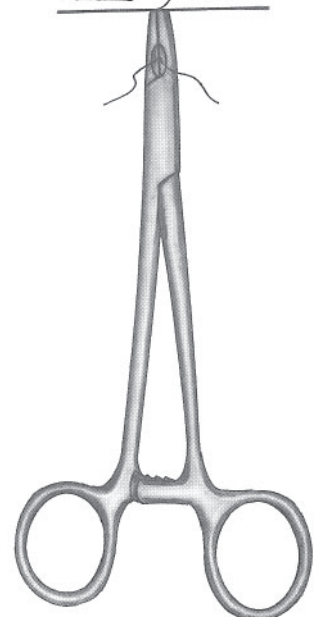
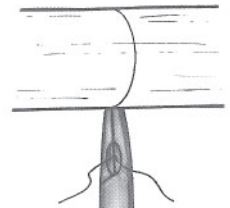


Side jaw fenestration
for twisting cerclage wire.



gS 82.4225 6 1/4"

**Wire Twister and
Tightener**
side fenestration



82/8 - wire and pin management



- gS 82.4230** 6"
- gS 82.4231** 7 1/4"
- gS 82.4232** 8"

Wire Twisting Forceps
tungsten carbide inserts
4mm serrated square tip



- gS 82.4235** 6"
- gS 82.4236** 7 1/4"
- gS 82.4237** 8"

Wire Twisting Forceps
tungsten carbide inserts
3mm serrated rounded tip



- gS 82.4240** 7 1/2"

Wire Twisting Forceps
tungsten carbide inserts
6mm serrated rounded tip



- gS 82.4250** 6"

Wire Twisting Forceps
3mm smooth rounded tip



wire and pin management - 82/9



Clamp ends of wire in jaw and pull on center ring to twist.

gS 82.4260 6 1/4"

Corwin Wire Twister
serrated
tungsten carbide inserts



gS 82.4100 4 3/4"

Wire Tightener



How to use the Loute Wire Tightener:

1. Loosen both knobs by turning counterclock-wise until center pin disappears from view.
2. Pass wire around bone and feed both ends into center hole at the tip.
3. Use Wire Pulling Forceps to pull ends through and hold wire tight while pushing the instrument close to the bone.
4. Turn lower (distal) knob clockwise to lock wire in place. Then turn upper (proximal) knob clockwise to pull the remaining slack from the wire.
5. Balance instrument in one hand and rotate it with the other hand until resistance is felt. Then hold tightener shaft tight and turn lower (distal) knob clockwise until wire is cut.

Note: Hold instrument straight (do not tilt) while tightening.

gS 82.4750 8 1/2"

Loute Wire Tightener
max 1.5mm/17 gauge cerclage wire



82/10 - wire and pin management

Double wire tightener.

gS 82.4150 9 1/2"

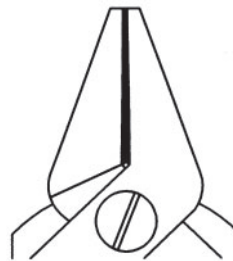
Wire Tightener

two turning screws
phenolic handle



Twist cerclage wire quickly, smoothly and evenly.

1. Wrap wire around bone and bring wire ends together.
2. Place wire ends in jaw.
3. Engage ratchet and clamp wire firmly.
4. Stabilize site.
5. Pull back on t-handle until desired tension is reached.
6. Release jaw by disengaging ratchet.



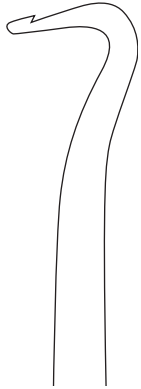
gS 82.4790 11"

Jet Wire Twister

10mm serrated jaw



wire and pin management - 82/11



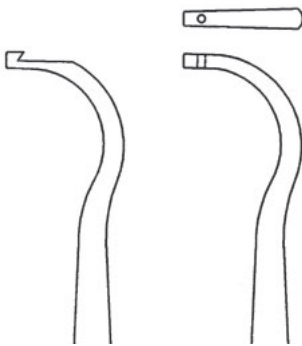
gS 82.4918 7 1/4"

Ligature Carrier (Bankart)
curved with crochet hook



gS 82.4930 7"

Suture Passer
curved with crochet hook
phenolic handle



gS 82.4940 9" w/ crochet hook
gS 82.4942 9" w/ suture hole

Suture Passer
curved
phenolic handle



gS 82.4960 8" right blunt
gS 82.4962 8" left blunt
gS 82.4964 8" right sharp
gS 82.4966 8" left sharp

Deschamps Ligature Carrier
with suture hole

82/12 - wire and pin management



gS 82.4800 10 1/2" 30mm
 gS 82.4820 11 1/2" 47mm
 gS 82.4840 12 1/2" 57mm

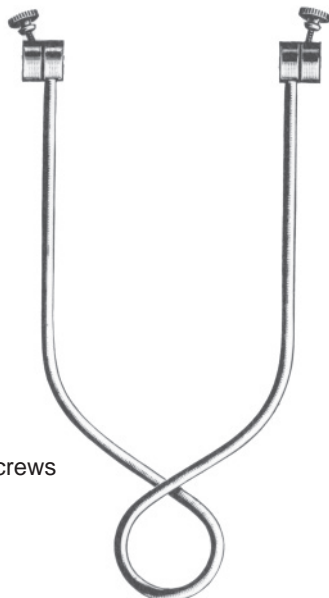
Demel Wire Guide



Cannulated shaft accepts
wires up to 2.0mm

gS 82.5100 6 1/2"

Crown Fixator
for 2.0mm K-Wire



length x width
 gS 82.4278 9 x 7.5cm
 gS 82.4280 16 x 9cm
 gS 82.4281 21 x 15cm
 gS 82.4282 replacement screws

**Boehler Wire and Pin
Tractor**



gS 82.4302 5 3/4"
gS 82.4304 7 1/2"
gS 82.4306 9 1/2"

Kirschner Bow
with three hooks

wire and pin cutters - 83/1

gS 83.2960 4 3/4"

Wire Cutting Scissors
straight serrated blunt blades
for cerclage wire only



serrated jaw with notch

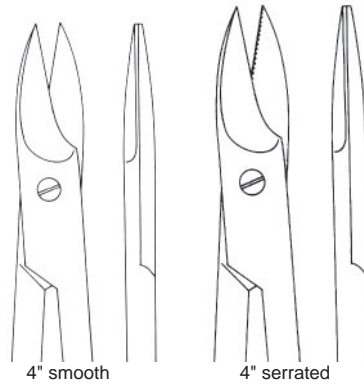
gS 83.4016 6 1/4"

Wire Cutting Scissors
tungsten carbide inserts
max .035" (0.9mm)



smooth
gS 83.2680 4" str
gS 83.2945 4 3/4" str
gS 83.2920 4" cvd

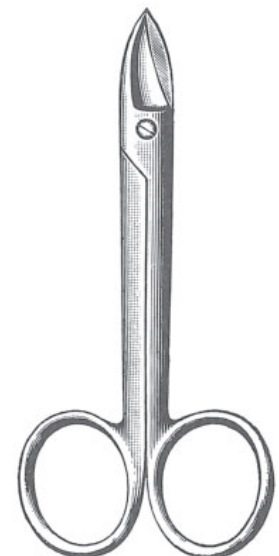
one serrated blade
gS 83.2700 4" str
gS 83.2950 4 3/4" str
gS 83.2940 4" cvd



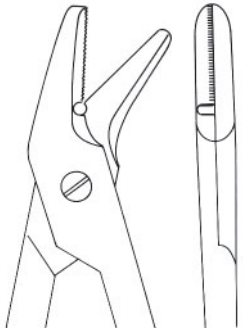
4" smooth

4" serrated

Wire Cutting Scissors
a.k.a. crown and collar



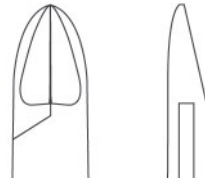
83/2 - wire and pin cutters



Notch in jaw for cutting cerlage wire up to 1.1mm.

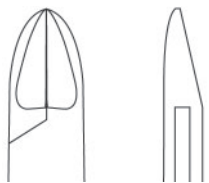
gS 83.2980 4 3/4"
gS 83.3000 4 3/4" TC inserts

Wire Cutting Scissors
 angled with one serrated
 blade and notch



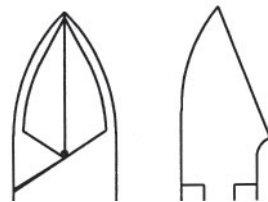
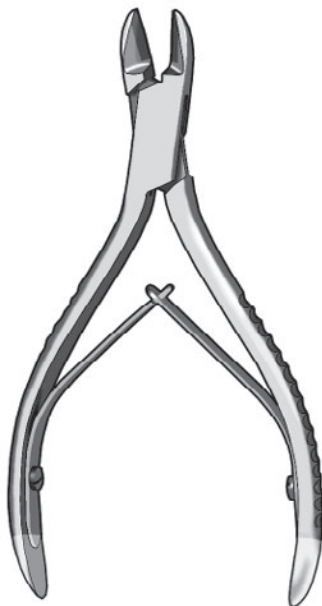
gS 83.7221 5"

Wire Cutter
 tungsten carbide inserts
 max .028" (0.7mm)



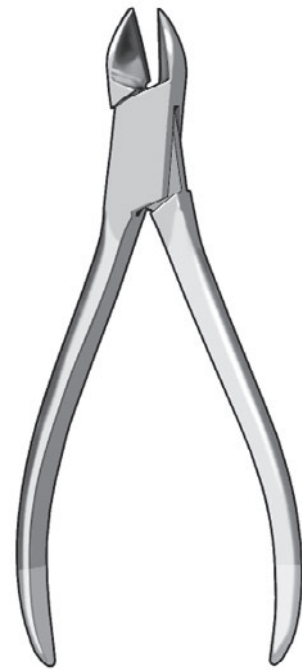
gS 83.7220 5"

Wire Cutter
 tungsten carbide inserts
 max .028" (0.7mm)

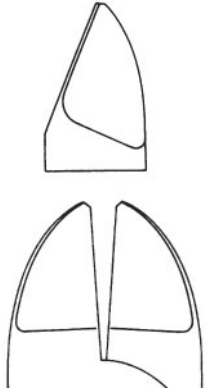


gS 83.7223 6"

Wire Cutter
 tungsten carbide inserts
 max .045" (1.1mm)

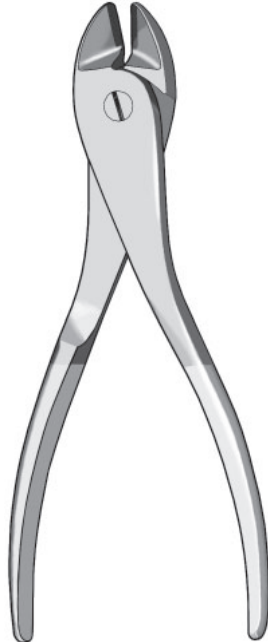


wire and pin cutters - 83/3



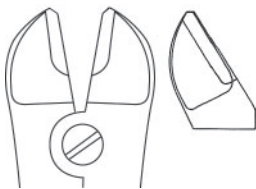
gS 83.7226 7"

Wire Cutter
tungsten carbide inserts
max .062" (1.6mm)



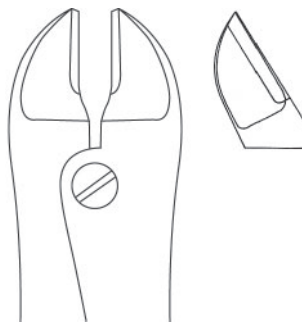
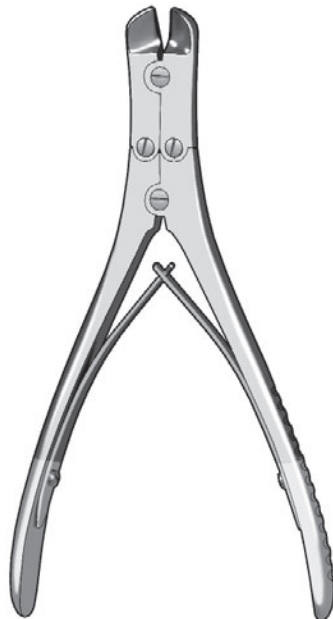
gS 83.7228 6 1/4"

Angled Wire Cutter DA
tungsten carbide inserts
max .062" (1.6mm)



gS 83.7230 7"

Angled Wire Cutter DA
tungsten carbide inserts
max .062" (1.6mm)

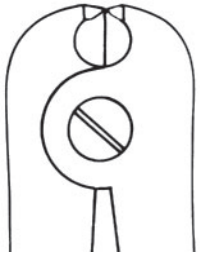


gS 83.7232 7" heavy

Angled Wire Cutter DA
tungsten carbide inserts
max .062" (1.6mm)



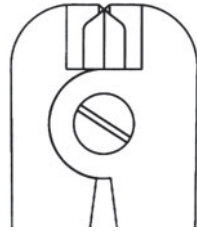
83/4 - wire and pin cutters



Front and side cutting jaws.

gS 83.7260 7"

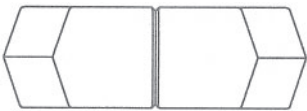
**Front and Side Wire
Cutter DA**
tungsten carbide inserts
max .062" (1.6mm)



Front and side cutting
jaws modified to cut
closer to the bone than
regular cutters.

gS 83.7310 7"

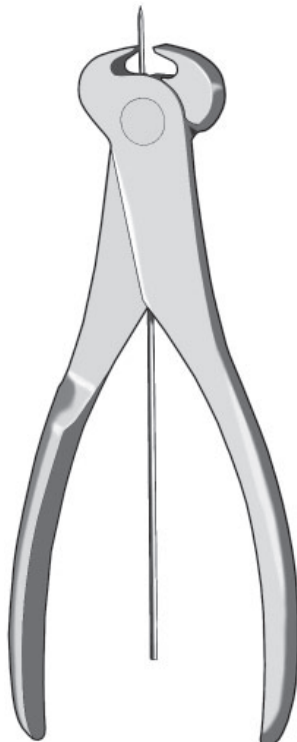
Flush Wire Cutter DA
tungsten carbide inserts
max .062" (1.6mm)



Slide cutter over wire to cut.
Remnant piece is held
securely inside the
cannulated channel for fast
and easy removal.

gS 83.7470 7 1/2"

Cannulated Pin Cutter
max .062" (1.6mm)



gS 83.7512 6"

End Cutter DA
tungsten carbide inserts
max .062" (1.6mm)

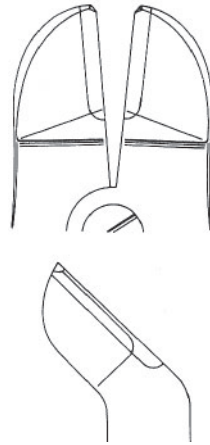


wire and pin cutters - 83/5

Can be disassembled for thorough cleaning.

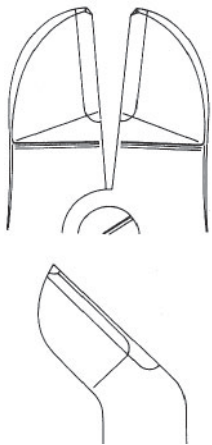
gS 83.7510 6 1/2"

Diamond Pin Cutter
max 5/64" (2.0mm)



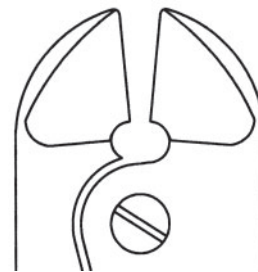
gS 83.7240 9"

Angled Wire Cutter DA
tungsten carbide inserts
max 3/32" (2.4mm)



gS 83.7236 9 1/2"

Angled Wire Cutter DA
tungsten carbide inserts
max 3/32" (2.4mm)

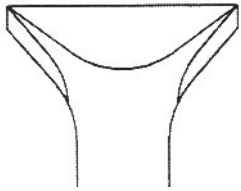


gS 83.7250 9"

Side Cutter DA
tungsten carbide inserts
max 3/32" (2.4mm)

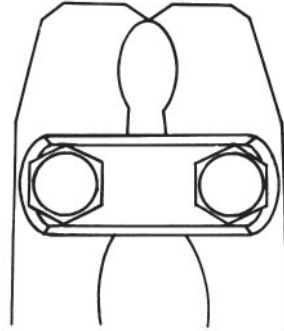


83/6 - wire and pin cutters



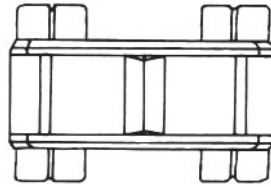
gS 83.7514 8 1/2"

End Cutter DA
tungsten carbide inserts
max 7/64" (2.8mm)



gS 83.7320 10"

End Cutter DA
max 1/8" (3.2mm)



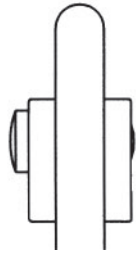
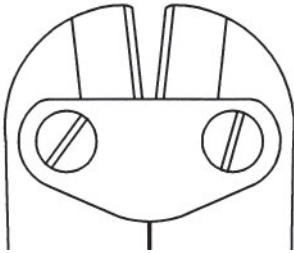
Shears bolts as close
to the bone as 1.5mm.

gS 83.7935 12 1/2"

Pin Shears
cuts wires, bolts and pins
max (3.0mm)



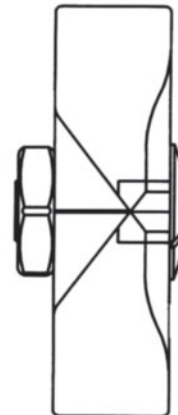
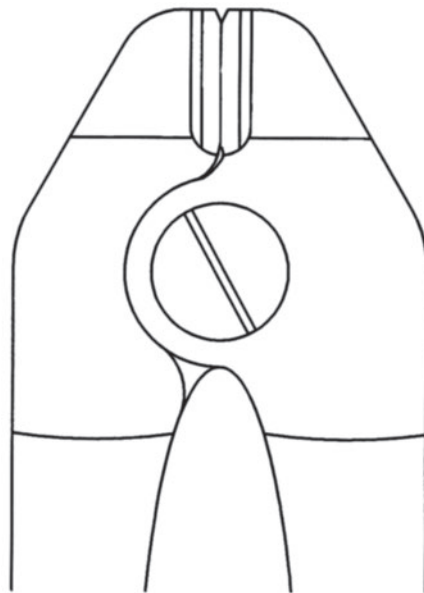
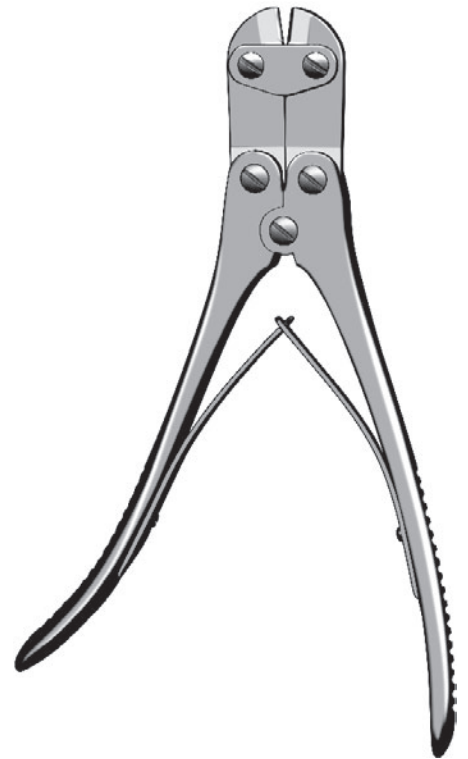
pin and rod cutters - 83/7



Double action delivers power to this versatile cutter. Side cutting jaws for plates, rods, and pins.

gS 83.9000 9 1/2"

Plate/Pin Cutter DA
side cutter
max 1/8" (3.2mm)



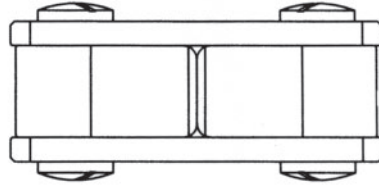
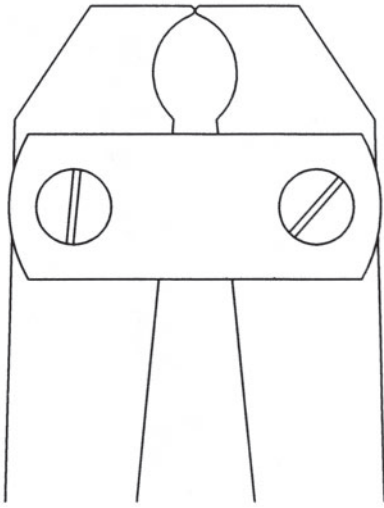
Large heavy duty cutter with specially hardened jaws for cutting titanium and stainless steel rods.

gS 83.9200 15"

Pin Cutter DA
side cutter
max 5/32" (4.0mm)



83/8 - pin and rod cutters



gS 83.7330 15" cutter
gS 83.7331 jaws only

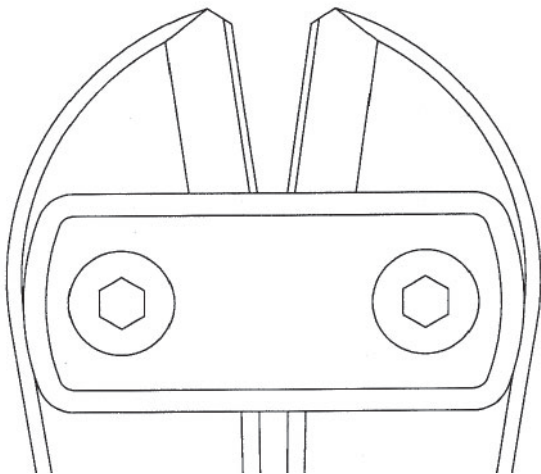
End Cutter DA
max 3/16" (4.8mm)

- Pin stop reduces chance of over loading jaws.
- Adjustment nut enables cutter blades to be adjusted during heavy use and/or after blades are replaced.
- Weight: 4.8 lbs

gS 83.7275 22"

Large Pin Cutter
max 1/4" (6.35mm)





- Cuts rods up to 1/4" (6.35mm)
- Specially hardened jaws.
- Knurled handles for non-slip grip.
- Handle stop prevents jaw overload.
- Not to be used inside patient.
- Weight: 3.6 lbs.

gS 83.7261 21"
gS 83.7262 replacement jaws

Large Pin Cutter DA
max 1/4" (6.35mm)



83/10 - pin and rod cutters



Detachable handles save space during autoclaving and storage. Overall length reduces from 22 1/2" to 15 1/2".

- Jaws made from hardest stainless steel for maximum durability.
- Grooved handles for non-slip grip.
- Cuts rods up to 1/4" (6.35mm)
- Handle stop prevents jaw overload.
- Not to be used inside patient.
- Weight: 4.8lb.

gS 83.7270 22 1/2"

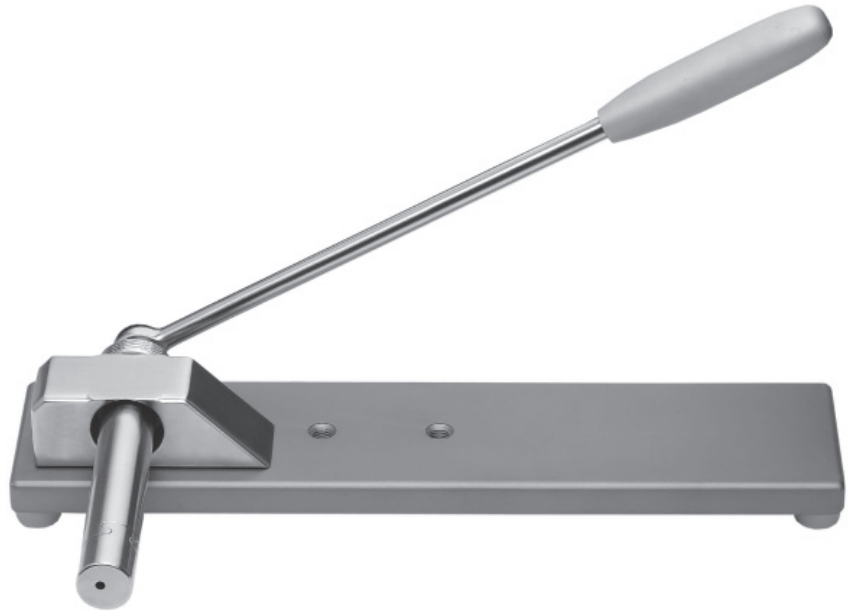
Large DH Pin Cutter
with detachable handles
max 1/4" (6.35mm)

- Replaceable cutting head shears bolts leaving flat edge.
- Small 16" footprint takes up less space in O.R.

- gS 83.9820** 16" cutter with one 4.75/6.5mm head
- gS 83.9823** 3.0/5.0mm head only
- gS 83.9825** 4.75/6.5mm head only

Table Top Rod Cutter

cuts 3.0, 4.75, 5.0 and 6.5mm bolts and pins



- Cuts cables cleanly and completely.
- Angled tungsten carbide jaws cut all cable strands with one clean cut.
- Handle design provides comfort and control.
- Small jaw allows surgeon to get close to the bone.
- Ball spring provides a smooth and strong return.

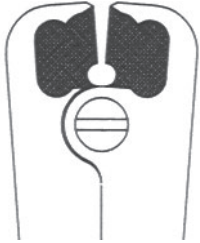
gS 83.9950 7"

Cable Cutter

max 2.0mm cable



83/12 - cutters with silicone inserts



- Silicone inserts hold remnant piece for safe disposal.
- Double action provides smooth cutting action.
- End and side cutting jaws.
- Replaceable silicone inserts.

gS 83.8400 7"

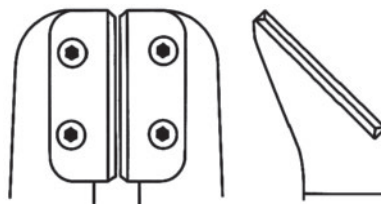
gS 83.8401 silicone inserts only

Wire Cutter with Silicone Inserts

max .062" (1.6mm) wire



- Strong, lightweight design requires less strength than regular double action cutters.
- Titanium Nitride (TiN) coated tungsten carbide inserts are harder and last longer than regular tungsten carbide.
- Angled cutting edge.
- Silicone inserts hold remnant wire securely, helps prevent flying pieces.



gS 83.7900 9"

gS 83.7901 jaw replacement kit includes: jaws, screws and wrench

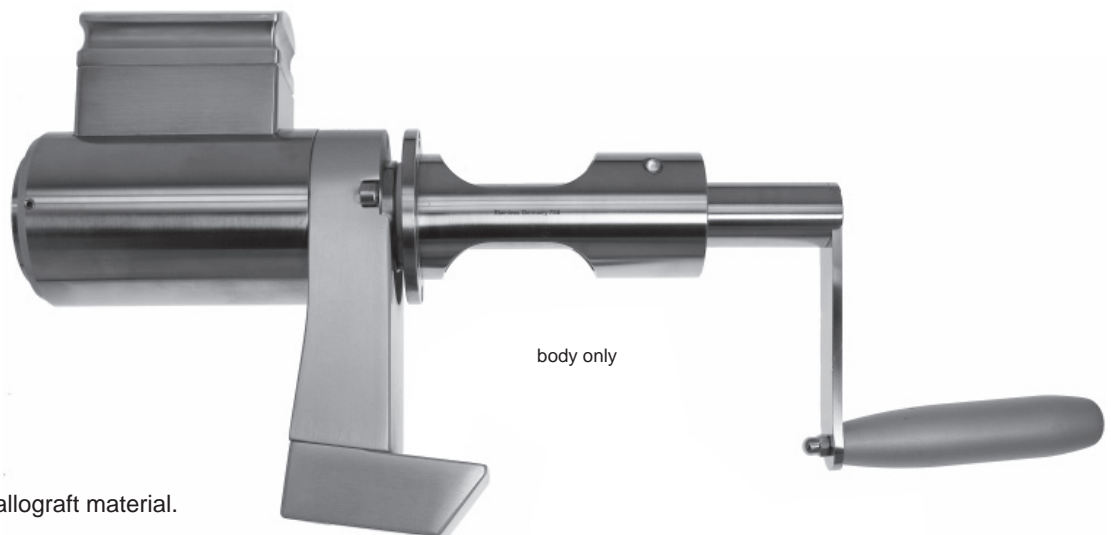
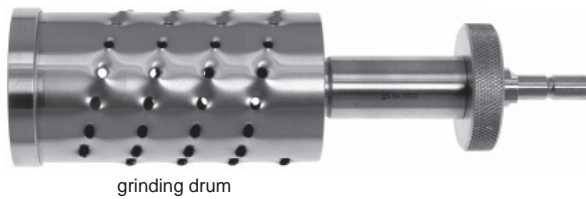
gS 83.7902 replacement silicone inserts (pair)

Hercules Cutter DA

TiN tungsten carbide inserts

max 7/64" (3.0mm)





Used to produce allograft material.

- Grinds bone of various densities
- 2 grinding cylinders for variable density bone graft
- Attaches securely with table clamp
- Fully autoclavable and easy to dismantle for cleaning

- gS 84.1000** body only
- gS 84.1020** table clamp
- gS 84.1032** grinding drum with 3.2mm holes
- gS 84.1042** grinding drum with 4.2mm holes

Bone Mill

84/2 - bone mill



Prepares cartilage material.

gS 84.2010

Cattle Bone Crusher

2 1/2" x 1" x 1"

A/O instruments for fracture management - 86-87/1

- gS 86.2545** 4 1/2" for 3.2mm drill bits
- gS 86.2550** 5 1/2" for 4.5mm tap with protective sleeve

Tap Sleeve
toothed tip



gS 86.2545

gS 86.2550

- gS 86.2558** 4 1/2" 40mm guide for 3.2mm drill bits
for round hole and semi-tubular plates
- gS 86.2560** 5" 60mm guide for 3.2mm drill bits
for round hole plates

Drill Sleeve

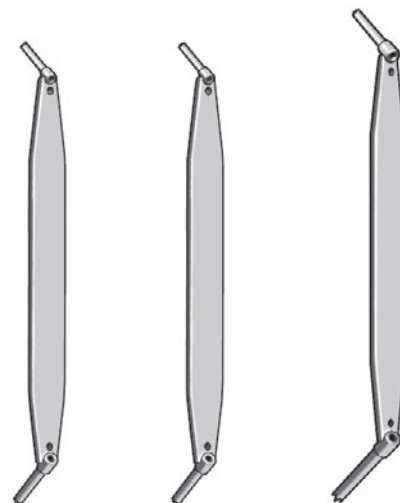


86-87/2 - A/O instruments for fracture management

Used with drills and taps to place accurate holes and protect tissue. Serrated ends prevent tip from slipping off bone.

	Drill Bits	Tap for Cortical Screws
gS 86.2500	1.1mm and 1.5mm	1.5mm
gS 86.2502	1.5mm and 2.0mm	2.0mm
gS 86.2503	2.0mm and 2.7mm	2.7mm

Double Drill Sleeve



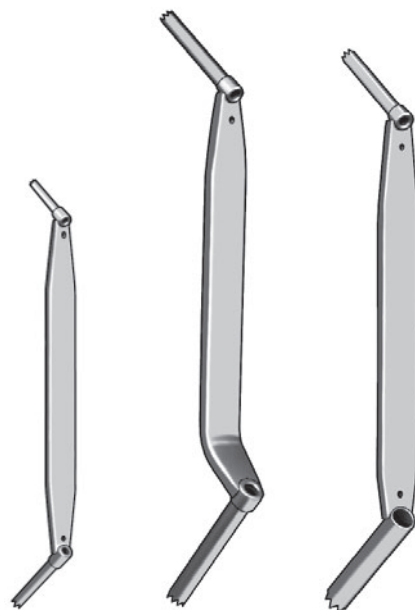
gS 86.2500
4 3/4"

gS 86.2502
4 3/4"

gS 86.2503
5"

	Drill Bits	Tap for Cortical Screws	Tap for Cancellous Screws
gS 86.2504	2.5mm and 3.5mm	3.5mm	4.0mm
gS 86.2505	3.2mm and 4.5mm	4.5mm	4.5mm (malleolar)
gS 86.2506	3.2mm	6.5mm	

Double Drill Sleeve



gS 86.2504
4 3/4"

gS 86.2505
7"

gS 86.2506
6 3/4"

A/O instruments for fracture management - 86-87/3

	Drill Bits	Screws
gS 86.2580	1.5mm	2.0mm cortex
gS 86.2582	2.0mm	2.7mm cortical
gS 86.2584	2.5mm	3.5mm cortical
gS 86.2586	3.2mm (malleolar)	4.5mm cortical

Double Drill Guide
with neutral and load end

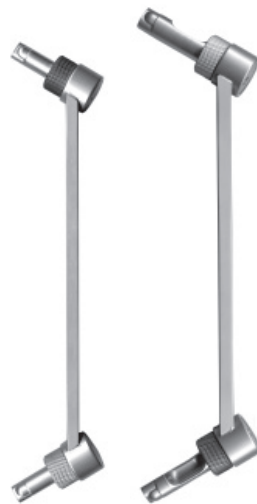


gS 86.2580 4 1/2"
gS 86.2582 5 1/4"
gS 86.2584 5 1/2"
gS 86.2586 6 1/2"

gS 86.2635 2.5mm Drill Bit
for 3.5mm cortex and
3.5mm shaft screws

gS 86.2645 3.2mm Drill Bit
for 4.5mm cortex and
4.5mm shaft screws

Double Drill Guide
with neutral and load end

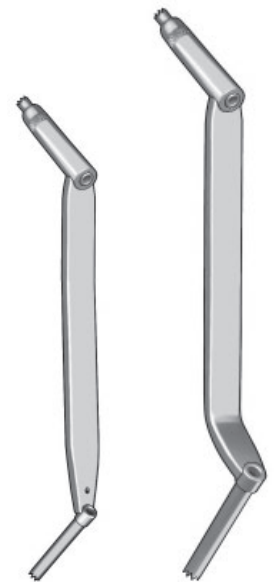


gS 86.2635 6"
gS 86.2645 6 1/2"

gS 86.2735 2.5mm Drill Bit
for 3.5mm cortex and
3.5mm shaft screws

gS 86.2745 3.2mm Drill Bit
for 4.5mm cortex and
4.5mm shaft screws

Universal Drill Guide



gS 86.2735 5 1/2"
gS 86.2745 7"

86-87/4 - A/O instruments for fracture management

With 3 holes and 1 hole for parallel drill bit and K-Wire placement.

gS 86.2507 4 1/2"

Parallel Drill Guide and Sleeve
for 2.0mm drill bit
and 2.7mm cortex screws



gS 86.2510
1 1/2"



gS 86.2515
3 1/8"



	Drill Bit	Screws
gS 86.2510	2.5mm	3.5mm
gS 86.2515	3.2mm	4.5mm

Insert Drill Sleeve
serrated tips

gS 86.2945 6"

Pointed Drill Guide
for 4.5mm cortical screws



A/O instruments for fracture management - 86-87/5

	Diameter	OAL/FL	
gS 86.8211	1.1mm	60mm/20mm	
gS 86.8215	1.5mm	85mm/23mm	
gS 86.8216	1.5mm	110mm/23mm	
gS 86.8220	2.0mm	100mm/23mm	
gS 86.8221	2.0mm	125mm/23mm	
gS 86.8222	2.2mm	110mm/35mm	
gS 86.8224	2.5mm	110mm/30mm	TiN coated
gS 86.8226	2.5mm	110mm/35mm	
gS 86.8225	2.5mm	180mm/35mm	
gS 86.8227	2.7mm	110mm/35mm	
gS 86.8228	2.7mm	125mm/35mm	
gS 86.8232	3.2mm	145mm/42mm	
gS 86.8233	3.2mm	195mm/42mm	
gS 86.8235	3.5mm	110mm/42mm	
gS 86.8236	3.5mm	195mm/42mm	
gS 86.8240	4.0mm	195mm/42mm	
gS 86.8245	4.5mm	145mm/42mm	
gS 86.8246	4.5mm	195mm/42mm	

QC/AO Drill Bits

- Drill bits with quick coupling ends
- Designed to fit quick coupling handles gS 86.0040 and gS 86.0045 and power adaptor gS 86.1002
- OAL = Overall Length
- FL = Flute Length



- Drill bits with quick coupling ends
- Designed to fit quick coupling handles gS 86.0040 and gS 86.0045 and power adaptor gS 86.1002
- OAL = Overall Length
- FL = Flute Length
- gS 86.8725 and gS 86.8732 are calibrated
- gS 86.8765 is not calibrated

	Diameter	OAL/FL
gS 86.8725	2.5mm	230/30mm
gS 86.8732	3.2mm	230/30mm
gS 86.8765	4.5mm	195/55mm

QC/AO Three Fluted Drill Bits

gS 86.8765 gS 86.8725
gS 86.8732



86-87/6 - A/O instruments for fracture management

- Drill bits with Jacob chuck end
- OAL = Overall Length
- FL = Flute Length

	Diameter	OAL/FL
gS 86.8410	1.0mm	55/25mm
gS 86.8415	1.5mm	127/17mm
gS 86.8420	2.0mm	127/23mm
gS 86.8425	2.5mm	127/28mm
gS 86.8427	2.7mm	127/31mm
gS 86.8432	3.2mm	127/36mm
gS 86.8435	3.5mm	127/40mm
gS 86.8440	4.0mm	127/45mm
gS 86.8445	4.5mm	127/51mm
gS 86.8448	4.7mm	127/53mm
gS 86.8450	5.0mm	127/57mm
gS 86.8532	3.2mm	180/70mm
gS 86.8535	3.5mm	180/70mm
gS 86.8545	4.5mm	180/70mm
gS 86.8560	6.0mm	180/70mm

Twist Drill Bits

fits any Jacobs chuck



Holds:
 2 - 1.5mm
 2 - 2.0mm
 2 - 2.5mm
 1 each: 2.7, 3.2,
 3.5, 4.0, 4.5, 4.7,
 and 5.0mm.

gS 98.8127

Twist Drill Rack

holds 13 127mm twist drills
 (drill bits sold separately)



gS 86.0035 4 1/4" QC/MINI
 for mini set

gS 86.0040 4 1/2" phenolic handle QC/AO
 for small and large sets

gS 86.0045 3 1/2" T-Handle QC/AO
 for small and large sets

Quick Coupling Handles



gS 86.0035



gS 86.0040



gS 86.0045

A/O instruments for fracture management - 86-87/7



gS 86.2405
4 3/4"

gS 86.2410
6 1/2"

gS 86.2413
7"

gS 86.2415
9 1/2"

gS 86.2430
15 1/2"

gS 86.2417
10 1/2"

gS 86.2418
10 1/2"

gS 86.2420
11 1/2"

gS 86.2425
13 1/2"

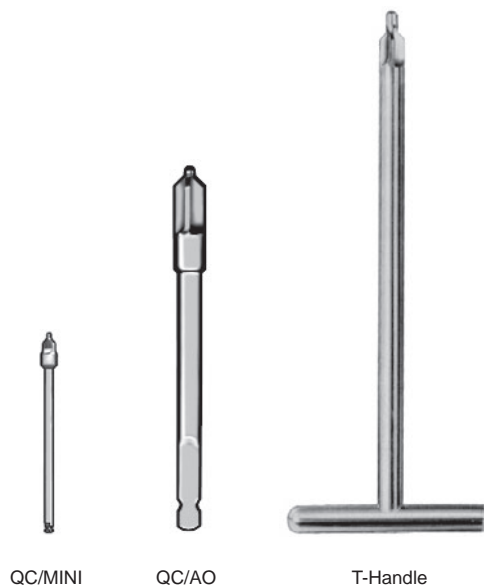
	Measures up to	Disassembles by
gS 86.2405	30mm	snap apart
gS 86.2410	50mm	snap apart
gS 86.2413	60mm	screw cap
gS 86.2415	100mm	snap apart
gS 86.2430	100mm	screw cap
gS 86.2417	110mm	screw cap
gS 86.2418	110mm	screw cap
gS 86.2420	120mm	snap apart
gS 86.2425	150mm	screw cap

Depth Gauges

disassembles for cleaning

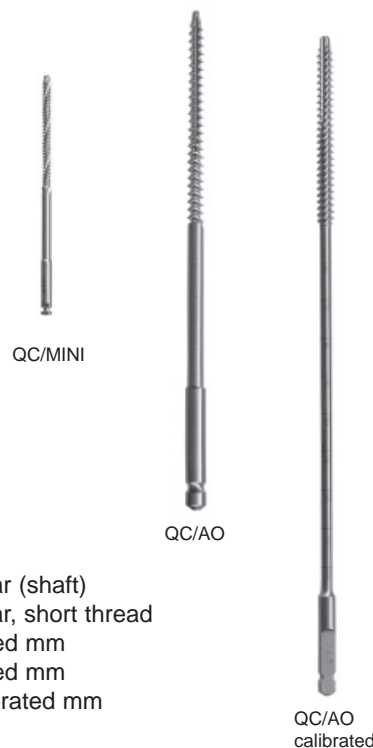
86-87/8 - A/O instruments for fracture management

	Length	Handle	Pilot Ø	Screw Size
gS 86.1004	2 1/4"	QC/MINI	1.1mm	1.5, 2.0mm
gS 86.1006	2 3/4"	QC/AO	2.0mm	2.7, 3.5, 4.0mm
gS 86.1020	7"	T-Handle	4.3mm	4.5, 6.5mm



Countersinks

	Length	Diameter	Pitch	QC Style	Screws
gS 86.1200	2"	1.5mm	0.5mm	QC/MINI	cortical
gS 86.1202	2 1/4"	2.0mm	0.6mm	QC/MINI	cortical
gS 86.1204	4"	2.7mm	1.0mm	QC/AO	cortical
gS 86.1206	4 1/4"	3.5mm	1.25mm	QC/AO	cortical
gS 86.1208	4 1/4"	3.5mm	1.75mm	QC/AO	cancellous
gS 86.1212	5"	4.5mm	2.0mm	QC/AO	cortical, malleolar (shaft)
gS 86.1210	5"	4.5mm		QC/AO	cortical, malleolar, short thread
gS 86.1209	7"	3.5mm		QC/AO	cortical, calibrated mm
gS 86.1216	7"	4.5mm		QC/AO	cortical, calibrated mm
gS 86.1220	8"	6.5mm		QC/AO	cancellous, calibrated mm



Taps

A/O instruments for fracture management - 86-87/9

	Length	Style	QC style	Holding Sleeve
gS 86.1502	2"	1.5mm Hex	QC/MINI	gS 86.4371
gS 86.1504	2 1/2"	cruciform	QC/MINI	gS 86.4371
gS 86.1505	4"	1.5mm Hex	QC/AO	—
gS 86.1506	4"	2.5mm Hex	QC/AO	gS 86.4373
gS 86.1510	5 1/2"	2.5mm Hex	QC/AO	gS 86.4375
gS 86.1515	6 1/2"	2.5mm Hex	QC/AO	gS 86.4375
gS 86.1519	4 1/2"	3.5mm Hex	QC/AO	—
gS 86.1521	6 1/2"	3.5mm Hex	QC/AO	gS 86.4380



Screwdriver Bits
holding sleeve not included



	Length	Style
gS 86.4550	6 3/4"	single slot
gS 86.4540	10"	single slot
gS 86.4420	7 1/2"	cruciform
gS 86.4560	10"	cruciform
gS 86.4580	10"	phillips



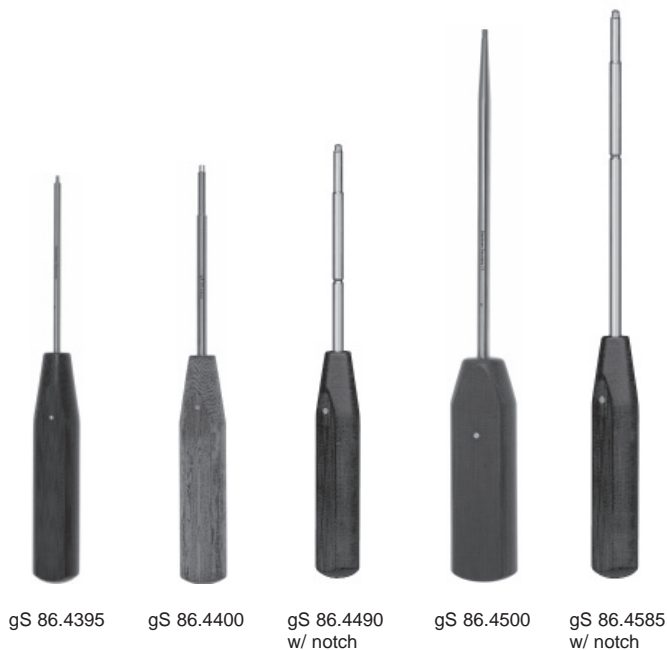
Screwdrivers
with phenolic handle

86-87/10 - A/O instruments for fracture management



	Length	Style	Holding Sleeve
gS 86.4395	7 3/4"	1.5mm Hex	—
gS 86.4400	7 3/4"	2.5mm Hex	gS 86.4373
gS 86.4490	8 1/2"	2.5mm Hex	gS 86.4375
gS 86.4500	10"	2.5mm Hex	—
gS 86.4585	10 1/2"	2.5mm Hex	gS 86.4375

Hexagonal Screwdrivers
with phenolic handles

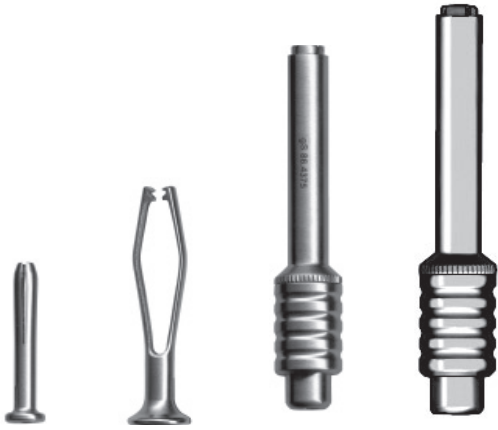


	Length	Style	Holding Sleeve
gS 86.4520	10"	3.5mm Hex	—
gS 86.4590	10"	3.5mm Hex	gS 86.4380
gS 86.4595	12"	3.5mm Hex	gS 86.4380

Hexagonal Screwdrivers
with phenolic handles



A/O instruments for fracture management - 86-87/11



gS 86.4371 gS 86.4373 gS 86.4375 gS 86.4380

- gS 86.4371** 1 1/2" for mini shafts
- gS 86.4373** 2" split, small hex drivers
- gS 86.4375** 3" small hex drivers
- gS 86.4380** 5" large hex drivers

Screw Holding Sleeves

For picking up screw from screw rack.



gS 86.6104 gS 86.6108
gS 86.6110

- Screw size**
- gS 86.6104** 1.2mm
- gS 86.6108** 1.5mm-2.7mm
- gS 86.6110** 3.5mm-6.5mm

Screw Holding Forceps

- gS 86.7200** 2" span 8mm
- gS 86.7210** 2 1/2" span 8mm
- gS 86.7220** 3 1/2" span 20mm

Tension Device



gS 86.7200



gS 86.7210



gS 86.7220

86-87/12 - A/O instruments for fracture management

gS 87.0012 5 1/2"

Combination Wrench
11mm



gS 87.0014 7"

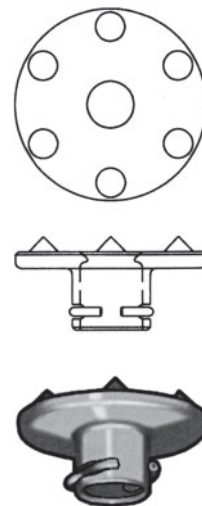
Socket Wrench
11mm
hinged



Converts QC end to round end with three flat sides for power drills.

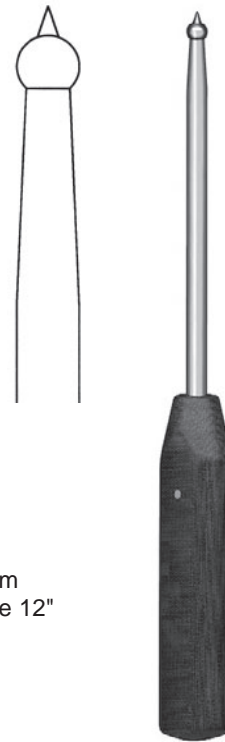
gS 86.1002

Power Drill Adaptor
2 1/2"



gS 87.0022 spiked disc 25mm
gS 87.0020 straight ball spike 12"

Straight Ball Spike and Disc





6" Dispensers hold 4", 5", and 6" wires

Holds up to:

- gS 98.2002** 72 of .028" (0.7mm)
- gS 98.2003** 48 of .035" (0.9mm)
- gS 98.2005** 30 of .045" (1.1mm)
- gS 98.2007** 24 of .054" (1.4mm)
- gS 98.2009** 12 of .062" (1.6mm)

12" Dispensers hold 9" and 12" wires and pins

Holds up to:

- gS 98.2011** 48 of .035" (0.9mm)
- gS 98.2013** 30 of .045" (1.1mm)
- gS 98.2015** 24 of .054" (1.4mm)
- gS 98.2017** 12 of .062" (1.6mm)
- gS 98.2019** 12 of 2.0mm
- gS 98.2021** 9 of 2.4mm

- Handy container to store, sterilize and dispense k-wires and steinmann pins.
- Each dispenser is clearly marked with inch/mm dimension for quick identification.
- Perforated chamber for proper sterilization.
- Conical shaped end dispenses one wire at a time.
- When possible, load blunt end first.

gS 98.2018 replacement cap only

K-Wire and Pin Dispenser

stainless steel



- Store, sterilize and dispense four different wires from one dispenser.
- Wires are dispensed one at a time.
- Can be closed when not in use.
- Chambers are clearly marked with inch/mm dimensions

gS 98.5210 4" dispenses:
 18 of .035" (0.9mm)
 24 of .045" (1.1mm)
 24 of .054" (1.4mm)
 12 of .062" (1.6mm)

gS 98.5250 12" dispenses:
 30 of .035" (0.9mm)
 30 of .045" (1.1mm)
 24 of .054" (1.4mm)
 18 of .062" (1.6mm)

gS 98.5210 4" 0.9-1.6mm
gS 98.5230 6" 0.9-1.6mm
gS 98.5250 12" 0.9-1.6mm
gS 98.5260 12" 1.6-2.4mm
gS 98.5205 plastic cap only

gS 98.5230 6" dispenses:
 18 of .035" (0.9mm)
 24 of .045" (1.1mm)
 24 of .054" (1.4mm)
 12 of .062" (1.6mm)

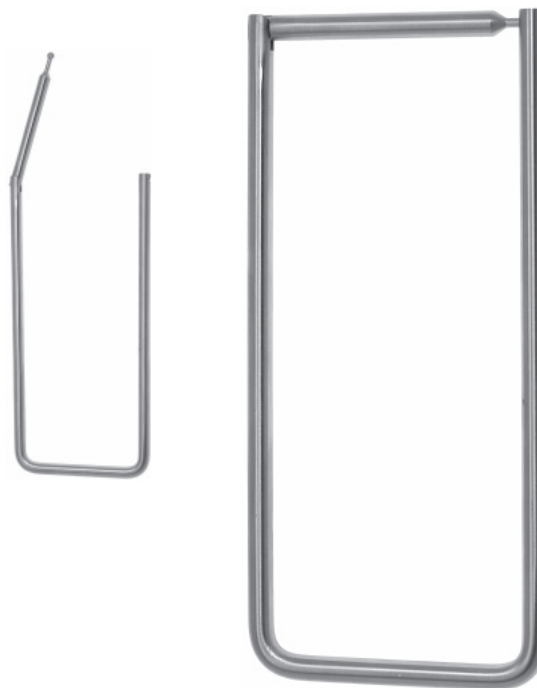
gS 98.5260 12" dispenses:
 18 of .062" (1.6mm)
 12 of 5/64" (2.0mm)
 12 of 5/64" (2.0mm)
 6 of 3/32" (2.4mm)

Multi Chambered K-Wire and Pin Dispenser

Vickers-style

98-99/2 - containers

- Instrument stringer holds ring handled instruments securely ensuring instruments stay open during sterilization.
- Locking ball closure keeps cross bar in place.
- Stay-closed design prevents accidental opening.
- Expertly hand finished to eliminate any sharp edges.
- Made from German stainless steel.
- To open or close: squeeze side bars together, then fold back cross bar.



	2 1/2" wide		3 1/2" wide
gS 98.2104	4" x 2 1/2"		
gS 98.2106	6" x 2 1/2"	gS 98.2206	6" x 3 1/2"
gS 98.2108	8" x 2 1/2"	gS 98.2208	8" x 3 1/2"
gS 98.2110	10" x 2 1/2"		
gS 98.2112	12" x 2 1/2"		
gS 98.2114	14" x 2 1/2"		

Instrument Stringer
stainless steel

gS 98.2515 6"
gS 98.2530 12"

Forceps Instrument Holder



gS 99.0100 7" with steel bristles
gS 99.0102 7" with nylon bristles

Instrument Cleaning Brush
black plastic handle



Rack holds 6 of:

Hoke Osteotomes
gS 52.5970 - gS 52.6069

Hoke Chisels
gS 54.6050 - gS 54.6090

gS 98.3005 for 5 1/4" instruments

Hoke Rack
holds 6 instruments



Rack holds 12 of:

Brun Currettes
gS 51.6110 - gS 51.6460

gS 98.3010 for 7" instruments

Brun Rack
holds 12 instruments



98-99/4 - containers

Rack holds 12 of:

Brun 9" curettes

gS 51.6624+; gS 51.2070+ hollow handle
gS 51.6510+; gS 51.2500+ solid hex handle

Hibbs 9 1/2" osteotomes
gS 52.4590 - gS 52.4840

Hibbs 9" Chisels
gS 54.1590 - gS 54.1820

Hibbs 9" Gouges
gS 56.4870 - gS 56.5120

gS 98.3015 for 9" to 9 1/2" instruments

Hibb & Brun Rack
holds 12 instruments



Rack holds 9 of:

Cobb 11" Elevators
gS 43.5129 - gS 43.5201

Cobb 11" Curettes
gS 51.5221 - gS 51.5411
gS 51.5448 - gS 51.5476

Cobb 11" Gouges
gS 56.1300 - gS 56.1360

gS 98.3020 for 11" instruments

Cobb Rack
holds 9 instruments



Rack holds 12 of:

Lambotte 9" Osteotomes
gS 52.4040 - gS 52.4220
gS 52.4280 - gS 52.4330

gS 98.3025 for 9" instruments

Lambotte Rack
holds 12 instruments



Rack holds 7 of:

Smith Peterson 8" Osteotomes
gS 52.5480 - gS 52.5630

Smith Peterson 8" Gouges
gS 56.5660 - gS 56.5950

gS 98.3030 for 8" instruments

Smith Peterson Rack
holds 7 instruments

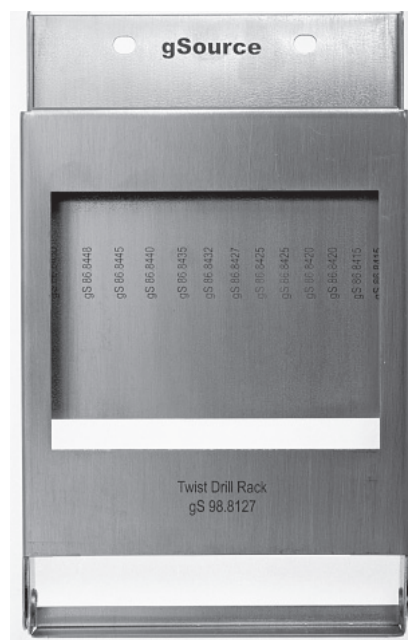


98-99/6 - containers

Twist Drill rack folds for convenient sterilization and storage. Converts to table top stand for use in O.R.

Rack holds:

- 2 of gS 86.8415 1.5mm
- 2 of gS 86.8420 2.0mm
- 2 of gS 86.8425 2.5mm
- 1 of gS 86.8427 2.7mm
- 1 of gS 86.8432 3.2mm
- 1 of gS 86.8435 3.5mm
- 1 of gS 86.8440 4.0mm
- 1 of gS 86.8445 4.5mm
- 1 of gS 86.8448 4.8mm
- 1 of gS 86.8450 5.0mm



gS 98.8127 for 5" (127mm) Drills

Twist Drill Rack

holds 13 Jacobs Chuck Drills
(drill bits sold separately)



gS 98.1000 200x100x25mm
7 3/4" x 4" x 1"

Micro Sterilization Case
with silicone mat
(instruments sold separately)



gS 99.0924

gS 99.0912 Holds 12
gS 99.0924 Holds 24
gS 99.0955 Holds 55
gS 99.1000 Premium Holds 55+

Instrument Display Cases
(instruments sold separately)

metric - metric conversions

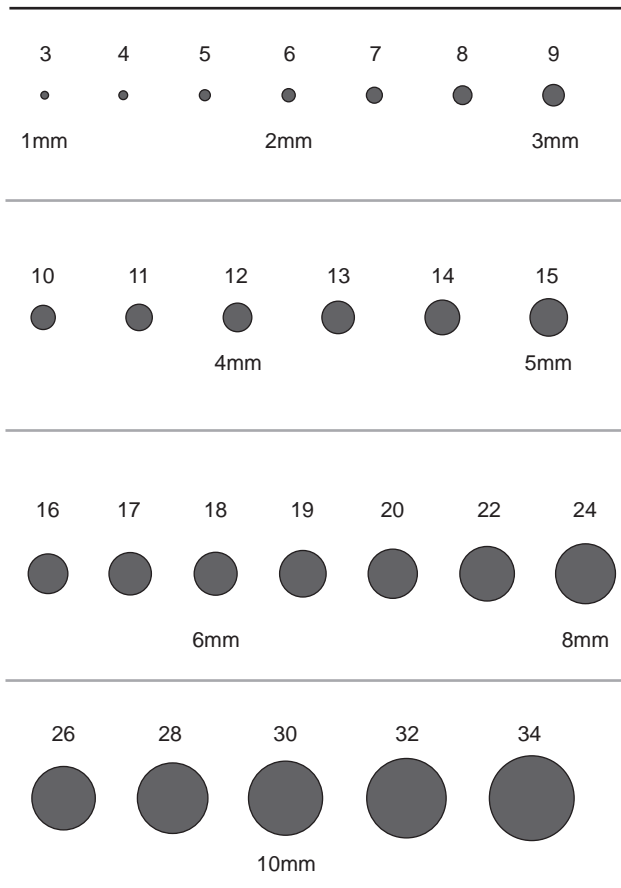
to convert	to	multiply by
millimeters (mm)	centimeters (cm)	0.1
millimeters (mm)	meters (m)	0.001
centimeters (cm)	millimeters (mm)	10
centimeters (cm)	meters (m)	0.01
meters (m)	millimeters (mm)	1,000
meters (m)	centimeters (cm)	100
grams (g)	kilograms (kg)	0.001
kilograms (kg)	grams (g)	1,000

english - metric conversions

to convert	to	multiply by
inches	millimeters (mm)	25.4
inches	centimeters (cm)	2.54
millimeters (mm)	inches	0.0394
centimeters (cm)	inches	0.394
ounces (oz)	grams (g)	28.3
pounds (lbs)	kilograms (kg)	0.454
grams (g)	ounces (oz)	0.035
kilograms (kg)	pounds (lbs)	2.20

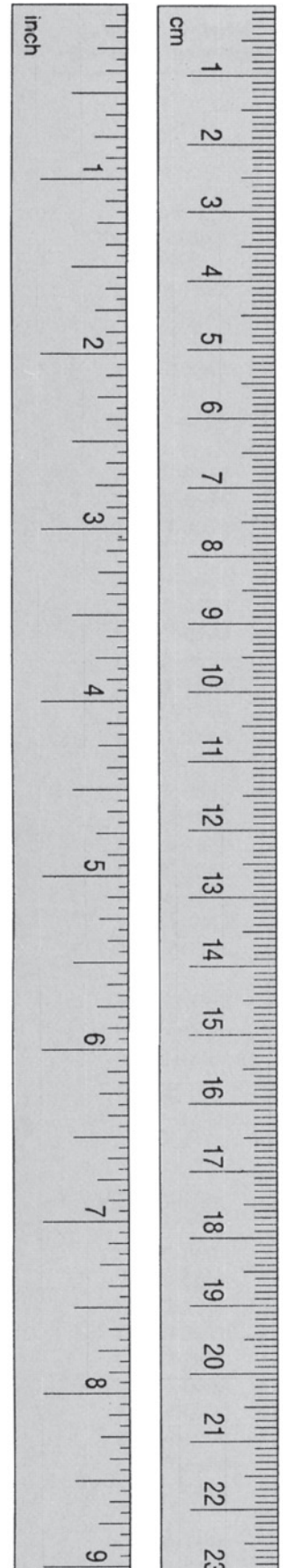
fractions to millimeters

inch	millimeters
1/16	1.59
1/8	3.18
3/16	4.74
1/4	6.35
5/16	7.94
3/8	9.53
7/16	11.11
1/2	12.70
9/16	14.29
5/8	15.88
11/16	17.46
3/4	19.05
13/16	20.64
7/8	22.23
15/16	23.81
1	25.40

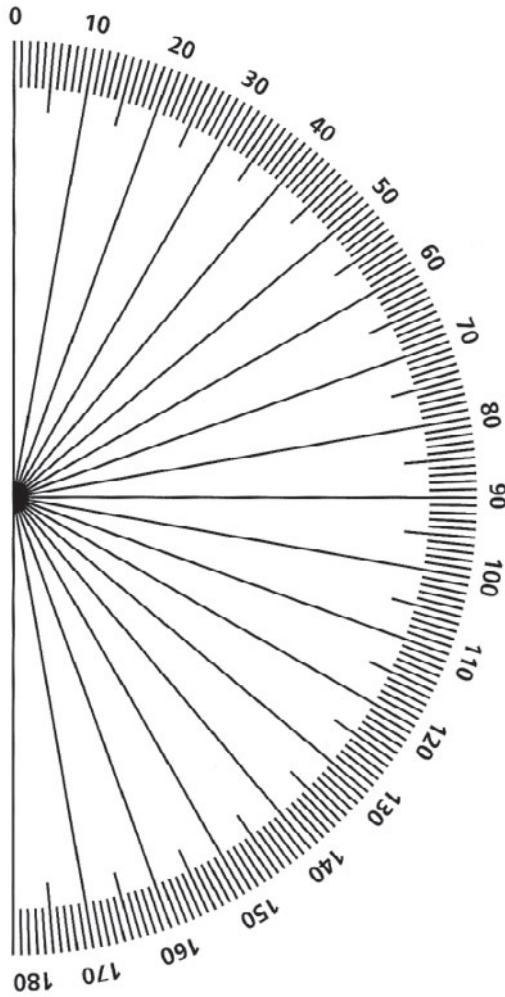
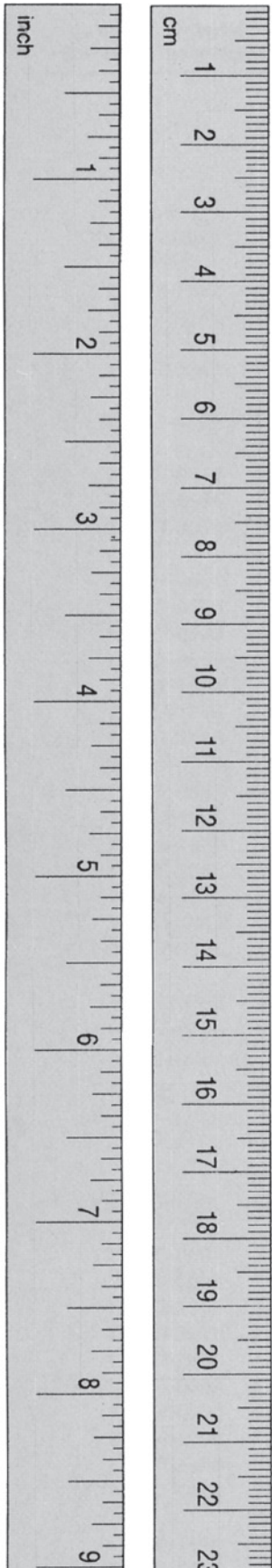


french scale fr/mm

3 fr	1.0mm
4 fr	1.3mm
5 fr	1.7mm
6 fr	2.0mm
7 fr	2.3mm
8 fr	2.7mm
9 fr	3.0mm
10 fr	3.3mm
11 fr	3.7mm
12 fr	4.0mm
13 fr	4.3mm
14 fr	4.7mm
15 fr	5.0mm
16 fr	5.3mm
17 fr	5.7mm
18 fr	6.0mm
19 fr	6.3mm
20 fr	6.7mm
22 fr	7.3mm
24 fr	8.0mm
26 fr	8.7mm
28 fr	9.3mm
30 fr	10.0mm
32 fr	10.7mm
34 fr	11.3mm



100/2 - conversion charts

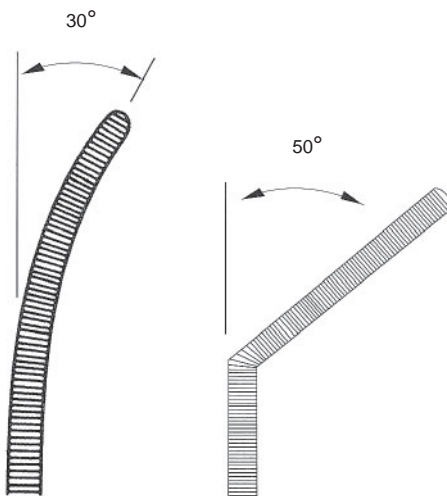


temperature scale

Fahrenheit (°F) to Centigrade (°C)

°F	°C
500	260
428	220
392	200
374	190
356	180
338	170
320	160
302	150
284	140
266	130
248	120
239	115
230	110
221	105
212	100
203	95
194	90
185	85
176	80
167	75
158	70
149	65
140	60
131	55
122	50
113	45
104	40
95	35
86	30
77	25
68	20
59	15
50	10
41	5
32	0
23	-5
14	-10
5	-15
0	-17
-4	-20
-13	-25
-22	-30
-40	-40

Jaw curvature and jaw angles are measured in degrees. Use the angle chart to determine degree of curvature.



Proper care and maintenance will greatly prolong the life of your instruments.

Newly purchased instruments must be cleaned, lubricated and autoclaved before use.

Proper use

Instruments are designed for a particular purpose and should be used only for that purpose. Even the strongest instrument can be damaged when used inappropriately, such as when scissors are used to cut wire.

Water and Stainless Steel

Regular tap water contains minerals that can cause discoloration and staining. We recommend using distilled water for cleaning, disinfecting, sterilizing and rinsing. To avoid staining, use a cleaning solution with a pH near neutral (7). Instruments should be placed in distilled water immediately after use. They should never be placed in saline solution, as it may cause corrosion and eventually irreversible damage to the instrument.

Manual Cleaning

When handling instruments, be careful not to damage fine tips and mechanisms. If instruments have been exposed to blood, tissue, saline or other foreign matter, they must be rinsed in warm water before these substances are allowed to dry. Failure to do so may cause rusting. After rinsing, immerse them in a cleaning and disinfecting solution.

Because many compounds, including certain chemicals, are highly corrosive to stainless steel, rinse and dry instruments immediately if they come into contact with any potentially harmful substances.

If no ultrasonic cleaner is available, clean the instrument very carefully. Pay particular attention when cleaning box locks, serrations, hinges and other hard-to-reach areas. Use nylon (not steel) brushes and warm (not hot) cleaning solutions. Follow the manufacturer's instructions for the preparation of the cleaning solutions. Change these solutions daily.

Ultrasonic Cleaning

Ultrasonic cleaning is the most effective and efficient way to clean instruments. To maximize its effectiveness, instruments should be cleaned of all visible debris before they are placed in an ultrasonic cleaner.

When using ultrasonic cleaners:

- Do not mix dissimilar metals, e.g., chrome and stainless, in the same cycle.
- Use only designated cleaners. Open all instruments so ratchets and box locks are accessible.
- Whenever possible, disassemble instruments for optimal cleaning.
- Avoid piling instruments on top of each other.
- Remove and rinse off instruments immediately after the cycle is finished.
- Allow instruments to air-dry.
- Lubricate all moving parts after cleaning and before sterilization.
- Use only lubricants specifically designed for surgical instruments.
- Change the ultrasonic cleaning solution daily.

Instrument Checkup

The best time to review the condition of instruments is after they have been cleaned, lubricated and before sterilization. Check for:

Function

"Sharps" must cut cleanly (resharpen if needed) and close properly. Check for burrs along the cutting edges. Needle holders and clamps must engage properly and meet correctly at the tips.

Surface

Inspect surfaces for any sign of staining, cracking or other irregularities. Common sources of staining are:

- Inadequate cleaning.
- Mixing dissimilar metals.
- Impurities in the water.
- Unsuitable or improper preparation and usage of cleaning and disinfecting agents.
- Noncompliance with operating procedures of cleaning and sterilizing equipment.

Lubrication and Autoclaving

All instruments must be properly cleaned before autoclaving. Moving parts, such as box locks and hinges, should be well lubricated. Be sure to use surgical lubricants and not industrial oils.

Always sterilize instruments in the open, unlocked position.

We recommend that instruments be wrapped in cloth and then placed in the container, or that a cloth be put on the bottom of the pan to absorb moisture.

The cloth should be pH(7) neutral and free of detergent residues.

100/4 - instrument care & cleaning

Please note that chrome-plated instruments may rust if they are not dried and lubricated immediately after sterilization.

Finally, avoid sudden cooling. Instruments should be allowed to air-dry.

Cold Sterilizing or Disinfecting

Prolonged immersion in disinfecting or sterilizing solution can damage surgical instruments. Do not soak instruments for longer than 20 minutes. To render the instruments sterile and ready for use, we recommend using an autoclave.

Avoid BAC

Instruments with tungsten carbide inserts, such as wire cutters, needle holders and TC scissors, should never be immersed in sterilizing solutions containing benzyl ammonium chloride (BAC). BAC will soften and dissolve the tungsten carbide. Never use bleach as it will cause severe pitting.

Storage

Once instruments are thoroughly dry, store them in a clean, dry environment. Never put them in areas where chemicals may emit corrosive vapors or where temperature and moisture variations could cause condensation on the instruments.

Instrument Care Checklist

1. Rinse and soak soiled instruments immediately after use. Thoroughly clean before autoclaving.
2. Clean, autoclave and sterilize instruments in an open position.
3. Do not stack or entangle instruments.
4. Follow the manufacturer's recommendations when using equipment and cleaning solutions.
5. Keep instruments properly lubricated.
6. Inspect instruments regularly.

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Adson Brown Fcps	17	3	Bankart Ligature Carrier	82	11	Bone Holding Fcps	46	6
Adson Dressing Fcps	19	2	Baron Suction Tube	75-76	1	Bone Hook	45	2
Adson Dural Hook	25	7	Barraquer Fcps	27	4	Bone Hook t-handle	45	1
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Adson Hemostatic Fcps	22	5	Bayonet Dressing Fcps	19	3	Bone Mill	84	1
Adson Nerve Hook	25	7	Bayonet Tissue Fcps	17	4	Bone Plug Cutter	65	1
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Amputation Knife	65	3	Billeau Loop	26	2	Boyes-Goodfellow Hook	25	4
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Hands-lead	11	1	Ingrown Nail Fcps	77	3	Kerrison Rong-ferris smith	70	6
Harmon Chisel	54	6	Ingrown Nail Splitting Sciss	15	2	Key Elevator	42-43	10
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Hartmann Alligator Fcps	26	1	Initial Incision Retr	38-40	20	Kirk Mallet	59	7
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Heath Mallet	59	9	Instrument Racks	98-99	3	Kleinert-Kutz Fcps	63	3
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Hegar-Baumgartner NH	21	1	Interchange Handle	52-53	9	Kleinert-Kutz Tendon Retr	49	5
Heiss Retr	38-40	2	Interchange Key	52-53	9	Knapp Iris Sciss	13-14	1
Hennig Plaster Spreader	73	1	Interchange Osteotome	52-53	9	Knee Retr	34-37	17
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Hi-Level Bandage Sciss	15	3	Jansen Curette	50	4	Kolbel Retr Frame	38-40	13
Hi-Level Sciss-super-cut	16	4	Jansen Ear Fcps	26	1	Kolbel Retr Handle	38-40	13
Hill Stitch Sciss	15	2	Jansen Retr	38-40	2	Kolbel Soft Tissue Retr	38-40	5
Hoer Dural Separator	25	7	Jansen Rongeur	66	6	Kuntscher Awl	44	2
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Hohmann Retr mini	34-37	1	Johnson Neuroma Retr	38-40	2	K-Wire Driver-vickers	82	1
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Leriche Fcps	22	3	Martin Cartilage Sciss	49	5	Mixer Fcps	22	5
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gS 20.5564	20	4	gS 21.3460	21	3	gS 22.1752	22	1	gS 22.6160	22	7
gS 20.5565	20	4	gS 21.3480	21	3	gS 22.1754	22	1	gS 22.6180	22	7
gS 20.5571	20	3	gS 21.3485	21	3	gS 22.1758	22	1	gS 22.6360	22	7
gS 20.5580	20	2	gS 21.3570	21	3	gS 22.1759	22	1	gS 22.6380	22	7
gS 20.5620	20	2	gS 21.3640	21	3	gS 22.1760	22	1	gS 22.6550	22	5
gS 20.5640	20	3	gS 21.3650	21	3	gS 22.1780	22	1	gS 22.6560	22	5
gS 20.5660	20	3	gS 21.3660	21	3	gS 22.1812	22	2	gS 22.6570	22	5
gS 20.5680	20	3	gS 21.3670	21	3	gS 22.1813	22	2	gS 22.6620	22	5
gS 20.5700	20	2	gS 21.3680	21	3	gS 22.2060	22	2	gS 22.6640	22	5
gS 20.5780	20	2	gS 21.3700	21	2	gS 22.2080	22	2	gS 22.6670	22	7
21			gS 21.3720	21	2	gS 22.2560	22	2	gS 22.6671	22	7
gS 21.1640	21	1	gS 21.3780	21	2	gS 22.2580	22	2	gS 22.6680	22	6
gS 21.1650	21	1	gS 21.3840	21	2	gS 22.2590	22	2	gS 22.6682	22	6
gS 21.1660	21	1	gS 21.3845	21	2	gS 22.2600	22	2	gS 22.7602	22	6
gS 21.1670	21	1	gS 21.3860	21	2	gS 22.2620	22	2	gS 22.7604	22	6

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gS 22.7606	22	6	gS 25.1910	25	5	gS 26.0740	26	2	gS 27.7546	27	2
gS 22.7960	22	7	gS 25.1920	25	5	gS 26.0760	26	2	gS 27.7610	27	2
gS 22.8422	22	3	gS 25.1930	25	5	gS 26.0780	26	2	gS 27.7615	27	2
gS 22.8424	22	3	gS 25.1940	25	5	gS 26.0800	26	2	gS 27.7618	27	2
gS 22.8440	22	5	gS 25.1980	25	1	gS 26.0820	26	2	gS 27.7620	27	2
gS 22.8460	22	5	gS 25.1990	25	2	gS 26.0840	26	2	gS 27.7625	27	2
gS 22.8470	22	5	gS 25.1992	25	2	gS 26.0860	26	2	gS 27.9700	27	1
gS 22.8472	22	5	gS 25.2312	25	1	gS 26.0910	26	2	gS 27.9702	27	1
gS 22.8660	22	7	gS 25.2313	25	1	gS 26.0920	26	2	gS 27.9704	27	1
gS 22.8662	22	7	gS 25.2413	25	2	gS 26.0930	26	2	gS 27.9706	27	1
gS 22.8715	22	8	gS 25.2561	25	1	gS 26.0940	26	2	gS 27.9708	27	1
gS 22.9160	22	8	gS 25.2562	25	1	gS 26.0950	26	2	gS 27.9710	27	1
gS 22.9180	22	8	gS 25.2570	25	7	gS 26.0960	26	2	gS 27.9712	27	1
gS 22.9260	22	8	gS 25.2571	25	7	gS 26.0970	26	2	gS 27.9714	27	1
gS 22.9280	22	8	gS 25.2575	25	1	gS 26.1960	26	2	gS 27.9716	27	1
24			gS 25.2580	25	7	gS 26.1980	26	2	gS 27.9718	27	1
gS 24.1320	24	1	gS 25.2595	25	4	gS 26.2000	26	2	29		
gS 24.1618	24	1	gS 25.2596	25	4	gS 26.2120	26	3	gS 29.0010	29	1
gS 24.1718	24	1	gS 25.2609	25	6	gS 26.2140	26	3	gS 29.0020	29	1
gS 24.2860	24	1	gS 25.2610	25	6	gS 26.2160	26	3	gS 29.0022	29	1
gS 24.2880	24	1	gS 25.2620	25	6	gS 26.2680	26	3	gS 29.0050	29	2
gS 24.2882	24	1	gS 25.2640	25	6	gS 26.2700	26	3	gS 29.4310	29	2
gS 24.2884	24	1	gS 25.2660	25	6	gS 26.2720	26	3	gS 29.4650	29	1
gS 24.2886	24	1	gS 25.2720	25	6	gS 26.2740	26	3	33		
gS 24.2887	24	1	gS 25.2801	25	6	gS 26.2910	26	4	gS 33.0201	33	1
gS 24.2892	24	1	gS 25.2802	25	6	gS 26.2930	26	4	gS 33.0202	33	1
gS 24.2893	24	1	gS 25.2803	25	6	gS 26.2932	26	4	gS 33.0203	33	1
25			gS 25.2804	25	6	gS 26.7652	26	1	gS 33.0210	33	1
gS 25.1101	25	3	gS 25.2811	25	6	gS 26.7653	26	1	gS 33.0211	33	1
gS 25.1102	25	3	gS 25.2812	25	6	gS 26.7655	26	1	gS 33.0216	33	1
gS 25.1103	25	3	gS 25.2813	25	6	gS 26.7656	26	1	gS 33.0217	33	1
gS 25.1104	25	3	gS 25.2814	25	6	gS 26.8095	26	4	gS 33.0218	33	1
gS 25.1212	25	2	gS 25.4490	25	4	gS 26.8097	26	4	gS 33.0220	33	1
gS 25.1351	25	3	gS 25.4500	25	4	27			gS 33.0221	33	1
gS 25.1352	25	3	gS 25.4600	25	4	gS 27.1501	27	3	gS 33.0222	33	1
gS 25.1400	25	4	26			gS 27.1503	27	3	gS 33.0225	33	1
gS 25.1402	25	4	gS 26.0150	26	1	gS 27.1505	27	3	gS 33.0227	33	1
gS 25.1450	25	3	gS 26.0175	26	1	gS 27.1507	27	3	gS 33.0228	33	1
gS 25.1455	25	3	gS 26.0177	26	1	gS 27.1509	27	3	gS 33.0230	33	1
gS 25.1600	25	2	gS 26.0220	26	1	gS 27.5260	27	3	gS 33.0233	33	1
gS 25.1640	25	2	gS 26.0480	26	2	gS 27.5262	27	3	gS 33.0235	33	1
gS 25.1680	25	2	gS 26.0482	26	2	gS 27.5264	27	3	gS 33.0237	33	1
gS 25.1770	25	3	gS 26.0590	26	2	gS 27.5266	27	3	gS 33.0238	33	1
gS 25.1830	25	3	gS 26.0610	26	2	gS 27.5280	27	2	34		
gS 25.1840	25	9	gS 26.0630	26	2	gS 27.5282	27	2	gS 34.1760	34-37	3
gS 25.1845	25	9	gS 26.0650	26	2	gS 27.5284	27	2	gS 34.1845	34-37	4
gS 25.1850	25	8	gS 26.0670	26	2	gS 27.5290	27	2	gS 34.1855	34-37	4
gS 25.1851	25	8	gS 26.0680	26	2	gS 27.5292	27	2	gS 34.1865	34-37	4
gS 25.1852	25	8	gS 26.0690	26	2	gS 27.5294	27	2	gS 34.1920	34-37	4
gS 25.1860	25	8	gS 26.0701	26	2	gS 27.6600	27	3	gS 34.1930	34-37	4
gS 25.1862	25	8	gS 26.0702	26	2	gS 27.6640	27	3	gS 34.1934	34-37	2
gS 25.1865	25	7	gS 26.0703	26	2	gS 27.6680	27	4	gS 34.1935	34-37	2
gS 25.1869	25	7	gS 26.0704	26	2	gS 27.6690	27	4	gS 34.1940	34-37	3
gS 25.1870	25	7	gS 26.0705	26	2	gS 27.7325	27	1	gS 34.1942	34-37	3
gS 25.1874	25	7	gS 26.0706	26	2	gS 27.7331	27	1	gS 34.1960	34-37	2
gS 25.1880	25	5	gS 26.0707	26	2	gS 27.7334	27	1	gS 34.2160	34-37	5

part number	sect	pg #	part number	sect	pg #	part number	sect	pg #	part number	sect	pg #
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gS 34.2220	34-37	5	gS 36.2130	34-37	6	gS 36.3580	34-37	15	gS 36.6380	34-37	7
gS 34.2240	34-37	5	gS 36.2132	34-37	6	gS 36.3620	34-37	15	gS 36.6410	34-37	8
gS 34.2280	34-37	5	gS 36.2134	34-37	6	gS 36.3640	34-37	15	gS 36.6507	34-37	8
gS 34.2300	34-37	5	gS 36.2136	34-37	6	gS 36.3660	34-37	15	gS 36.6509	34-37	8
gS 34.2980	34-37	4	gS 36.2138	34-37	6	gS 36.3670	34-37	15	gS 36.6513	34-37	8
gS 34.3020	34-37	4	gS 36.2240	34-37	21	gS 36.3676	34-37	15	gS 36.8518	34-37	2
gS 34.3040	34-37	4	gS 36.2241	34-37	21	gS 36.3680	34-37	15	gS 36.8520	34-37	2
gS 34.3060	34-37	4	gS 36.2242	34-37	21	gS 36.3720	34-37	15	gS 36.8522	34-37	2
gS 34.3080	34-37	4	gS 36.2320	34-37	23	gS 36.3740	34-37	15	gS 36.8524	34-37	2
gS 34.3120	34-37	4	gS 36.2322	34-37	23	gS 36.3760	34-37	15	gS 36.8550	34-37	2
gS 34.3140	34-37	4	gS 36.2324	34-37	23	gS 36.3780	34-37	15	gS 36.8560	34-37	2
gS 34.3160	34-37	4	gS 36.2580	34-37	23	gS 36.3820	34-37	14	gS 36.8561	34-37	2
gS 34.4380	34-37	14	gS 36.2620	34-37	23	gS 36.3842	34-37	14	gS 36.8563	34-37	2
gS 34.4409	34-37	10	gS 36.2640	34-37	23	gS 36.3844	34-37	14	gS 36.8564	34-37	2
gS 34.4411	34-37	10	gS 36.2660	34-37	23	gS 36.3846	34-37	14	gS 36.8565	34-37	2
gS 34.4415	34-37	10	gS 36.3000	34-37	22	gS 36.3848	34-37	14	gS 36.8660	34-37	21
gS 34.4417	34-37	10	gS 36.3020	34-37	22	gS 36.3910	34-37	15	gS 36.8680	34-37	21
gS 34.4420	34-37	10	gS 36.3040	34-37	22	gS 36.3920	34-37	15	gS 36.8700	34-37	21
gS 34.4423	34-37	10	gS 36.3050	34-37	22	gS 36.3930	34-37	15	gS 36.8720	34-37	21
gS 34.4580	34-37	5	gS 36.3060	34-37	22	gS 36.3940	34-37	15	gS 36.8722	34-37	21
gS 34.4600	34-37	5	gS 36.3070	34-37	22	gS 36.3960	34-37	15	gS 36.8760	34-37	21
gS 34.4620	34-37	5	gS 36.3072	34-37	22	gS 36.3980	34-37	15	gS 36.8762	34-37	21
gS 34.4640	34-37	5	gS 36.3074	34-37	22	gS 36.4061	34-37	14	gS 36.8764	34-37	21
gS 34.9230	34-37	1	gS 36.3076	34-37	22	gS 36.4720	34-37	21	gS 36.9270	34-37	1
gS 34.9240	34-37	1	gS 36.3120	34-37	21	gS 36.4760	34-37	12	gS 36.9300	34-37	1
gS 34.9260	34-37	1	gS 36.3140	34-37	21	gS 36.4788	34-37	20	gS 36.9320	34-37	1
35			gS 36.3150	34-37	22	gS 36.4790	34-37	20	gS 36.9360	34-37	29
gS 35.2920	34-37	16	gS 36.3152	34-37	22	gS 36.4791	34-37	20	gS 36.9378	34-37	29
gS 35.2940	34-37	16	gS 36.3154	34-37	22	gS 36.4792	34-37	20	gS 36.9380	34-37	29
gS 35.2960	34-37	16	gS 36.3156	34-37	22	gS 36.4880	34-37	12	gS 36.9382	34-37	29
gS 35.2980	34-37	16	gS 36.3160	34-37	22	gS 36.5550	34-37	20	gS 36.9384	34-37	30
gS 35.3000	34-37	17	gS 36.3180	34-37	22	gS 36.5560	34-37	20	gS 36.9407	34-37	31
gS 35.3121	34-37	13	gS 36.3200	34-37	22	gS 36.5580	34-37	20	gS 36.9410	34-37	33
gS 35.3122	34-37	13	gS 36.3220	34-37	22	gS 36.5600	34-37	20	gS 36.9420	34-37	32
gS 35.3131	34-37	13	gS 36.3236	34-37	26	gS 36.5800	34-37	11	gS 36.9475	34-37	35
gS 35.3132	34-37	13	gS 36.3248	34-37	26	gS 36.5820	34-37	11	gS 36.9480	34-37	31
gS 35.3141	34-37	13	gS 36.3250	34-37	26	gS 36.5940	34-37	11	gS 36.9485	34-37	32
gS 35.3142	34-37	13	gS 36.3285	34-37	26	gS 36.5980	34-37	12	gS 36.9488	34-37	30
gS 35.3161	34-37	13	gS 36.3291	34-37	27	gS 36.6000	34-37	12	gS 36.9490	34-37	35
gS 35.3162	34-37	13	gS 36.3292	34-37	27	gS 36.6020	34-37	12	gS 36.9494	34-37	34
36			gS 36.3293	34-37	27	gS 36.6030	34-37	11	gS 36.9496	34-37	34
gS 36.0000	34-37	19	gS 36.3294	34-37	27	gS 36.6035	34-37	11	gS 36.9500	34-37	33
gS 36.0001	34-37	19	gS 36.3296	34-37	28	gS 36.6140	34-37	3	gS 36.9518	34-37	37
gS 36.1580	34-37	23	gS 36.3298	34-37	28	gS 36.6160	34-37	3	gS 36.9520	34-37	37
gS 36.1590	34-37	23	gS 36.3300	34-37	28	gS 36.6200	34-37	6	gS 36.9540	34-37	36
gS 36.1600	34-37	23	gS 36.3320	34-37	28	gS 36.6210	34-37	9	gS 36.9580	34-37	29
gS 36.1610	34-37	23	gS 36.3340	34-37	28	gS 36.6230	34-37	9	gS 36.9700	34-37	19
gS 36.1724	34-37	13	gS 36.3350	34-37	28	gS 36.6232	34-37	9	gS 36.9720	34-37	18
gS 36.1780	34-37	13	gS 36.3400	34-37	28	gS 36.6238	34-37	9	gS 36.9729	34-37	18
gS 36.1800	34-37	13	gS 36.3410	34-37	28	gS 36.6240	34-37	9	gS 36.9730	34-37	18
gS 36.1802	34-37	13	gS 36.3420	34-37	28	gS 36.6280	34-37	6	gS 36.9731	34-37	18
gS 36.1804	34-37	13	gS 36.3430	34-37	28	gS 36.6300	34-37	7	gS 36.9750	34-37	19
gS 36.2000	34-37	6	gS 36.3512	34-37	25	gS 36.6320	34-37	7	gS 36.9800	34-37	25
gS 36.2040	34-37	6	gS 36.3514	34-37	25	gS 36.6340	34-37	7	gS 36.9840	34-37	25
gS 36.2080	34-37	6	gS 36.3516	34-37	25	gS 36.6360	34-37	8	gS 36.9920	34-37	25

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gS 37.0022	34-37	2	gS 38.8780	38-40	3	gS 40.5620	38-40	16	gS 40.7621	38-40	14
gS 37.0023	34-37	2	gS 38.8797	38-40	2	gS 40.5630	38-40	16	gS 40.7631	38-40	14
gS 37.0024	34-37	2	gS 38.8799	38-40	2	gS 40.5640	38-40	16	gS 40.7641	38-40	14
gS 37.0025	34-37	2	gS 38.8800	38-40	3	gS 40.5650	38-40	16	gS 40.7646	38-40	14
gS 37.0026	34-37	2	gS 38.8804	38-40	3	gS 40.5660	38-40	16	gS 40.7650	38-40	14
gS 37.0027	34-37	2	gS 38.8810	38-40	3	gS 40.5670	38-40	16	gS 40.7651	38-40	14
gS 37.0028	34-37	2	gS 38.8820	38-40	3	gS 40.5680	38-40	16	gS 40.7652	38-40	14
gS 37.0029	34-37	2	gS 38.8830	38-40	3	gS 40.5690	38-40	16	gS 40.7653	38-40	14
gS 37.2100	34-37	25	gS 38.8918	38-40	4	gS 40.5710	38-40	16	gS 40.7654	38-40	14
gS 37.2210	34-37	24	gS 38.9018	38-40	5	gS 40.5720	38-40	16	gS 40.7660	38-40	14
gS 37.2212	34-37	24	40			gS 40.5730	38-40	16	gS 40.7661	38-40	14
gS 37.2214	34-37	24	gS 40.1010	38-40	17	gS 40.5740	38-40	16	gS 40.7662	38-40	14
gS 37.3020	34-37	20	gS 40.1012	38-40	17	gS 40.5750	38-40	16	gS 40.7663	38-40	14
gS 37.3040	34-37	20	gS 40.1016	38-40	17	gS 40.5760	38-40	16	gS 40.7664	38-40	14
gS 37.3060	34-37	16	gS 40.1020	38-40	17	gS 40.5820	38-40	10	gS 40.7670	38-40	14
gS 37.3064	34-37	17	gS 40.1022	38-40	17	gS 40.5840	38-40	9	gS 40.7671	38-40	14
gS 37.3068	34-37	17	gS 40.1026	38-40	17	gS 40.5842	38-40	9	gS 40.7672	38-40	14
gS 37.3070	34-37	17	gS 40.1030	38-40	18	gS 40.5860	38-40	9	gS 40.7673	38-40	14
gS 37.3080	34-37	24	gS 40.1035	38-40	18	gS 40.5880	38-40	9	gS 40.7674	38-40	14
gS 37.3100	34-37	24	gS 40.1040	38-40	18	gS 40.5900	38-40	9	gS 40.8608	38-40	4
gS 37.3120	34-37	24	gS 40.1052	38-40	18	gS 40.5902	38-40	9	gS 40.8610	38-40	4
gS 37.3140	34-37	24	gS 40.1054	38-40	18	gS 40.6100	38-40	10	gS 40.8612	38-40	4
38			gS 40.1056	38-40	18	gS 40.6320	38-40	8	gS 40.8710	38-40	4
gS 38.3210	38-40	1	gS 40.1058	38-40	18	gS 40.6410	38-40	8	gS 40.8725	38-40	19
gS 38.3212	38-40	1	gS 40.2410	38-40	11	gS 40.6420	38-40	8	gS 40.8726	38-40	19
gS 38.3214	38-40	1	gS 40.2590	38-40	10	gS 40.6500	38-40	8	gS 40.8801	38-40	15
gS 38.3216	38-40	1	gS 40.3120	38-40	11	gS 40.6502	38-40	8	gS 40.8802	38-40	15
gS 38.4800	38-40	19	gS 40.3170	38-40	12	gS 40.6504	38-40	8	gS 40.8803	38-40	15
gS 38.4802	38-40	19	gS 40.3180	38-40	12	gS 40.6506	38-40	8	gS 40.8804	38-40	15
gS 38.4804	38-40	19	gS 40.3190	38-40	12	gS 40.6508	38-40	8	gS 40.8805	38-40	15
gS 38.4806	38-40	19	gS 40.3210	38-40	10	gS 40.6990	38-40	7	gS 40.8806	38-40	15
gS 38.5140	38-40	2	gS 40.3212	38-40	10	gS 40.7180	38-40	7	gS 40.8807	38-40	15
gS 38.5150	38-40	2	gS 40.3260	38-40	12	gS 40.7181	38-40	7	gS 40.8808	38-40	15
gS 38.5160	38-40	2	gS 40.3300	38-40	12	gS 40.7232	38-40	7	gS 40.8809	38-40	15
gS 38.5165	38-40	2	gS 40.3418	38-40	11	gS 40.7234	38-40	7	gS 40.8830	38-40	15
gS 38.5170	38-40	2	gS 40.3428	38-40	11	gS 40.7236	38-40	7	gS 40.8831	38-40	15
gS 38.5180	38-40	2	gS 40.4760	38-40	9	gS 40.7238	38-40	7	gS 40.8832	38-40	15
gS 38.5219	38-40	2	gS 40.5420	38-40	6	gS 40.7238	38-40	7	gS 40.8833	38-40	15
gS 38.5220	38-40	2	gS 40.5440	38-40	6	gS 40.7350	38-40	8	gS 40.8834	38-40	15
gS 38.5300	38-40	3	gS 40.5450	38-40	7	gS 40.7352	38-40	8	gS 40.8834	38-40	15
gS 38.5490	38-40	3	gS 40.5459	38-40	15	gS 40.7360	38-40	8	gS 40.8835	38-40	15
gS 38.5814	38-40	5	gS 40.5460	38-40	15	gS 40.7362	38-40	8	gS 40.8836	38-40	15
gS 38.5816	38-40	5	gS 40.5470	38-40	16	gS 40.7370	38-40	8	gS 40.8837	38-40	15
gS 38.5920	38-40	5	gS 40.5480	38-40	16	gS 40.7372	38-40	8	gS 40.8838	38-40	15
gS 38.5940	38-40	5	gS 40.5490	38-40	16	gS 40.7380	38-40	8	gS 40.8901	38-40	21
gS 38.5980	38-40	5	gS 40.5500	38-40	16	gS 40.7382	38-40	8	gS 40.8902	38-40	21
gS 38.6020	38-40	5	gS 40.5510	38-40	16	gS 40.7505	38-40	13	gS 40.8903	38-40	21
gS 38.6040	38-40	5	gS 40.5520	38-40	16	gS 40.7510	38-40	13	gS 40.9002	38-40	21
gS 38.6060	38-40	5	gS 40.5530	38-40	16	gS 40.7515	38-40	13	gS 40.9004	38-40	21
gS 38.6180	38-40	5	gS 40.5540	38-40	16	gS 40.7520	38-40	13	gS 40.9012	38-40	22
gS 38.6220	38-40	5	gS 40.5560	38-40	16	gS 40.7522	38-40	13	gS 40.9020	38-40	22
gS 38.6240	38-40	5	gS 40.5570	38-40	16	gS 40.7524	38-40	13	gS 40.9030	38-40	21
gS 38.6260	38-40	5	gS 40.5580	38-40	16	gS 40.7526	38-40	13	gS 40.9100	38-40	22
gS 38.6280	38-40	6	gS 40.5590	38-40	16	gS 40.7530	38-40	13	gS 40.9202	38-40	20
gS 38.7276	38-40	6	gS 40.5600	38-40	16	gS 40.7532	38-40	13	gS 40.9204	38-40	20
						gS 40.7534	38-40	13	gS 40.9210	38-40	20

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gS 40.9215	38-40	20	gS 43.2284	42-43	19	gS 43.5131	42-43	22	gS 46.1920	46	9
gS 40.9218	38-40	20	gS 43.2287	42-43	19	gS 43.5140	42-43	22	gS 46.1940	46	9
gS 40.9220	38-40	20	gS 43.3010	42-43	11	gS 43.5141	42-43	22	gS 46.1960	46	9
gS 40.9224	38-40	20	gS 43.3020	42-43	11	gS 43.5160	42-43	22	gS 46.1980	46	9
gS 40.9225	38-40	20	gS 43.3048	42-43	5	gS 43.5161	42-43	22	gS 46.1990	46	7
gS 40.9228	38-40	20	gS 43.3050	42-43	2	gS 43.5180	42-43	22	gS 46.2050	46	1
gS 40.9280	38-40	20	gS 43.3052	42-43	2	gS 43.5181	42-43	22	gS 46.2116	46	14
gS 40.9282	38-40	20	gS 43.3060	42-43	14	gS 43.5200	42-43	22	gS 46.2118	46	14
gS 40.9320	38-40	22	gS 43.3070	42-43	14	gS 43.5201	42-43	22	gS 46.2120	46	14
42			gS 43.3110	42-43	14	gS 43.7160	42-43	6	gS 46.2122	46	14
gS 42.1750	42-43	3	gS 43.3120	42-43	14	gS 43.7221	42-43	3	gS 46.2190	46	1
gS 42.1760	42-43	3	gS 43.3130	42-43	15	gS 43.9010	42-43	21	gS 46.2210	46	7
gS 42.5940	42-43	2	gS 43.3140	42-43	15	gS 43.9020	42-43	21	gS 46.2220	46	8
gS 42.5950	42-43	1	gS 43.3150	42-43	15	gS 43.9030	42-43	21	gS 46.2240	46	8
gS 42.5980	42-43	1	gS 43.3160	42-43	15	gS 43.9040	42-43	21	gS 46.2260	46	8
gS 42.6020	42-43	1	gS 43.3170	42-43	16	gS 43.9221	42-43	8	gS 46.2280	46	2
gS 42.6180	42-43	1	gS 43.3190	42-43	12	gS 43.9222	42-43	8	gS 46.2300	46	5
gS 42.6790	42-43	2	gS 43.3192	42-43	12	gS 43.9223	42-43	8	gS 46.2310	46	6
gS 42.6900	42-43	2	gS 43.3205	42-43	5	gS 43.9224	42-43	8	gS 46.2320	46	4
gS 42.7090	42-43	4	gS 43.3220	42-43	17	gS 43.9225	42-43	9	gS 46.2330	46	2
gS 42.7130	42-43	4	gS 43.3240	42-43	17	gS 43.9250	42-43	9	gS 46.2335	46	4
gS 42.7132	42-43	4	gS 43.3440	42-43	13	gS 43.9308	42-43	23	gS 46.2340	46	4
gS 42.7140	42-43	4	gS 43.3450	42-43	13	gS 43.9317	42-43	23	gS 46.2342	46	5
gS 42.7143	42-43	5	gS 43.3460	42-43	13	gS 43.9410	42-43	24	gS 46.2350	46	2
gS 42.7145	42-43	5	gS 43.3480	42-43	13	gS 43.9414	42-43	24	gS 46.2370	46	2
gS 42.7150	42-43	9	gS 43.3500	42-43	20	44			gS 46.2380	46	7
gS 42.7160	42-43	6	gS 43.3520	42-43	20	gS 44.0130	44	1	gS 46.2390	46	1
gS 42.7165	42-43	4	gS 43.3540	42-43	20	gS 44.0140	44	1	gS 46.2395	46	7
gS 42.7170	42-43	7	gS 43.3560	42-43	20	gS 44.0150	44	2	gS 46.2407	46	6
gS 42.7171	42-43	7	gS 43.3575	42-43	10	gS 44.0160	44	2	gS 46.2409	46	6
gS 42.7172	42-43	7	gS 43.3580	42-43	10	gS 44.0220	44	1	gS 46.2430	46	10
gS 42.7230	42-43	9	gS 43.3600	42-43	10	gS 44.4360	44	1	gS 46.2432	46	10
gS 42.7418	42-43	7	gS 43.3620	42-43	10	gS 44.5200	44	2	gS 46.2440	46	11
gS 42.7420	42-43	7	gS 43.3630	42-43	10	45			gS 46.2450	46	11
gS 42.7523	42-43	6	gS 43.3640	42-43	10	gS 45.4320	45	1	gS 46.2470	46	10
gS 42.7690	42-43	6	gS 43.3660	42-43	10	gS 45.4340	45	1	gS 46.2520	46	13
gS 42.7716	42-43	12	gS 43.3680	42-43	2	gS 45.4343	45	1	gS 46.2540	46	13
gS 42.7719	42-43	12	gS 43.3700	42-43	3	gS 45.4346	45	1	gS 46.2560	46	13
gS 42.7720	42-43	12	gS 43.4100	42-43	10	gS 45.4350	45	1	gS 46.2650	46	13
gS 42.7810	42-43	11	gS 43.4110	42-43	10	gS 45.4420	45	2	gS 46.2655	46	13
gS 42.7816	42-43	11	gS 43.4120	42-43	10	gS 45.4430	45	2	gS 46.2660	46	13
gS 42.8590	42-43	3	gS 43.4130	42-43	10	gS 45.4440	45	2	gS 46.4000	46	1
gS 42.8600	42-43	3	gS 43.4160	42-43	16	46			gS 46.4040	46	3
gS 42.8620	42-43	3	gS 43.4162	42-43	16	gS 46.1620	46	11	gS 46.4060	46	3
gS 42.8640	42-43	3	gS 43.4164	42-43	16	gS 46.1630	46	11	gS 46.4116	46	3
gS 42.8660	42-43	3	gS 43.4210	42-43	17	gS 46.1640	46	11	gS 46.4117	46	3
43			gS 43.4212	42-43	17	gS 46.1645	46	11	gS 46.4680	46	14
gS 43.1850	42-43	16	gS 43.4220	42-43	17	gS 46.1650	46	11	gS 46.4685	46	14
gS 43.1852	42-43	16	gS 43.4260	42-43	17	gS 46.1655	46	11	gS 46.8510	46	6
gS 43.2060	42-43	18	gS 43.4396	42-43	21	gS 46.1815	46	12	gS 46.8520	46	5
gS 43.2080	42-43	18	gS 43.4400	42-43	21	gS 46.1820	46	12	gS 46.8870	46	4
gS 43.2100	42-43	18	gS 43.4420	42-43	21	gS 46.1832	46	12	gS 46.8872	46	6
gS 43.2120	42-43	17	gS 43.4440	42-43	21	gS 46.1850	46	12	gS 46.8910	46	5
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gS 47.1015	47	1	gS 50.5990	50	2	gS 51.2540	51	4	gS 51.5470	51	8
gS 47.1020	47	1	gS 50.6000	50	2	gS 51.2550	51	4	gS 51.5471	51	8
gS 47.1060	47	6	gS 50.6030	50	2	gS 51.2560	51	4	gS 51.5472	51	8
gS 47.1064	47	6	gS 50.6050	50	2	gS 51.2570	51	4	gS 51.5473	51	8
gS 47.1130	47	1	gS 50.6070	50	2	gS 51.2580	51	4	gS 51.5474	51	8
gS 47.1140	47	1	gS 50.6110	50	2	gS 51.3000	51	1	gS 51.5475	51	8
gS 47.1150	47	1	gS 50.6120	50	2	gS 51.3020	51	1	gS 51.5476	51	8
gS 47.6190	47	2	gS 50.6130	50	2	gS 51.3030	51	1	gS 51.5490	51	11
gS 47.6192	47	2	gS 50.6140	50	2	gS 51.3040	51	1	gS 51.5492	51	11
gS 47.6196	47	2	gS 50.6150	50	2	gS 51.4107	51	4	gS 51.5494	51	11
gS 47.6200	47	3	gS 50.6170	50	2	gS 51.4108	51	4	gS 51.5500	51	11
gS 47.6204	47	4	gS 50.6660	50	3	gS 51.4110	51	4	gS 51.5520	51	11
gS 47.6208	47	5	gS 50.6662	50	3	gS 51.4111	51	4	gS 51.5540	51	11
gS 47.6212	47	5	gS 50.6800	50	3	gS 51.4112	51	4	gS 51.5560	51	11
49			gS 50.6820	50	3	gS 51.4113	51	4	gS 51.5580	51	11
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gS 49.1002	49	1	gS 50.6920	50	3	gS 51.4115	51	4	gS 51.5620	51	11
gS 49.1003	49	1	gS 50.7040	50	4	gS 51.4116	51	4	gS 51.5622	51	11
gS 49.1004	49	1	gS 50.7200	50	4	gS 51.5107	51	6	gS 51.5626	51	11
gS 49.1005	49	1	gS 50.7300	50	4	gS 51.5108	51	6	gS 51.5630	51	11
gS 49.2018	49	3	gS 50.7320	50	4	gS 51.5110	51	6	gS 51.5632	51	11
gS 49.2210	49	3	51			gS 51.5111	51	6	gS 51.5636	51	11
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gS 49.3180	49	2	gS 51.2017	51	3	gS 51.5113	51	6	gS 51.5645	51	12
gS 49.7151	49	2	gS 51.2020	51	3	gS 51.5114	51	6	gS 51.5650	51	12
gS 49.7152	49	2	gS 51.2024	51	3	gS 51.5115	51	6	gS 51.5655	51	12
gS 49.8300	49	3	gS 51.2027	51	3	gS 51.5116	51	6	gS 51.5660	51	12
gS 49.8350	49	5	gS 51.2030	51	3	gS 51.5221	51	8	gS 51.5665	51	12
gS 49.8356	49	5	gS 51.2036	51	3	gS 51.5231	51	8	gS 51.5670	51	12
gS 49.8400	49	4	gS 51.2038	51	3	gS 51.5241	51	8	gS 51.5675	51	12
gS 49.8450	49	4	gS 51.2070	51	2	gS 51.5251	51	8	gS 51.5682	51	12
gS 49.8455	49	4	gS 51.2080	51	2	gS 51.5261	51	8	gS 51.5684	51	12
gS 49.8460	49	4	gS 51.2090	51	2	gS 51.5271	51	8	gS 51.5708	51	7
gS 49.8620	49	1	gS 51.2100	51	2	gS 51.5281	51	8	gS 51.5709	51	7
gS 49.8660	49	1	gS 51.2110	51	2	gS 51.5291	51	8	gS 51.5710	51	7
gS 49.8700	49	1	gS 51.2120	51	2	gS 51.5301	51	8	gS 51.5711	51	7
gS 49.8800	49	2	gS 51.2130	51	2	gS 51.5331	51	8	gS 51.5712	51	7
gS 49.9280	49	5	gS 51.2140	51	2	gS 51.5341	51	8	gS 51.5713	51	7
gS 49.9290	49	5	gS 51.2150	51	2	gS 51.5351	51	8	gS 51.5714	51	7
50			gS 51.2160	51	2	gS 51.5361	51	8	gS 51.5715	51	7
gS 50.4110	50	2	gS 51.2170	51	2	gS 51.5371	51	8	gS 51.5716	51	7
gS 50.4112	50	2	gS 51.2180	51	2	gS 51.5381	51	8	gS 51.5808	51	7
gS 50.5000	50	1	gS 51.2190	51	1	gS 51.5391	51	8	gS 51.5809	51	7
gS 50.5040	50	1	gS 51.2200	51	1	gS 51.5401	51	8	gS 51.5810	51	7
gS 50.5080	50	1	gS 51.2210	51	1	gS 51.5411	51	8	gS 51.5811	51	7
gS 50.5570	50	1	gS 51.2220	51	1	gS 51.5448	51	8	gS 51.5812	51	7
gS 50.5590	50	1	gS 51.2230	51	1	gS 51.5449	51	8	gS 51.5813	51	7
gS 50.5610	50	1	gS 51.2240	51	1	gS 51.5450	51	8	gS 51.5814	51	7
gS 50.5630	50	1	gS 51.2250	51	1	gS 51.5451	51	8	gS 51.5815	51	7
gS 50.5650	50	1	gS 51.2260	51	1	gS 51.5452	51	8	gS 51.5816	51	7
gS 50.5680	50	1	gS 51.2270	51	1	gS 51.5453	51	8	gS 51.6110	51	2
gS 50.5920	50	1	gS 51.2280	51	1	gS 51.5454	51	8	gS 51.6120	51	2
gS 50.5950	50	2	gS 51.2500	51	4	gS 51.5455	51	8	gS 51.6130	51	2
gS 50.5960	50	2	gS 51.2510	51	4	gS 51.5456	51	8	gS 51.6150	51	2
gS 50.5970	50	2	gS 51.2520	51	4	gS 51.5468	51	8	gS 51.6170	51	2

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gS 51.6210	51	2	gS 51.6700	51	2	gS 52.0107	52-53	9	gS 52.4280	52-53	2
gS 51.6230	51	2	gS 51.6710	51	2	gS 52.0108	52-53	9	gS 52.4290	52-53	2
gS 51.6250	51	2	gS 51.6740	51	6	gS 52.0110	52-53	9	gS 52.4300	52-53	2
gS 51.6290	51	2	gS 51.6760	51	6	gS 52.0111	52-53	9	gS 52.4310	52-53	2
gS 51.6310	51	2	gS 51.6780	51	6	gS 52.0112	52-53	9	gS 52.4320	52-53	2
gS 51.6400	51	2	gS 51.6800	51	3	gS 52.0113	52-53	9	gS 52.4330	52-53	2
gS 51.6401	51	2	gS 51.6820	51	3	gS 52.0300	52-53	5	gS 52.4350	52-53	1
gS 51.6402	51	2	gS 51.6840	51	3	gS 52.0301	52-53	5	gS 52.4355	52-53	1
gS 51.6403	51	2	gS 51.6851	51	3	gS 52.0302	52-53	5	gS 52.4360	52-53	1
gS 51.6404	51	2	gS 51.6852	51	3	gS 52.0310	52-53	5	gS 52.4380	52-53	1
gS 51.6410	51	2	gS 51.6853	51	3	gS 52.0311	52-53	5	gS 52.4400	52-53	1
gS 51.6420	51	2	gS 51.6854	51	3	gS 52.0312	52-53	5	gS 52.4420	52-53	1
gS 51.6430	51	2	gS 51.6855	51	3	gS 52.0313	52-53	5	gS 52.4430	52-53	1
gS 51.6440	51	2	gS 51.6856	51	3	gS 52.0400	52-53	1	gS 52.4440	52-53	1
gS 51.6450	51	2	gS 51.6862	51	5	gS 52.0460	52-53	1	gS 52.4450	52-53	1
gS 51.6460	51	2	gS 51.6863	51	5	gS 52.0500	52-53	1	gS 52.4460	52-53	1
gS 51.6478	51	2	gS 51.6864	51	5	gS 52.0700	52-53	1	gS 52.4470	52-53	1
gS 51.6479	51	2	gS 51.6865	51	5	gS 52.0750	52-53	1	gS 52.4472	52-53	1
gS 51.6480	51	2	gS 51.6872	51	5	gS 52.1008	52-53	6	gS 52.4473	52-53	1
gS 51.6481	51	2	gS 51.6873	51	5	gS 52.1010	52-53	6	gS 52.4474	52-53	1
gS 51.6482	51	2	gS 51.6874	51	5	gS 52.1020	52-53	6	gS 52.4475	52-53	1
gS 51.6483	51	2	gS 51.6875	51	5	gS 52.1040	52-53	6	gS 52.4476	52-53	1
gS 51.6484	51	2	gS 51.6883	51	5	gS 52.1060	52-53	6	gS 52.4477	52-53	1
gS 51.6485	51	2	gS 51.6884	51	5	gS 52.1080	52-53	6	gS 52.4478	52-53	1
gS 51.6486	51	2	gS 51.6885	51	5	gS 52.1220	52-53	4	gS 52.4479	52-53	1
gS 51.6488	51	2	gS 51.6950	51	6	gS 52.1222	52-53	4	gS 52.4480	52-53	1
gS 51.6489	51	2	gS 51.6954	51	6	gS 52.1318	52-53	4	gS 52.4495	52-53	2
gS 51.6490	51	2	gS 51.6956	51	6	gS 52.3680	52-53	3	gS 52.4496	52-53	2
gS 51.6491	51	2	gS 51.6958	51	6	gS 52.3690	52-53	3	gS 52.4498	52-53	2
gS 51.6492	51	2	gS 51.7136	51	10	gS 52.3700	52-53	3	gS 52.4499	52-53	2
gS 51.6493	51	2	gS 51.7142	51	10	gS 52.3720	52-53	3	gS 52.4500	52-53	2
gS 51.6494	51	2	gS 51.7144	51	10	gS 52.3740	52-53	3	gS 52.4507	52-53	2
gS 51.6495	51	2	gS 51.7146	51	10	gS 52.3760	52-53	3	gS 52.4508	52-53	2
gS 51.6496	51	2	gS 51.7148	51	10	gS 52.3780	52-53	3	gS 52.4510	52-53	2
gS 51.6510	51	4	gS 51.7512	51	9	gS 52.3800	52-53	3	gS 52.4520	52-53	2
gS 51.6520	51	4	gS 51.7513	51	9	gS 52.3840	52-53	6	gS 52.4530	52-53	2
gS 51.6530	51	4	gS 51.7515	51	9	gS 52.3860	52-53	6	gS 52.4540	52-53	2
gS 51.6540	51	4	gS 51.7519	51	9	gS 52.3880	52-53	6	gS 52.4550	52-53	2
gS 51.6550	51	4	gS 51.7522	51	9	gS 52.3903	52-53	2	gS 52.4560	52-53	2
gS 51.6560	51	4	gS 51.7523	51	9	gS 52.3904	52-53	2	gS 52.4590	52-53	7
gS 51.6570	51	4	gS 51.7525	51	9	gS 52.3905	52-53	2	gS 52.4600	52-53	7
gS 51.6580	51	4	gS 51.7529	51	9	gS 52.3906	52-53	2	gS 52.4610	52-53	7
gS 51.6590	51	4	gS 51.7532	51	9	gS 52.3907	52-53	2	gS 52.4620	52-53	7
gS 51.6600	51	1	gS 51.7533	51	9	gS 52.3908	52-53	2	gS 52.4630	52-53	7
gS 51.6610	51	1	gS 51.7543	51	9	gS 52.3910	52-53	2	gS 52.4640	52-53	7
gS 51.6620	51	1	gS 51.7544	51	9	gS 52.3912	52-53	2	gS 52.4650	52-53	7
gS 51.6624	51	2	gS 51.7545	51	9	gS 52.3916	52-53	2	gS 52.4660	52-53	7
gS 51.6626	51	2	gS 51.7553	51	9	gS 52.3919	52-53	2	gS 52.4670	52-53	7
gS 51.6628	51	2	gS 51.7554	51	9	gS 52.3922	52-53	2	gS 52.4680	52-53	7
gS 51.6630	51	2	gS 51.7555	51	9	gS 52.3925	52-53	2	gS 52.4730	52-53	7
gS 51.6640	51	2	52			gS 52.4040	52-53	2	gS 52.4760	52-53	7
gS 51.6650	51	2	gS 52.0100	52-53	9	gS 52.4060	52-53	2	gS 52.4770	52-53	7
gS 51.6660	51	2	gS 52.0101	52-53	9	gS 52.4100	52-53	2	gS 52.4780	52-53	7
gS 51.6670	51	2	gS 52.0102	52-53	9	gS 52.4140	52-53	2	gS 52.4790	52-53	7
gS 51.6680	51	2	gS 52.0105	52-53	9	gS 52.4180	52-53	2	gS 52.4800	52-53	7

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part number	sect	pg #	part number	sect	pg #	part number	sect	pg #	part number	sect	pg #
gS 52.4810	52-53	7	gS 53.4630	52-53	8	gS 54.3660	54	3	gS 56.3920	56	1
gS 52.4820	52-53	7	54			gS 54.3680	54	3	gS 56.3930	56	1
gS 52.4830	52-53	7	gS 54.1085	54	2	gS 54.3890	54	3	gS 56.3940	56	1
gS 52.4840	52-53	7	gS 54.1086	54	2	gS 54.3900	54	3	gS 56.4870	56	4
gS 52.4902	52-53	4	gS 54.1087	54	2	gS 54.3910	54	3	gS 56.4880	56	4
gS 52.4904	52-53	4	gS 54.1090	54	2	gS 54.6050	54	2	gS 56.4890	56	4
gS 52.4906	52-53	4	gS 54.1092	54	2	gS 54.6060	54	2	gS 56.4900	56	4
gS 52.4908	52-53	4	gS 54.1094	54	2	gS 54.6070	54	2	gS 56.4910	56	4
gS 52.4910	52-53	4	gS 54.1100	54	5	gS 54.6080	54	2	gS 56.4920	56	4
gS 52.4912	52-53	4	gS 54.1120	54	5	gS 54.6090	54	2	gS 56.4930	56	4
gS 52.5480	52-53	6	gS 54.1140	54	5	gS 54.6240	54	1	gS 56.4940	56	4
gS 52.5490	52-53	6	gS 54.1160	54	5	gS 54.6280	54	1	gS 56.4950	56	4
gS 52.5500	52-53	6	gS 54.1400	54	4	gS 54.6570	54	1	gS 56.5010	56	4
gS 52.5510	52-53	6	gS 54.1410	54	4	gS 54.6600	54	1	gS 56.5020	56	4
gS 52.5520	52-53	6	gS 54.1420	54	4	gS 54.6620	54	1	gS 56.5030	56	4
gS 52.5530	52-53	6	gS 54.1430	54	4	gS 54.6680	54	1	gS 56.5040	56	4
gS 52.5540	52-53	6	gS 54.1440	54	4	gS 54.7500	54	1	gS 56.5050	56	4
gS 52.5570	52-53	6	gS 54.1450	54	4	56			gS 56.5070	56	4
gS 52.5580	52-53	6	gS 54.1590	54	5	gS 56.0003	56	1	gS 56.5080	56	4
gS 52.5590	52-53	6	gS 54.1600	54	5	gS 56.0004	56	1	gS 56.5090	56	4
gS 52.5600	52-53	6	gS 54.1610	54	5	gS 56.0005	56	1	gS 56.5100	56	4
gS 52.5610	52-53	6	gS 54.1620	54	5	gS 56.0006	56	1	gS 56.5110	56	4
gS 52.5620	52-53	6	gS 54.1630	54	5	gS 56.0013	56	1	gS 56.5120	56	4
gS 52.5630	52-53	6	gS 54.1640	54	5	gS 56.0014	56	1	gS 56.5660	56	3
gS 52.5970	52-53	3	gS 54.1650	54	5	gS 56.0015	56	1	gS 56.5670	56	3
gS 52.5980	52-53	3	gS 54.1660	54	5	gS 56.0016	56	1	gS 56.5680	56	3
gS 52.5990	52-53	3	gS 54.1670	54	5	gS 56.0017	56	1	gS 56.5760	56	3
gS 52.6000	52-53	3	gS 54.1680	54	5	gS 56.0104	56	2	gS 56.5770	56	3
gS 52.6010	52-53	3	gS 54.1730	54	5	gS 56.0106	56	2	gS 56.5780	56	3
gS 52.6020	52-53	3	gS 54.1740	54	5	gS 56.0108	56	2	gS 56.5790	56	3
gS 52.6030	52-53	3	gS 54.1750	54	5	gS 56.0110	56	2	gS 56.5870	56	3
gS 52.6040	52-53	3	gS 54.1760	54	5	gS 56.0112	56	2	gS 56.5880	56	3
gS 52.6053	52-53	3	gS 54.1770	54	5	gS 56.0190	56	3	gS 56.5890	56	3
gS 52.6054	52-53	3	gS 54.1780	54	5	gS 56.1009	56	4	gS 56.5900	56	3
gS 52.6056	52-53	3	gS 54.1790	54	5	gS 56.1180	56	3	gS 56.5910	56	3
gS 52.6058	52-53	3	gS 54.1800	54	5	gS 56.1200	56	3	gS 56.5930	56	3
gS 52.6060	52-53	3	gS 54.1810	54	5	gS 56.1220	56	3	gS 56.5950	56	3
gS 52.6063	52-53	3	gS 54.1820	54	5	gS 56.1240	56	3	gS 56.5970	56	6
gS 52.6066	52-53	3	gS 54.1906	54	6	gS 56.1280	56	4	gS 56.5972	56	6
gS 52.6069	52-53	3	gS 54.1920	54	6	gS 56.1300	56	5	gS 56.5980	56	6
53			gS 54.2004	54	2	gS 56.1320	56	5	gS 56.5982	56	6
gS 53.4410	52-53	7	gS 54.2007	54	2	gS 56.1340	56	5	gS 56.6010	56	6
gS 53.4415	52-53	7	gS 54.2009	54	2	gS 56.1360	56	5	gS 56.6012	56	6
gS 53.4500	52-53	8	gS 54.2012	54	2	gS 56.1410	56	5	gS 56.6014	56	6
gS 53.4510	52-53	8	gS 54.2106	54	2	gS 56.1412	56	5	gS 56.6016	56	6
gS 53.4520	52-53	8	gS 54.3213	54	3	gS 56.1414	56	5	gS 56.6018	56	6
gS 53.4530	52-53	8	gS 54.3460	54	4	gS 56.1416	56	5	gS 56.6020	56	6
gS 53.4540	52-53	8	gS 54.3480	54	4	gS 56.1418	56	5	59		
gS 53.4550	52-53	8	gS 54.3500	54	4	gS 56.1420	56	5	gS 59.7010	59	1
gS 53.4560	52-53	8	gS 54.3520	54	4	gS 56.1422	56	5	gS 59.7014	59	1
gS 53.4570	52-53	8	gS 54.3540	54	4	gS 56.1500	56	2	gS 59.7018	59	1
gS 53.4580	52-53	8	gS 54.3560	54	4	gS 56.1510	56	2	gS 59.7120	59	1
gS 53.4590	52-53	8	gS 54.3580	54	4	gS 56.1520	56	2	gS 59.7560	59	2
gS 53.4600	52-53	8	gS 54.3600	54	3	gS 56.1530	56	2	gS 59.7570	59	4
gS 53.4610	52-53	8	gS 54.3620	54	3	gS 56.1540	56	2	gS 59.7571	59	4
gS 53.4620	52-53	8	gS 54.3640	54	3	gS 56.1550	56	2	gS 59.7580	59	7

part number	sect	pg #	part number	sect	pg #	part number	sect	pg #	part number	sect	pg #
gS 59.7590	59	2	gS 61.6338	61-62	1	gS 63.6460	63	5	gS 66.3617	66	2
gS 59.7595	59	2	gS 61.6340	61-62	1	gS 63.6470	63	1	gS 66.3619	66	2
gS 59.7600	59	2	gS 61.6380	61-62	1	gS 63.6560	63	3	gS 66.3620	66	2
gS 59.7605	59	3	gS 61.6420	61-62	2	gS 63.6570	63	3	gS 66.3621	66	2
gS 59.7610	59	4	gS 61.6430	61-62	3	gS 63.6580	63	4	gS 66.3630	66	2
gS 59.7615	59	3	gS 61.6440	61-62	3	gS 63.6590	63	3	gS 66.3660	66	3
gS 59.7620	59	3	gS 61.6450	61-62	3	64			gS 66.3670	66	3
gS 59.7621	59	3	gS 61.6455	61-62	2	gS 64.4890	64	1	gS 66.3680	66	3
gS 59.7624	59	6	gS 61.6475	61-62	3	gS 64.4900	64	1	gS 66.3691	66	4
gS 59.7626	59	8	gS 61.6477	61-62	4	gS 64.5000	64	1	gS 66.3692	66	4
gS 59.7628	59	9	62			gS 64.5100	64	1	gS 66.3693	66	4
gS 59.7629	59	9	gS 62.1500	61-62	5	gS 64.8024	64	2	gS 66.3703	66	5
gS 59.7635	59	8	gS 62.1520	61-62	5	65			gS 66.3704	66	5
gS 59.7642	59	7	gS 62.1660	61-62	5	gS 65.3390	65	1	gS 66.3760	66	5
gS 59.7644	59	7	gS 62.1665	61-62	5	gS 65.3392	65	1	gS 66.3765	66	4
gS 59.7650	59	8	gS 62.1710	61-62	4	gS 65.3394	65	1	gS 66.3771	66	4
gS 59.7660	59	9	gS 62.1720	61-62	4	gS 65.3405	65	1	gS 66.3772	66	4
gS 59.7670	59	10	gS 62.1730	61-62	4	gS 65.3407	65	1	gS 66.3773	66	4
gS 59.7710	59	6	gS 62.6398	61-62	2	gS 65.3410	65	1	gS 66.3780	66	7
gS 59.7818	59	5	gS 62.6400	61-62	2	gS 65.3412	65	1	gS 66.3840	66	7
gS 59.7821	59	3	gS 62.7500	61-62	7	gS 65.3420	65	1	gS 66.3850	66	6
gS 59.7840	59	5	gS 62.7520	61-62	7	gS 65.3422	65	1	gS 66.3860	66	2
gS 59.7860	59	3	gS 62.7540	61-62	7	gS 65.3610	65	2	gS 66.3880	66	7
gS 59.7870	59	2	gS 62.7548	61-62	6	gS 65.3620	65	2	gS 66.4020	66	6
gS 59.7876	59	4	gS 62.7550	61-62	6	gS 65.3630	65	2	gS 66.4028	66	6
gS 59.7878	59	7	gS 62.7680	61-62	6	gS 65.7010	65	2	gS 66.4040	66	7
gS 59.7879	59	7	gS 62.7720	61-62	6	gS 65.7120	65	2	gS 66.4060	66	6
gS 59.7880	59	8	gS 62.8050	61-62	7	gS 65.7130	65	2	gS 66.4068	66	6
gS 59.7890	59	9	gS 62.8058	61-62	8	gS 65.7135	65	2	gS 66.4800	66	14
gS 59.8600	59	4	gS 62.8059	61-62	8	gS 65.7140	65	2	gS 66.4820	66	14
gS 59.8660	59	6	gS 62.8060	61-62	8	gS 65.7150	65	2	gS 66.4840	66	14
gS 59.8670	59	6	gS 62.8061	61-62	8	gS 65.7170	65	2	gS 66.4860	66	14
gS 59.8710	59	5	63			gS 65.7431	65	3	gS 66.4960	66	15
gS 59.8711	59	5	gS 63.4657	63	5	gS 65.7440	65	3	gS 66.5580	66	15
gS 59.8712	59	5	gS 63.4659	63	6	gS 65.7450	65	3	gS 66.5600	66	15
60			gS 63.4660	63	6	gS 65.7452	65	3	gS 66.5611	66	16
gS 60.0800	60	1	gS 63.4661	63	6	gS 65.7454	65	3	gS 66.5612	66	16
gS 60.0801	60	1	gS 63.4663	63	6	gS 65.8100	65	4	gS 66.5620	66	16
gS 60.7503	60	1	gS 63.4700	63	5	gS 65.8120	65	3	gS 66.5640	66	16
gS 60.7505	60	1	gS 63.4740	63	6	gS 65.8125	65	3	gS 66.5651	66	16
gS 60.7508	60	1	gS 63.4801	63	1	66			gS 66.5652	66	16
gS 60.8500	60	2	gS 63.4811	63	1	gS 66.3404	66	5	gS 66.5715	66	12
gS 60.8510	60	2	gS 63.4812	63	1	gS 66.3414	66	5	gS 66.5720	66	12
gS 60.8520	60	2	gS 63.4821	63	3	gS 66.3520	66	1	gS 66.5740	66	11
gS 60.8530	60	2	gS 63.4831	63	5	gS 66.3530	66	1	gS 66.5760	66	11
gS 60.8540	60	2	gS 63.4832	63	5	gS 66.3531	66	6	gS 66.5780	66	11
gS 60.8743	60	2	gS 63.4980	63	2	gS 66.3532	66	6	gS 66.5800	66	14
gS 60.9930	60	1	gS 63.4981	63	2	gS 66.3540	66	3	gS 66.5820	66	14
gS 60.9940	60	1	gS 63.4982	63	2	gS 66.3560	66	3	gS 66.5840	66	14
gS 60.9950	60	1	gS 63.4983	63	2	gS 66.3580	66	3	gS 66.5845	66	12
gS 60.9960	60	1	gS 63.5100	63	2	gS 66.3600	66	3	gS 66.5859	66	13
gS 60.9970	60	1	gS 63.5101	63	2	gS 66.3602	66	1	gS 66.5860	66	13
gS 60.9980	60	1	gS 63.5102	63	2	gS 66.3604	66	1	gS 66.5870	66	13
gS 60.9990	60	1	gS 63.5103	63	2	gS 66.3606	66	1	gS 66.5880	66	13
61			gS 63.6380	63	4	gS 66.3610	66	2	gS 66.5890	66	13
gS 61.1700	61-62	1	gS 63.6420	63	4	gS 66.3616	66	1	gS 66.5900	66	13

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part number	sect	pg #	part number	sect	pg #	part number	sect	pg #	part number	sect	pg #
gS 66.5940	66	13	gS 68.0243	68	5	gS 68.8934	68	3	gS 70.5219	70	2
gS 66.5950	66	13	gS 68.0244	68	5	gS 68.8936	68	3	gS 70.5221	70	2
gS 66.5970	66	13	gS 68.0245	68	5	gS 68.9000	68	4	gS 70.5701	70	4
gS 66.5980	66	13	gS 68.7702	68	5	gS 68.9020	68	4	gS 70.5702	70	4
gS 66.5990	66	13	gS 68.7732	68	5	gS 68.9040	68	4	gS 70.5703	70	4
gS 66.5991	66	13	gS 68.7762	68	5	gS 68.9202	68	4	gS 70.5704	70	4
gS 66.6200	66	8	gS 68.7900	68	5	gS 68.9204	68	4	gS 70.5705	70	4
gS 66.6220	66	8	gS 68.7930	68	5	gS 68.9206	68	4	gS 70.5711	70	4
gS 66.6230	66	9	gS 68.7960	68	5	gS 68.9400	68	4	gS 70.5712	70	4
gS 66.6250	66	9	gS 68.8000	68	5	gS 68.9420	68	4	gS 70.5713	70	4
gS 66.6252	66	9	gS 68.8020	68	5	gS 68.9440	68	4	gS 70.5714	70	4
gS 66.6253	66	9	gS 68.8030	68	5	gS 68.9502	68	4	gS 70.5715	70	4
gS 66.6255	66	9	gS 68.8040	68	5	gS 68.9504	68	4	gS 70.5716	70	4
gS 66.6256	66	9	gS 68.8052	68	4	gS 68.9506	68	4	gS 70.5721	70	4
gS 66.6257	66	9	gS 68.8054	68	4	gS 68.9512	68	4	gS 70.5722	70	4
gS 66.6258	66	9	gS 68.8056	68	4	gS 68.9514	68	4	gS 70.5723	70	4
gS 66.6260	66	10	gS 68.8100	68	3	gS 68.9516	68	4	gS 70.5724	70	4
gS 66.6265	66	10	gS 68.8120	68	3	gS 68.9522	68	4	gS 70.5725	70	4
gS 66.6267	66	10	gS 68.8140	68	3	gS 68.9524	68	4	gS 70.5726	70	4
gS 66.6270	66	11	gS 68.8210	68	3	gS 68.9526	68	4	gS 70.5801	70	4
gS 66.6275	66	11	gS 68.8230	68	3	gS 68.9532	68	4	gS 70.5802	70	4
gS 66.6277	66	11	gS 68.8240	68	3	gS 68.9534	68	4	gS 70.5803	70	4
gS 66.6280	66	10	gS 68.8300	68	3	gS 68.9536	68	4	gS 70.5804	70	4
gS 66.6310	66	11	gS 68.8320	68	3	gS 68.9543	68	1	gS 70.5805	70	4
gS 66.6335	66	11	gS 68.8340	68	3	gS 68.9545	68	1	gS 70.5811	70	4
gS 66.6336	66	11	gS 68.8402	68	3	gS 68.9553	68	2	gS 70.5812	70	4
gS 66.6337	66	11	gS 68.8404	68	3	gS 68.9554	68	2	gS 70.5813	70	4
gS 66.6339	66	12	gS 68.8406	68	3	gS 68.9560	68	6	gS 70.5814	70	4
gS 66.6340	66	12	gS 68.8525	68	3	gS 68.9571	68	1	gS 70.5815	70	4
gS 66.6344	66	10	gS 68.8527	68	3	gS 68.9575	68	2	gS 70.5816	70	4
gS 66.6348	66	15	gS 68.8529	68	3	gS 68.9576	68	2	gS 70.5821	70	4
gS 66.6354	66	12	gS 68.8535	68	3	gS 68.9577	68	2	gS 70.5822	70	4
gS 66.6357	66	15	gS 68.8537	68	3	gS 68.9578	68	2	gS 70.5823	70	4
gS 66.6358	66	16	gS 68.8539	68	3	gS 68.9579	68	2	gS 70.5824	70	4
gS 66.6359	66	16	gS 68.8602	68	3	gS 68.9580	68	6	gS 70.5825	70	4
gS 66.6573	66	10	gS 68.8604	68	3	gS 68.9600	68	6	gS 70.5826	70	4
gS 66.6580	66	8	gS 68.8606	68	3	gS 68.9620	68	6	gS 70.5911	70	4
gS 66.6600	66	8	gS 68.8610	68	3	gS 68.9640	68	6	gS 70.5912	70	4
gS 66.6620	66	8	gS 68.8620	68	3	gS 68.9660	68	6	gS 70.5913	70	4
68			gS 68.8640	68	3	gS 68.9680	68	6	gS 70.5914	70	4
gS 68.0202	68	5	gS 68.8702	68	3	gS 68.9700	68	6	gS 70.5915	70	4
gS 68.0203	68	5	gS 68.8704	68	3	gS 68.9720	68	6	gS 70.6012	70	4
gS 68.0204	68	5	gS 68.8706	68	3	gS 68.9725	68	6	gS 70.6013	70	4
gS 68.0205	68	5	gS 68.8800	68	3	gS 68.9730	68	6	gS 70.6014	70	4
gS 68.0212	68	5	gS 68.8820	68	3	gS 68.9750	68	6	gS 70.7603	70	5
gS 68.0213	68	5	gS 68.8840	68	3	gS 68.9780	68	6	gS 70.7604	70	5
gS 68.0214	68	5	gS 68.8900	68	3	70			gS 70.7605	70	5
gS 68.0215	68	5	gS 68.8901	68	3	gS 70.0500	70	2	gS 70.7606	70	5
gS 68.0222	68	5	gS 68.8903	68	3	gS 70.0615	70	3	gS 70.7612	70	5
gS 68.0223	68	5	gS 68.8912	68	3	gS 70.0618	70	3	gS 70.7613	70	5
gS 68.0224	68	5	gS 68.8914	68	3	gS 70.1300	70	3	gS 70.7614	70	5
gS 68.0225	68	5	gS 68.8916	68	3	gS 70.1330	70	3	gS 70.7615	70	5
gS 68.0226	68	5	gS 68.8922	68	3	gS 70.1340	70	3	gS 70.7616	70	5
gS 68.0233	68	5	gS 68.8924	68	3	gS 70.5213	70	2	gS 70.7622	70	5
gS 68.0234	68	5	gS 68.8926	68	3	gS 70.5215	70	2	gS 70.7623	70	5
gS 68.0242	68	5	gS 68.8932	68	3	gS 70.5217	70	2	gS 70.7624	70	5

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part number	sect	pg #	part number	sect	pg #	part number	sect	pg #	part number	sect	pg #
gS 70.7625	70	5	gS 71.5602	71	1	gS 71.7626	71	2	gS 74.5200	74	4
gS 70.7626	70	5	gS 71.5603	71	1	gS 71.7702	71	2	gS 74.5210	74	4
gS 70.7702	70	5	gS 71.5604	71	1	gS 71.7703	71	2	gS 74.5220	74	4
gS 70.7703	70	5	gS 71.5605	71	1	gS 71.7704	71	2	gS 74.5230	74	4
gS 70.7704	70	5	gS 71.5701	71	1	gS 71.7705	71	2	gS 74.7800	74	3
gS 70.7705	70	5	gS 71.5702	71	1	gS 71.7706	71	2	gS 74.7920	74	3
gS 70.7706	70	5	gS 71.5703	71	1	gS 71.7711	71	2	gS 74.7940	74	3
gS 70.7711	70	5	gS 71.5704	71	1	gS 71.7712	71	2	gS 74.7980	74	3
gS 70.7712	70	5	gS 71.5705	71	1	gS 71.7713	71	2	gS 74.8000	74	3
gS 70.7713	70	5	gS 71.5711	71	1	gS 71.7714	71	2	gS 74.8400	74	3
gS 70.7714	70	5	gS 71.5712	71	1	gS 71.7715	71	2	gS 74.8600	74	3
gS 70.7715	70	5	gS 71.5713	71	1	gS 71.7716	71	2	75		
gS 70.7716	70	5	gS 71.5714	71	1	gS 71.7721	71	2	gS 75.3124	75-76	3
gS 70.7721	70	5	gS 71.5715	71	1	gS 71.7722	71	2	gS 75.3250	75-76	4
gS 70.7722	70	5	gS 71.5721	71	1	gS 71.7723	71	2	gS 75.3270	75-76	4
gS 70.7723	70	5	gS 71.5722	71	1	gS 71.7724	71	2	gS 75.3280	75-76	4
gS 70.7724	70	5	gS 71.5723	71	1	gS 71.7725	71	2	gS 75.3300	75-76	4
gS 70.7725	70	5	gS 71.5724	71	1	gS 71.7726	71	2	gS 75.3302	75-76	4
gS 70.7726	70	5	gS 71.5725	71	1	gS 71.7802	71	2	gS 75.9230	75-76	1
gS 70.7802	70	5	gS 71.5726	71	1	gS 71.7803	71	2	gS 75.9240	75-76	1
gS 70.7803	70	5	gS 71.5801	71	1	gS 71.7804	71	2	gS 75.9250	75-76	1
gS 70.7804	70	5	gS 71.5802	71	1	gS 71.7805	71	2	gS 75.9255	75-76	1
gS 70.7805	70	5	gS 71.5803	71	1	gS 71.7806	71	2	gS 75.9260	75-76	1
gS 70.7806	70	5	gS 71.5804	71	1	gS 71.7812	71	2	gS 75.9282	75-76	1
gS 70.7812	70	5	gS 71.5805	71	1	gS 71.7813	71	2	gS 75.9300	75-76	1
gS 70.7813	70	5	gS 71.5811	71	1	gS 71.7814	71	2	gS 75.9307	75-76	1
gS 70.7814	70	5	gS 71.5812	71	1	gS 71.7815	71	2	gS 75.9308	75-76	1
gS 70.7815	70	5	gS 71.5813	71	1	gS 71.7816	71	2	gS 75.9309	75-76	1
gS 70.7816	70	5	gS 71.5814	71	1	gS 71.7822	71	2	gS 75.9310	75-76	1
gS 70.7822	70	5	gS 71.5815	71	1	gS 71.7823	71	2	gS 75.9311	75-76	1
gS 70.7823	70	5	gS 71.5816	71	1	gS 71.7824	71	2	gS 75.9312	75-76	1
gS 70.7824	70	5	gS 71.5821	71	1	gS 71.7825	71	2	gS 75.9313	75-76	1
gS 70.7825	70	5	gS 71.5822	71	1	gS 71.7826	71	2	gS 75.9314	75-76	1
gS 70.7826	70	5	gS 71.5823	71	1	gS 71.7912	71	2	gS 75.9315	75-76	1
gS 70.7890	70	5	gS 71.5824	71	1	gS 71.7913	71	2	gS 75.9316	75-76	1
gS 70.8014	70	5	gS 71.5825	71	1	gS 71.7914	71	2	gS 75.9317	75-76	1
gS 70.8715	70	6	gS 71.5826	71	1	gS 71.7915	71	2	gS 75.9318	75-76	1
gS 70.8725	70	6	gS 71.5911	71	1	gS 71.7916	71	2	gS 75.9320	75-76	1
gS 70.8735	70	6	gS 71.5912	71	1	73			gS 75.9340	75-76	1
gS 70.8745	70	6	gS 71.5913	71	1	gS 73.2260	73	1	gS 75.9360	75-76	1
gS 70.8755	70	6	gS 71.5914	71	1	gS 73.2270	73	1	gS 75.9400	75-76	2
gS 70.8815	70	6	gS 71.5915	71	1	gS 73.2330	73	1	gS 75.9401	75-76	2
gS 70.8825	70	6	gS 71.7602	71	2	gS 73.2380	73	1	gS 75.9402	75-76	2
gS 70.8835	70	6	gS 71.7603	71	2	gS 73.2382	73	2	gS 75.9410	75-76	2
gS 70.8845	70	6	gS 71.7604	71	2	gS 73.2810	73	2	gS 75.9792	75-76	3
gS 70.8855	70	6	gS 71.7605	71	2	gS 73.2838	73	2	gS 75.9800	75-76	3
gS 70.9112	70	4	gS 71.7606	71	2	gS 73.2840	73	2	gS 75.9810	75-76	3
gS 70.9113	70	4	gS 71.7612	71	2	74			gS 75.9820	75-76	3
gS 70.9114	70	4	gS 71.7613	71	2	gS 74.1000	74	1	gS 75.9830	75-76	3
gS 70.9115	70	4	gS 71.7614	71	2	gS 74.1040	74	1	gS 75.9840	75-76	3
gS 70.9130	70	6	gS 71.7615	71	2	gS 74.2015	74	1	gS 75.9850	75-76	3
gS 70.9150	70	6	gS 71.7616	71	2	gS 74.4140	74	1	gS 75.9880	75-76	3
gS 70.9230	70	6	gS 71.7622	71	2	gS 74.4148	74	2	gS 75.9900	75-76	3
gS 70.9240	70	6	gS 71.7623	71	2	gS 74.4150	74	2	gS 75.9910	75-76	3
71			gS 71.7624	71	2	gS 74.4160	74	2	gS 75.9920	75-76	3
gS 71.5601	71	1	gS 71.7625	71	2	gS 74.5100	74	2	gS 75.9930	75-76	3

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part number	sect	pg #	part number	sect	pg #	part number	sect	pg #	part number	sect	pg #
gS 75.9940	75-76	3	gS 77.5325	77	4	gS 78.2700	78-79	1	gS 78.5500	78-79	3
gS 75.9950	75-76	3	gS 77.5400	77	5	gS 78.2710	78-79	1	gS 78.5530	78-79	3
76			gS 77.5460	77	5	gS 78.2720	78-79	1	gS 78.5560	78-79	3
gS 76.0008	75-76	3	gS 77.5462	77	5	gS 78.2740	78-79	1	gS 78.5590	78-79	3
gS 76.0010	75-76	3	gS 77.5480	77	2	gS 78.2750	78-79	1	gS 78.5620	78-79	3
gS 76.0020	75-76	3	gS 77.6007	77	3	gS 78.2800	78-79	1	gS 78.5650	78-79	3
gS 76.0030	75-76	3	gS 77.6010	77	3	gS 78.2810	78-79	1	gS 78.5680	78-79	3
gS 76.0040	75-76	3	78			gS 78.2815	78-79	1	gS 78.5690	78-79	3
gS 76.0050	75-76	3	gS 78.1210	78-79	1	gS 78.2820	78-79	1	gS 78.5720	78-79	3
gS 76.0060	75-76	3	gS 78.1220	78-79	1	gS 78.2830	78-79	1	gS 78.5800	78-79	3
gS 76.0062	75-76	3	gS 78.1230	78-79	1	gS 78.2835	78-79	1	gS 78.5830	78-79	3
gS 76.0064	75-76	3	gS 78.1240	78-79	1	gS 78.2840	78-79	1	gS 78.5860	78-79	3
gS 76.0066	75-76	3	gS 78.1250	78-79	1	gS 78.2850	78-79	1	gS 78.5890	78-79	3
gS 76.0990	75-76	3	gS 78.1255	78-79	1	gS 78.2860	78-79	1	gS 78.5920	78-79	3
gS 76.1000	75-76	3	gS 78.1300	78-79	2	gS 78.2864	78-79	1	gS 78.5950	78-79	3
gS 76.1002	75-76	3	gS 78.1310	78-79	2	gS 78.2866	78-79	1	gS 78.5980	78-79	3
gS 76.1013	75-76	3	gS 78.1320	78-79	2	gS 78.2925	78-79	1	gS 78.6100	78-79	3
gS 76.2412	75-76	2	gS 78.1325	78-79	2	gS 78.3000	78-79	2	gS 78.6130	78-79	3
gS 76.2505	75-76	2	gS 78.1330	78-79	2	gS 78.3010	78-79	2	gS 78.6160	78-79	3
gS 76.2507	75-76	2	gS 78.1340	78-79	2	gS 78.3020	78-79	2	gS 78.6190	78-79	3
gS 76.2510	75-76	2	gS 78.2000	78-79	1	gS 78.3030	78-79	2	gS 78.6220	78-79	3
gS 76.2614	75-76	2	gS 78.2010	78-79	1	gS 78.3040	78-79	2	gS 78.6250	78-79	3
gS 76.2615	75-76	2	gS 78.2020	78-79	1	gS 78.3050	78-79	2	gS 78.6280	78-79	3
gS 76.2616	75-76	2	gS 78.2030	78-79	1	gS 78.3060	78-79	2	gS 78.6420	78-79	3
gS 76.2617	75-76	2	gS 78.2040	78-79	1	gS 78.3070	78-79	2	gS 78.6424	78-79	3
gS 76.2618	75-76	2	gS 78.2050	78-79	1	gS 78.3080	78-79	2	gS 78.6428	78-79	3
gS 76.2619	75-76	2	gS 78.2060	78-79	1	gS 78.3090	78-79	2	gS 78.6430	78-79	3
gS 76.2620	75-76	2	gS 78.2070	78-79	1	gS 78.3110	78-79	2	gS 78.6520	78-79	3
gS 76.2622	75-76	2	gS 78.2080	78-79	1	gS 78.3120	78-79	2	gS 78.6524	78-79	3
gS 76.2624	75-76	2	gS 78.2090	78-79	1	gS 78.3130	78-79	2	gS 78.6528	78-79	3
gS 76.2626	75-76	2	gS 78.2105	78-79	1	gS 78.3140	78-79	2	gS 78.6532	78-79	3
77			gS 78.2110	78-79	1	gS 78.3300	78-79	2	gS 78.7000	78-79	4
gS 77.3708	77	1	gS 78.2120	78-79	1	gS 78.3342	78-79	2	gS 78.7030	78-79	4
gS 77.3710	77	1	gS 78.2125	78-79	1	gS 78.3344	78-79	2	gS 78.7060	78-79	4
gS 77.3900	77	1	gS 78.2130	78-79	1	gS 78.3346	78-79	2	gS 78.7090	78-79	4
gS 77.3910	77	1	gS 78.2140	78-79	1	gS 78.3410	78-79	2	gS 78.7120	78-79	4
gS 77.3920	77	1	gS 78.2210	78-79	1	gS 78.3420	78-79	2	gS 78.7150	78-79	4
gS 77.3940	77	1	gS 78.2220	78-79	1	gS 78.3430	78-79	2	gS 78.7180	78-79	4
gS 77.4200	77	2	gS 78.2230	78-79	1	gS 78.3440	78-79	2	gS 78.7300	78-79	4
gS 77.4220	77	2	gS 78.2240	78-79	1	gS 78.3510	78-79	2	gS 78.7330	78-79	4
gS 77.4260	77	2	gS 78.2276	78-79	1	gS 78.3520	78-79	2	gS 78.7360	78-79	4
gS 77.4270	77	2	gS 78.2278	78-79	1	gS 78.3530	78-79	2	gS 78.7390	78-79	4
gS 77.4400	77	2	gS 78.2300	78-79	1	gS 78.3620	78-79	2	gS 78.7420	78-79	4
gS 77.4410	77	2	gS 78.2310	78-79	1	gS 78.3630	78-79	2	gS 78.7450	78-79	4
gS 77.4420	77	2	gS 78.2320	78-79	1	gS 78.4030	78-79	1	gS 78.7480	78-79	4
gS 77.4430	77	2	gS 78.2330	78-79	1	gS 78.4040	78-79	1	gS 78.7510	78-79	2
gS 77.4440	77	2	gS 78.2340	78-79	1	gS 78.4070	78-79	2	gS 78.7630	78-79	4
gS 77.4480	77	3	gS 78.2500	78-79	1	gS 78.4100	78-79	1	gS 78.7660	78-79	4
gS 77.5010	77	3	gS 78.2510	78-79	1	gS 78.4130	78-79	2	gS 78.7690	78-79	4
gS 77.5020	77	3	gS 78.2520	78-79	1	gS 78.4230	78-79	1	gS 78.7720	78-79	4
gS 77.5110	77	4	gS 78.2530	78-79	1	gS 78.4460	78-79	1	gS 78.7750	78-79	4
gS 77.5120	77	4	gS 78.2540	78-79	1	gS 78.4614	78-79	2	gS 78.7780	78-79	4
gS 77.5180	77	3	gS 78.2610	78-79	1	gS 78.4616	78-79	2	gS 78.7782	78-79	4
gS 77.5300	77	4	gS 78.2620	78-79	1	gS 78.4714	78-79	1	gS 78.7800	78-79	3
gS 77.5301	77	4	gS 78.2630	78-79	1	gS 78.4716	78-79	1	gS 78.7940	78-79	3
gS 77.5320	77	4	gS 78.2640	78-79	1	gS 78.5420	78-79	3	gS 78.8000	78-79	4

part number	sect	pg #	part number	sect	pg #	part number	sect	pg #	part number	sect	pg #
gS 78.8030	78-79	4	79			gS 81.7040	81	9	gS 82.4250	82	8
gS 78.8060	78-79	4	gS 79.2002	78-79	4	gS 81.7050	81	9	gS 82.4260	82	9
gS 78.8090	78-79	4	gS 79.2003	78-79	4	gS 81.7060	81	7	gS 82.4278	82	12
gS 78.8120	78-79	4	gS 79.2004	78-79	4	gS 81.7070	81	10	gS 82.4280	82	12
gS 78.8150	78-79	4	gS 79.2005	78-79	4	gS 81.7080	81	10	gS 82.4281	82	12
gS 78.8180	78-79	4	gS 79.2006	78-79	4	gS 81.7095	81	10	gS 82.4282	82	12
gS 78.8210	78-79	4	gS 79.2007	78-79	4	gS 81.7108	81	11	gS 82.4302	82	12
gS 78.8300	78-79	4	gS 79.2008	78-79	4	gS 81.7110	81	11	gS 82.4304	82	12
gS 78.8330	78-79	4	gS 79.2009	78-79	4	gS 81.7112	81	11	gS 82.4306	82	12
gS 78.8360	78-79	4	gS 79.2010	78-79	4	gS 81.7128	81	12	gS 82.4740	82	1
gS 78.8390	78-79	4	gS 79.2012	78-79	4	gS 81.7130	81	12	gS 82.4741	82	1
gS 78.8420	78-79	4	gS 79.2015	78-79	4	gS 81.7132	81	12	gS 82.4750	82	9
gS 78.8450	78-79	4	80			gS 81.7138	81	12	gS 82.4755	82	2
gS 78.8480	78-79	4	gS 80.4900	80	1	gS 81.7140	81	12	gS 82.4760	82	2
gS 78.8500	78-79	3	gS 80.4940	80	1	gS 81.7142	81	12	gS 82.4790	82	10
gS 78.8530	78-79	3	gS 80.4950	80	2	gS 81.7144	81	12	gS 82.4800	82	12
gS 78.8560	78-79	3	gS 80.4980	80	2	gS 81.7145	81	12	gS 82.4820	82	12
gS 78.8590	78-79	3	gS 80.4990	80	2	gS 81.7146	81	12	gS 82.4840	82	12
gS 78.8620	78-79	3	gS 80.7160	80	1	gS 81.7210	81	9	gS 82.4918	82	11
gS 78.8650	78-79	3	gS 80.7210	80	1	gS 81.7211	81	9	gS 82.4930	82	11
gS 78.8680	78-79	3	gS 80.7215	80	1	gS 81.7215	81	9	gS 82.4940	82	11
gS 78.8700	78-79	3	gS 80.7609	80	1	gS 81.7216	81	9	gS 82.4942	82	11
gS 78.8730	78-79	3	gS 80.7613	80	1	gS 81.8520	81	1	gS 82.4960	82	11
gS 78.8760	78-79	3	81			82			gS 82.4962	82	11
gS 78.8780	78-79	3	gS 81.3190	81	1	gS 82.0020	82	1	gS 82.4964	82	11
gS 78.8820	78-79	3	gS 81.3214	81	2	gS 82.0030	82	1	gS 82.4966	82	11
gS 78.8850	78-79	3	gS 81.3220	81	2	gS 82.0100	82	1	gS 82.5100	82	12
gS 78.8880	78-79	3	gS 81.3290	81	3	gS 82.0172	82	2	gS 82.7630	82	6
gS 78.9050	78-79	3	gS 81.3300	81	3	gS 82.0174	82	3	gS 82.7640	82	6
gS 78.9054	78-79	3	gS 81.3310	81	3	gS 82.0176	82	3	gS 82.7710	82	4
gS 78.9058	78-79	3	gS 81.3315	81	3	gS 82.0180	82	3	gS 82.7712	82	4
gS 78.9062	78-79	3	gS 81.3360	81	1	gS 82.0182	82	2	gS 82.7720	82	4
gS 78.9065	78-79	3	gS 81.3370	81	1	gS 82.0184	82	3	gS 82.7722	82	4
gS 78.9070	78-79	3	gS 81.3450	81	4	gS 82.0240	82	1	83		
gS 78.9116	78-79	1	gS 81.3460	81	2	gS 82.0290	82	7	gS 83.2680	83	1
gS 78.9120	78-79	3	gS 81.3462	81	4	gS 82.0292	82	7	gS 83.2700	83	1
gS 78.9124	78-79	3	gS 81.3464	81	6	gS 82.0296	82	5	gS 83.2920	83	1
gS 78.9128	78-79	3	gS 81.3466	81	6	gS 82.0298	82	5	gS 83.2940	83	1
gS 78.9135	78-79	3	gS 81.3480	81	2	gS 82.0300	82	7	gS 83.2945	83	1
gS 78.9140	78-79	3	gS 81.3490	81	5	gS 82.0302	82	6	gS 83.2950	83	1
gS 78.9216	78-79	1	gS 81.3530	81	5	gS 82.0315	82	5	gS 83.2960	83	1
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gS 78.9224	78-79	3	gS 81.3542	81	4	gS 82.0980	82	5	gS 83.3000	83	2
gS 78.9228	78-79	3	gS 81.3546	81	4	gS 82.1014	82	4	gS 83.4016	83	1
gS 78.9235	78-79	3	gS 81.3610	81	5	gS 82.1020	82	4	gS 83.7220	83	2
gS 78.9240	78-79	3	gS 81.3620	81	7	gS 82.4100	82	9	gS 83.7221	83	2
gS 78.9424	78-79	3	gS 81.3716	81	6	gS 82.4150	82	10	gS 83.7223	83	2
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gS 78.9860	78-79	4	gS 81.6720	81	8	gS 82.4232	82	8	gS 83.7236	83	5
gS 78.9890	78-79	4	gS 81.6730	81	8	gS 82.4235	82	8	gS 83.7240	83	5
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