**Double Pronged Pick**

For peritoneum, pleura, endocardium, organ capsules and skin. Grasps and lifts skin, tissue and dura, etc.

The tip consists of two very sharp, nearly horizontally opposed points. By applying gentle downward pressure and twisting slightly in a clockwise fashion, the points will embed themselves horizontally into fine membranes or skin, etc., so that it may be lifted upward. This instrument also has been used successfully when separating fine tissue from an underlying area that is not to be cut.

No. 18067-11

---

**Spinal Cord Hook**

Shaped like a ligation aid and sized to isolate the spinal cord from the dura of adult mice and neonatal rats. The cord can then be cut with minimal damage to the dura.

Tip diameter: 3 mm

No. 10162-12
### Bonn Micro Probes

<table>
<thead>
<tr>
<th>Type</th>
<th>Length</th>
<th>Tip Diameter</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight</td>
<td>13.5 cm</td>
<td>0.025 mm</td>
<td>10030-13</td>
</tr>
<tr>
<td>Angled 45°</td>
<td></td>
<td>0.025 mm</td>
<td>10032-13</td>
</tr>
<tr>
<td>Curved</td>
<td></td>
<td>0.025 mm</td>
<td>10031-13</td>
</tr>
<tr>
<td>Large curve</td>
<td></td>
<td>0.038 mm</td>
<td>10033-13</td>
</tr>
</tbody>
</table>

### Micro Points

<table>
<thead>
<tr>
<th>Type</th>
<th>Length</th>
<th>Tip Diameter</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angled 90° short</td>
<td></td>
<td>0.05 mm</td>
<td>10063-15</td>
</tr>
<tr>
<td>Angled 90°</td>
<td></td>
<td>0.02 mm</td>
<td>10065-15</td>
</tr>
<tr>
<td>Angled 45°</td>
<td></td>
<td>0.038 mm</td>
<td>10066-15</td>
</tr>
</tbody>
</table>
**Probes and Explorers**

**Straight**
- Tip diameter: 0.25 mm
- Length: 15.5 cm
- No. 10140-01

**Short angle**
- Tip diameter: 0.15 mm
- No. 10140-02

**Angled**
- Tip diameter: 0.15 mm
- No. 10140-03

**Micro Hooks**

**Short round hook**
- Tip diameter: 0.05 mm
- Length: 13 cm
- No. 10064-14

**Sharp hook**
- Tip diameter: 0.075 mm
- Length: 12 cm
- No. 10061-12

**Blunt hook**
- Tip diameter: 0.30 mm
- Length: 12 cm
- No. 10062-12
Gross Anatomy Probe

Tip diameter: 1.2 mm
15 cm
No. 10088-15

Vessel Dilating Probe

Tip diameter: 0.6 mm
12.5 cm
No. 10160-13

Combination Probe and Spatula

Tip diameter: 7 mm
14 cm
No. 10090-13
Micro Spatula

Tip width: 1 mm
Tip thickness: 0.25 mm
11 cm
No. 10089-11

Double-Ended Micro Spatula

Tip width: 2 mm
Tip thickness: 0.3 mm
13 cm
No. 10091-12

Iris Spatulae

Tip width: 3 mm
Tip thickness: 0.4 mm
13 cm
No. 10094-13

Tip width: 1.7 mm
Tip thickness: 0.3 mm
13 cm
No. 10093-13

Tip width: 1.8 mm
Tip thickness: 0.3 mm
12 cm
No. 10092-12
**Mini Hippocampal Dissecting Tool**

The instrument ends are malleable to allow you to adjust their shape to the correct angle for optimal positioning.

14.5 cm
No. 10099-12

**Hippocampal Dissecting Tool**

The instrument ends are malleable to allow you to adjust their shape to the correct angle for optimal positioning.

16 cm
No. 10099-15
Spatulae & Spoons

**Spoon**

- Diameter: 8 mm
- Depth: 2 mm
- 12.5 cm

*Moria 1121B*
No. 10321-08

**Mini Perforated Spoon**

- Diameter: 8 mm
- Depth: 1 mm
- 10 cm

*Moria MC 17C*
No. 10370-19

- Perforations are 0.8 mm in diameter.

**Perforated Spoon**

- Diameter: 15 mm
- Depth: 3 mm
- 14.5 cm

*Moria MC 17 BIS*
No. 10360-18

- Perforations are 0.9 mm in diameter.

**Mirror Finish Cutting Spoon**

- Diameter: 4.5 mm
- Depth: 0.15 mm
- 13 cm

No. 10360-13

- Non stick cutting spoon.

**Spoon Mirror Finish**

**Cutting Spoon**

- Diameter: 20 mm
- Depth: 5 mm
- 14.5 cm

*Moria MC 17*
No. 10370-17
**PIN HOLDERS**

**Pin Holder**
- Light weight.

**Pin Holder**
- Nickel-plated chuck
- Aluminum handle
- Jaw opening: 0–1 mm
- 17 cm
- No. 26018-17

**Pin Holder**
- Nickel-plated
- Jaw opening: 0–1 mm
- 12 cm
- No. 26016-12

**Self Holding Pin and Bone Screw Forceps**
- Designed with a serrated tip and grooved cup for a stable and secure grip, these forceps hold pins and screws allowing precise placement at your target area. They are compatible with all Fine Science Tools insect pins, minutien pins and bone screws.

- Polished stainless steel
- 14 cm
- No. 26100-00
**Insert Pins**
All insert pins fit any of our pin holders. Pins are antimagnetic and acid resistant.

- Stainless steel
- 5 cm

**Stainless Steel Minutien Pins**
The thinnest and finest pins available.

- Tip diameter: 0.0125 mm
- Rod diameter: 0.1 mm
- 10 mm
- Box of 500 pins
- No. 26002-10

**Black Anodized Minutien Pins**
These high quality pins are black for best visibility under high magnification and bright light.

- Tip diameter: 0.02 mm
- Rod diameter: 0.2 mm
- 10 mm
- Box of 500 pins
- No. 26002-20

**Etched Tungsten Micro Needles**
These tungsten micro needles are drawn to a 1 micron tip and three different rod diameters are offered. Each provides lateral stability as well as minimal spring action during manipulation. The micro needles can be used with our pin holders shown on page 106.

<table>
<thead>
<tr>
<th>Rod Diameter (mm)</th>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.125</td>
<td>No. 10130-05</td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>No. 10130-10</td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>No. 10130-20</td>
<td></td>
</tr>
</tbody>
</table>

**Black Anodized Insect Pins**
Nylon heads
Tip diameter: 0.03 mm

- Pkg. of 100 pins

**Stainless Steel Insect Pins**
Nylon heads
Tip diameter: 0.03 mm

- Pkg. of 100 pins

---

**Insert Pins**

<table>
<thead>
<tr>
<th>No. 26007-01</th>
<th>-02</th>
<th>-03</th>
<th>-04</th>
<th>-05</th>
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</thead>
</table>

**Black Anodized Minutien Pins**

<table>
<thead>
<tr>
<th>No. 26002-15</th>
</tr>
</thead>
</table>

**Stainless Steel Minutien Pins**

<table>
<thead>
<tr>
<th>No. 26002-10</th>
</tr>
</thead>
</table>

**Etched Tungsten Micro Needles**

<table>
<thead>
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<th>No. 26000-25-30-35-40-45-50-55-60-65-70</th>
</tr>
</thead>
</table>

**Black Anodized Insect Pins**

<table>
<thead>
<tr>
<th>No. 26001-20</th>
</tr>
</thead>
</table>

**Stainless Steel Insect Pins**

<table>
<thead>
<tr>
<th>No. 26001-20</th>
</tr>
</thead>
</table>
Fine Science Tools Online and Around the World

Helping you find the right tools

As always, customer service is a priority at our FST offices and dealers. As part of this priority we invite you to visit us online to help you research and find the Fine Science products best suited for your needs. View our entire product line with complete descriptions, dimensions and clear images.

Shipping globally since 1974.

**Offices**
- finescience.com  USA
- finescience.de  Europe
- finescience.ca  Canada/International

**Dealers**
- United Kingdom: InterFocus Ltd.  surgicaltools.co.uk
- Japan: Muromachi Kikai Co., Ltd.  muromachi.com
- Taiwan: Proserv Instruments Co., Ltd.  proserv.com.tw
**EVO Needle Holder**

Lighter than titanium but with all the benefits of stainless steel. The fully fenestrated spring body has a stability rod to provide balance in your hand.

**Castroviejo**

Micro pattern, with slightly blunted tips.

---

**Cautionary note:** Never use a micro needle holder with needles that are too thick, as this can easily damage the fine jaws. Use only micro needles of less than 0.2 mm diameter (see page 116).
**Needle Holder with Scissor Action**

- **Curved**
  - Cutting edge: 3.5 mm
  - 14 cm
  - Without lock
  - No. 12075-14

**Cautionary note:** Never use a micro needle holder with needles that are too thick, as this can easily damage the fine jaws. Use only micro needles of less than 0.2 mm diameter (see page 116).

**Round Handled Needle Holder**

- **Straight**
  - 12.5 cm
  - With lock
  - No. 12075-12
  - Without lock
  - No. 12076-12

Round handles allow easy fingertip adjustments.
**Mathieu**
Extra slim and narrow profile, with squeeze-lock. Facilitates excellent wrist motion for suturing.

**Castroviejo with Tungsten Carbide Jaws**

For more information on tungsten carbide, see page 21.
**NEEDLE HOLDERS**

**Halsey**

- Smooth 13 cm
- No. 12001-13
- With tungsten carbide jaws 13 cm
- No. 12501-13

**Halsey with Tungsten Carbide Jaws**

- With tungsten carbide jaws 12.5 cm
- No. 12500-12

For more information on tungsten carbide, see page 21.
Olsen-Hegar with Scissor Action

10 mm cutting edge
1.5 mm jaw surface
12 cm
No. 12002-12

15 mm cutting edge
2 mm jaw surface
14 cm
No. 12002-14

With tungsten carbide jaws
10 mm cutting edge
1.5 mm jaw surface
12 cm
No. 12502-12

With tungsten carbide jaws
15 mm cutting edge
2 mm jaw surface
14 cm
No. 12502-14

No. 12102-12

No. 12512-12
NEEDLE HOLDERS

Crile-Wood

15 cm
No. 12003-15

18 cm
No. 12004-16

With tungsten carbide jaws
15 cm

Mayo-Hegar

15 cm
No. 12003-15

18 cm
No. 12004-18

16 cm
No. 12504-15
**Slim Elongated Needle Holder with Tungsten Carbide Jaws**

- With tungsten carbide jaws
- 15 cm
- No. 12005-15

**Ryder Mini-Select Needle Holder**

This needle holder has been uniquely fashioned with tungsten carbide dust tips, giving the clamping platform an extra secure grip.

- With tungsten carbide dust tips
- 15 cm
- No. 12505-15
Microsurgical Needles with Suture Thread Attached

The combination of proprietary needle design technology and state-of-the-art manufacturing techniques has enabled S&T to provide a microsurgical needle that is unmatched in the industry. S&T microsurgical needles provide frictionless tissue penetration. They are inspected under the microscope at critical stages during the manufacturing process, and a multi-point final inspection of each suture and needle combination ensures a high quality product. The suture-to-needle attachment is tested to higher standards than the USP specifications.

Features:
- Needle and thread combination comprising of non-absorbable black nylon polyamide monofilament thread and stainless steel 3/8 circle needle. Nylon is suitable for closing ophthalmic, neurological and microvascular wounds.
- Grinding geometry and suture needle attachment are directed toward frictionless tissue penetration.
- Each needle suture combination is individually packed in a needle holder and then sealed in a peel-open blister pack.

Sterile

Pkg. of 12 disposable units

<table>
<thead>
<tr>
<th>Size</th>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/0</td>
<td>No. 18020-60</td>
<td></td>
</tr>
<tr>
<td>5/0</td>
<td>No. 18020-50</td>
<td></td>
</tr>
<tr>
<td>4/0</td>
<td>No. 18020-40</td>
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<td>No. 18020-30</td>
<td></td>
</tr>
<tr>
<td>2/0</td>
<td>No. 18020-20</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>No. 18020-00</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>No. 18020-01</td>
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</tr>
<tr>
<td>2</td>
<td>No. 18020-02</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>No. 18020-03</td>
<td></td>
</tr>
</tbody>
</table>
Approximation Forceps with Rack

14.5 cm
For clip size 12040-01 only
No. 12017-14

For clip sizes 12040-02 and larger
No. 12016-14

Michel Suture Clips
Anti-magnetic, acid-resistant stainless steel
Pkg. of 1,000 clips

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5 x 1.75</td>
<td>No. 12040-01</td>
<td></td>
</tr>
<tr>
<td>11 x 2</td>
<td>No. 12040-02</td>
<td></td>
</tr>
<tr>
<td>12 x 2.5</td>
<td>No. 12040-03</td>
<td></td>
</tr>
</tbody>
</table>

Larger clip sizes also available.

Applying Forceps

Applying and Removing Instruments

For clip size 12040-01 only
Angled
13 cm
No. 12029-12

For clip sizes 12040-02 and larger
Curved
13 cm
No. 12028-12

For all Michel suture clips
12.5 cm
No. 12018-12
Reloadable Skin Stapler with Rotating Head

The 360 degree swivel nose and unique design offer maximum visibility at the delivery point. The 35 wide and fine 316L stainless steel staples come sterile and feature the patented “Twin Towers” staple design which make for quick and easy removal. The disposable staple cartridge also includes a printed staple counter so you know how many staples you have left. The staple cartridges and remover are sterile. The handle is reusable and autoclavable.

Surgical staple set includes:
- 1 Handle
- 1 Remover
- 12 Disposable staple cartridges
No. 12030-00

Handle
No. 12030-01

Disposable staple cartridge
35 staples per cartridge
Single cartridge
No. 12030-02

Disposable staple cartridge
35 staples per cartridge
12 cartridges
No. 12030-03

Surgical staple remover
No. 12030-04

Staple, actual size:

Staple Dimensions:

3.6 mm
4.8 mm
6.5 mm
Reflex Wound Clip System

The Reflex Wound Clip System is a safe, secure alternative method of wound closure. Faster and easier than suture, this system is perfect when staples may be too thin to provide adequate closure. Each component is sold separately. Non-sterile and not autoclavable.

Wound clip remover
12 cm
For both clip sizes
No. 12033-00

Wound clip applicator
11.5 cm
For 7 mm clip size
No. 12031-07

For 9 mm clip size
No. 12031-09

Wound clips
Pkg. of 100 clips
7 mm
No. 12032-07

9 mm
No. 12032-09

Wound clip remover
12 cm
For both clip sizes
No. 12033-00
Guthrie
Extra delicate pattern.

2 Pronged Blunt 13 cm
No. 17021-13

Blair

2 Pronged Blunt 13.5 cm
No. 17023-13

4 Pronged Blunt 13.5 cm
No. 17022-13

Fomon

2 Pronged 2 mm Ball at each tip 17 cm
No. 17020-17
RETRACTORS

**Slide Retractor with Blades**

Maximum spread: 1 cm
Atraumatic blades
2 cm
No. 17004-03

**Mini-Goldstein**

Maximum spread: 0.5 cm
3x3 Sharp teeth
2 cm
No. 17002-02

**Colibri**

Maximum spread: 1.5 cm
3 cm
Most Popular
No. 17000-03

**Agricola**

Maximum spread: 3.5 cm
3x3 Sharp teeth
4 cm
No. 17005-04

**Slide Retractor with Teeth**

Maximum spread: 1 cm
2x2 Blunt teeth
2 cm
No. 17005-03

**Goldstein**

Maximum spread: 1.8 cm
3x3 Sharp teeth
3 cm
No. 17003-03

**Agricola**

Maximum spread: 3.5 cm
3x3 Sharp teeth
4 cm
No. 17005-04
**Fine Adjustable Wire Retractor**

Thin, curved blades
Maximum spread: 3.5 cm
5 cm

No. 17004-05

---

**Speculum**

Thin, curved blades and grooved finger grips
Maximum spread: 3.5 cm
4.5 cm

Moria 7699
No. 17370-53

---

**Spring-Loaded Retractor**

Curved atraumatic blades
Maximum spread: 3 cm
Blade dimensions: 14 x 10 mm
5.5 cm

No. 17006-05

Maximum spread: 4 cm
Blade dimensions: 22 x 16 mm
8 cm

No. 17007-08

---

**Bowman**

Maximum spread: 2.5 cm
8 cm

No. 17001-07
Mouth Retractor

Slightly curved Slings
Maximum spread: 4 cm 7 cm
No. 17030-07

Maximum spread: 9.5 cm 13 cm
No. 17030-13

Alm Retractor with Blunt Teeth

Maximum spread: 4 cm Arms gently curved down 7 cm

Blunt teeth No. 17008-07

Long blunt teeth No. 17009-07

Alm Retractor with Blades

Maximum Spread: 4.5 cm Arms gently curved down Thin, curved blades 7.5 cm
No. 17009-08

Alm Retractor for Three Point Retraction

Movable third arm with curved ends fits left or right

Maximum spread: 7 cm Arms curved down Long blunt teeth Range: 30 mm Depth: 15 mm 10 cm
No. 17010-10
**Heiss**

Maximum spread: 2.3 cm
4x4 Blunt teeth
10 cm

No. 17011-10

**Gelpi Retractor**

Maximum spread: 3 cm
Angled down
1x1 Sharp teeth
10 cm

No. 17017-10
**Weitlaner-Locktite**

- Maximum spread: 4.5 cm
- 2x3 Blunt teeth
- 11 cm
- No. 17012-11

Maximun spread: 6.5 cm
- 3x3 Blunt teeth
- 11 cm
- No. 17012-13

**Wullstein**

- Maximum spread: 4.5 cm
- Angled down
- 3x4 Blunt teeth
- 11 cm
- No. 17018-11
Surgery Plate

The plate is made of matte steel to reduce glare from heating lamps. The perimeter slots secure the stainless steel retractor ball chains, offering retraction in every direction, lateral and upwards with the help of the elevated chain holders. With the help of the ball chains the animal can be held firmly in position. Four feet will lift the platform by 1.5 cm to facilitate the locking of the retractor chain.

S&T®

Base plate
Dimensions: 14 x 24 cm
No. 18100-00

Ball chain elevators
Dimensions: 8.5 cm high x 3 cm wide
Pkg. of 2
No. 18100-02

Ball chain elevators with hooks
Dimensions: 21 cm long
Pkg. of 4
No. 18100-05

Wide hooks
Dimensions: 20 x 5 mm
Pkg. of 4
No. 18100-07
Individual parts:

- Short fixator, 2.5 cm high
  Each
  No. 18200-01

- Tall fixator, 5 cm high
  Each
  No. 18200-02

- Small base plate, (20 x 30 cm)
  Each
  No. 18200-03

- Large base plate, (25 x 35 cm)
  Each
  No. 18200-04

- Wire handles, 10 cm long
  Pkg. of 10
  No. 18200-05

- Wire handles, 14 cm long
  Pkg. of 10
  No. 18200-06

- Elastomer, 2 m roll
  No. 18200-07

- Sharp retractors
  Pkg. of 10
  No. 18200-08

- Blunt retractors, 1 mm wide
  Pkg. of 10
  No. 18200-09

- Blunt retractors, 2.5 mm wide
  Pkg. of 10
  No. 18200-10

- Blunt retractors, 5 mm wide
  Pkg. of 10
  No. 18200-11

- Blunt retractors, 7.5 mm wide
  Pkg. of 10
  No. 18200-12

---

**Magnetic Fixator Retraction System**

This Small Animal Retraction System simplifies set-up procedure and provides the examiner with an excellent overview of the operative site. It consists of three components: Base Plate (Nos. 18200-03 & 18200-04); Fixators (Nos. 18200-01 & 18200-02); and Retractors (Nos. 18200-05 through 18200-12).

The Base Plates are made from magnetic stainless steel and are available in two sizes. The surface is nonreflective and both plates have a window in the center which allows the animal contact with body temperature control systems. The window sizes are 10 x 13 cm for the small base plate and 15 x 25 cm for the large.

The Fixators are movable anchors made from anodized aluminum with a surgical grade rare earth magnet in the base for attachment anywhere on the Base Plate. The magnets do not interfere with lab electronics and can be used in close proximity (3 cm) to ferro-magnetic items. They incorporate pushbutton-activated spring locks that grip either the Wire or Elastomer Retractors.

The Retractors are interchangeable Retractor Tips (Nos. 18200-08 through 18200-12) which attach to either Retractor Wire (Nos. 18200-05 & 18200-06) for static retraction or to Elastomer (No. 18200-07) for dynamic retraction. The Retractor Tips are light and atraumatic to delicate tissue or membrane.

**All system components are autoclavable.**

---

**Kit for animals up to 200 g**

Includes:
- 1 Small base plate (No. 18200-03)
- 2 Short fixators (No. 18200-01)
- 1 Tall fixator (No. 18200-02)
- 1 Elastomer, 2 m roll (No. 18200-07)
- 1 Package of retractors, blunt, 1 mm wide (No. 18200-09)
- 1 Package of retractors, blunt, 2.5 mm wide (No. 18200-10)

No substitutions

No. 18200-20

---

**Kit for animals from 200 g up to 5 kg**

Includes:
- 1 Large base plate (No. 18200-04)
- 2 Short fixators (No. 18200-01)
- 2 Tall fixators (No. 18200-02)
- 1 Elastomer, 2 m roll (No. 18200-07)
- 1 Package of retractors, blunt, 2.5 mm wide (No. 18200-10)
- 1 Package of retractors, blunt, 5 mm wide (No. 18200-11)

No substitutions

No. 18200-50
**Micro Clamps**

**Clamp Size and Clamp Pressure**

Clamp pressure is determined by the closing force of the clamp (in grams), divided by the area of the vessel wall that is compressed between the jaws (in square millimeters). Thus, the smaller the vessel, the higher the pressure exerted.

Each size of clamp has its own different and carefully calibrated closing force. Each clamp size is designed for a specific range of vessel diameters (Fig. 1).

Despite the wide range of closing forces, the pressure exerted by each clamp, big or small, remains consistent throughout the series. Each size of clamp exerts a pressure of 5g/mm² when used on the largest vessel in its range, and 15g/mm² when used on the smallest vessel. Even at the higher range, S&T’s micro clamps have the gentlest working pressure of any small vessel clamp available.

The table (Fig. 2) summarizes the relationship between clamp size, recommended vessel diameter and clamp pressure.

“Vessel diameter” refers to the external diameter of the vessel in its natural state of full dilation. There is a 50% overlap in the recommended vessel diameter range, between each clamp size and the next larger or smaller size. Thus, for every vessel diameter, with the exception of those at the extreme ends of the range, there will always be two suitable clamps. Whenever a choice arises, the smaller clamp should be selected to ensure gentler, less pressured handling of the vessel.
Micro Clip Applicator with Lock

For use with our 18055 series micro serrefines 14 cm

No. 18056-14

Forceps Style Clip Applicator

This applicator features special U-shaped side supports for improved seating of the clips.

No. 18057-14

Stainless Steel Micro Serrefines

Used to obtain a clear surgical field for extended arterial cross-clamping.

Delicate atraumatic serrations

Spring width: 2 mm

<table>
<thead>
<tr>
<th>Jaw Length (mm)</th>
<th>-02</th>
<th>-03</th>
<th>-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaw Width (mm)</td>
<td>19</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Total Length (mm)</td>
<td>18</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Jaw Pressure (g)</td>
<td>60</td>
<td>85</td>
<td>100</td>
</tr>
</tbody>
</table>

Cautionary note: These clips should never be compressed with fingers; use only the appropriate applicator No. 18056-14 or No. 18057-14.

Titanium Micro Serrefines

Lightweight with strong clamping pressure.

Delicate atraumatic serrations

Spring width: 2 mm

<table>
<thead>
<tr>
<th>Jaw Length (mm)</th>
<th>-02</th>
<th>-03</th>
<th>-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaw Width (mm)</td>
<td>19</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Total Length (mm)</td>
<td>18</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Jaw Pressure (g)</td>
<td>60</td>
<td>85</td>
<td>100</td>
</tr>
</tbody>
</table>

Titanium Micro Serrefines

For more information on Titanium see page 21.

NEW ITEM

For use with our 18055 series micro serrefines 14 cm

No. 18055-01 -02 -03 -04

No. 18555-01 -02 -03 -04

No. 18055-05 -06

No. 18055-05 -06
**Schwartz Micro Serrefines**

Non-serrated  
Strong pressure  
26 mm

Straight  
No. 18052-01

Light Bend  
No. 18052-02

Sharp Bend  
No. 18052-03

**Mini Serrefines**

Smallest bulldog-type hemostatic clamps  
Medium pressure  
Gentle serrations  
2 mm wide  
28 mm

Straight  
No. 18054-28

Curved  
No. 18053-28

**Bulldog Artery Spring Clamp**

Can be used with a minimum of distortion for MRI investigations.

Straight  
Serrated  
Light pressure  
30 mm

No. 18144-30

**Dietrich Bulldog Clamps**

Serrated  
Good access to deep seated vessels  
Closing pressure: 50 g (light)  
Weight: 3 g

Straight  
52.5 mm  
No. 18038-45

Angled  
50 mm  
No. 18039-45

**Bulldog Type Serrefines**

Serrated  
Straight  
Medium pressure  
28 mm  
No. 18050-28

Curved  
Medium pressure  
28 mm  
No. 18051-28

**Moria Vessel Clamp**

Finely serrated (atraumatic)  
Light pressure  
For vessels up to 2 mm in diameter  
Calibrated to 15g/mm²  
1.8 mm wide, 3 cm long  
Straight  
33 mm  
Moria 201/A  
No. 18320-11

**Schwartz Micro Serrefines**

Non-serrated  
Strong pressure  
26 mm

**Moria Bulldog Type Clamps**

Non-serrated  
Strong pressure  
2 mm wide  
53 mm

Straight  
Moria MC43  
No. 18374-43

Curved  
Moria MC44  
No. 18374-44

**Curved**

33 mm

For more information on Titanium see page 21.
Silver Neuro Clips

These single-use, silver neuro clips are meant for permanent vessel occlusion.

Pkg. of 100 clips
No. 18040-00

Vascular Occluders

Applications
- Fast, dependable zero-flow baseline determination in blood flow studies.
- Partial to full occlusion of vessels for circulation research studies.
- Prolonged implantations, such as chronic blood flow studies.
- Constriction of soft organs in acute or chronic applications.

Operation
Step 1  Apply the occluder cuff around the exposed blood vessel. Secure it in place with suture material through the eyelets.
Step 2  Occlude the vessel to the desired degree by inflating the diaphragm with air or liquid injected into the actuating tube using a syringe and blunt needle. Clamp the tubing to maintain occlusion of the vessel over time.
Step 3  To deflate, simply withdraw the air or liquid.

Benefits
- Occlusion is accomplished without traction on vessels or surrounding tissues.
- The actuating tube may be exteriorized from the occlusion site for remote actuation.
- Performance during implantations is reliable and consistent.
- Autoclavable or cold sterilized, and easily maintained.
- Made from soft, flexible 100% silicone rubber.
- Fully operational with instant response using air, liquids, or inert gases.

Selection
The lumen diameter when deflated is usually the determining factor in the selection of the proper device. Select the occluder size that provides a slightly loose fit around the subject vessel. The cuff width and thickness will vary, depending on models and sizes.

VO-1.5 N
Lumen diameter: 1.5 mm
Cuff width: <3.5 mm
Cuff thickness: 1.5 mm
No. 18080-01

VO-2
Lumen diameter: 2 mm
Cuff width: 5 mm
Cuff thickness: 1.5 mm
No. 18080-02

VO-3
Lumen diameter: 3 mm
Cuff width: 5 mm
Cuff thickness: 1.5 mm
No. 18080-03

The actuating tube length is 90 cm and measures 0.76 mm ID x 1.6 mm OD. Detailed instructions are included.
**CANNULATION**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>V-Hook</strong></td>
<td>Aids in feeding fine suture around blood vessels, works very similar to ligation aids.</td>
<td>Tip diam: 0.4 x 0.2 mm 11 cm&lt;br&gt;No. 18052-12</td>
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<tr>
<td><strong>Ligation Aids</strong></td>
<td>A handy instrument for leading a fine suture under and around a blood vessel for tying-off purposes. Also useful for ligating peripheral nerves. Grooves toward hole help threading.</td>
<td>Tip diam: 0.1 mm 11 cm&lt;br&gt;No. 00126-11&lt;br&gt;Tip diam: 0.2 mm 11 cm&lt;br&gt;No. 00125-11&lt;br&gt;Tip diam: 0.5 mm 11 cm&lt;br&gt;No. 18153-11</td>
</tr>
<tr>
<td><strong>Vessel Dilators</strong></td>
<td>Highly modified forceps with elongated, parallel tips which are highly polished. Designed for controlled intraluminal vessel dilation.</td>
<td>Angled 10°&lt;br&gt;Tip diam: 0.1 mm 11 cm&lt;br&gt;No. 00126-11&lt;br&gt;Angled 10°&lt;br&gt;Tip diam: 0.2 mm 11 cm&lt;br&gt;No. 00276-13&lt;br&gt;Angled 10°&lt;br&gt;Tip diam: 0.5 mm 11 cm&lt;br&gt;No. 18153-11&lt;br&gt;Angled 45°&lt;br&gt;Tip diam: 0.2 mm 13.5 cm&lt;br&gt;No. 00026-11</td>
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Micro Cannulation System

This micro cannula is most helpful for quick and easy insertion in arteries and veins. It can be used as an “indwelling” catheter during long term experiments. With care, thorough rinsing and sterilization, it can be reused several times. Detailed instructions are included.

Features
- Biocompatible Teflon tubing.
- Cannula size 0.33 mm OD – 0.16 mm ID
- A pointed stainless steel stylus (trocar), to aid in vascular penetration and allow a maximum range of cannula manipulation during insertion.
- Contoured tip for easy insertion, fitted with shoulder for “tie-in” to prevent accidental removal.
- Female luer connection for linkage to infusion lines.

8 cm
No. 18000-10

Vessel Cannulation Forceps

This vessel cannulation forceps is useful whenever a fine plastic tube has to be introduced into a small blood vessel of almost equal size. The hollowed jaws hold the tubing securely without deforming it. The tip of the tubing is directed exactly into the vessel opening without damage to the vessel from unwanted movement.

For tubing between 0.5 and 1 mm OD
11 cm
No. 00574-11
No. 00571-13

For tubing of 0.35 mm OD
11 cm
No. 00608-11

### Micro Cannula

**12° bevel tip**

With 12° bevel and lock hub
Pkg. of 6

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<th>Length (mm)</th>
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