

GRS[®]





Quality from tradition

GRS is a product range of Glendo LLC, a company founded in Emporia, Kansas, USA in 1977.

The range is based on compressed air systems, which apply the revolutionary idea of finding a source of power that both reduces the exertion required for engraving and stone setting work and makes it possible to guide tools more precisely. This aimed to both generate more accurate results and save time. The industry-leading air systems are available in three configurations: GraverMach® AT, GraverMax® G8 and GraverSmith®. These tools rapidly conquered the US market and are now taking Europe and Asia by storm, thanks to new distribution. They have been field-tested in their thousands and are now the undisputed global market leader.

Over the years, the extremely innovative company Glendo LLC has also developed many aids and tools.

All products have been put through their paces by the world's leading engravers and stone setters (Grand Masters) before being launched on the market and any feedback is constantly incorporated into product development. This gradually resulted in a complete GRS product range that covers the stone setting and engraving industries. The benefits of accurate tool guidance and time savings have since been recognized by other professions. Gunsmiths, knife manufacturers, woodcarvers, archaeologists, and even restorers of historical plaster structures successfully use GRS tools. They get better results, generate less waste and save a lot of time during production. Thanks to an outstanding reputation and increasing approval, even more apprentices around the world are being trained to use these tools.

Give them a try!

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GRS TOOLS & GLENDO LLC



People from around the world associate Glendo with innovative products, high-quality manufacturing and a dedicated workforce.

Founded in 1977, Glendo remains the leader in developing tools for jewellery makers and engravers as well as equipment for industrial and business use.

Glendo is based in Emporia, Kansas, where its 4,500 m² facility houses a tool manufacturing division, machine shop, staff offices and a fully equipped training centre.

Made in the USA

All GRS products are designed and manufactured at GRS's sole manufacturing facility in Emporia, Kansas and then distributed worldwide by a qualified dealer network.



Roman Karakurkchi

GRS Air Systems

GRS Air Systems require oil-free compressed air to operate the handpiece. Get the GraverMach AT for integrated Airtact Control System featuring both hand and foot operation.

GraverMach® AT Features



Front view

1. Hand control air pressure gauge
2. Hand control air regulator knob
3. Power on/off button
4. Bias control knob
5. Primary air pressure gauge
6. Primary air regulator knob
7. Handpiece selector knob
8. Hand control air ports
9. Handpiece air connectors
10. Impact speed control (SPM)
11. Hand/foot control selector knob
12. Auxiliary air knob
13. Air filter with Quick Connect fittings
14. Rear connection for foot control
15. Auxiliary air quick connector
16. 24 V power connector for worldwide use



Back view



GraverSmith®

#004-895-EU

This power tool offers basic work capability and pneumatic impact power for stone setting and engraving. It is ideal for production stone setters, multiple factory installations, and individual craftsmen on a budget.

Like all GRS power tools, it reduces user fatigue, increases production, and improves quality. A choice of Standard Handpieces allows the GraverSmith to fit a wide range of applications.

→ Dimensions (L x W x H): ca. 25.4 x 14.7 x 22.9 cm
Weight: 7.7 kg

What are the specifications for the Standard Systems and how do they compare?

Each includes a foot control and air filter, and requires clean, oil-free compressed air with minimum 3 bar pressure and 40 litres per minute flow. Electrical requirements are 100/240 V at 50/60 Hz. All Standard Systems have a stroke speed of 400-8000 strokes per minute (SPM). Handpieces sold separately. Note the main differences below.

	Air-Regulators	Handpiece Outlets	AUX Outlet* for Rotary	Airtact Hand/Foot Control	Bias Control
Mach AT	2 Precision Regulators	2	1	Fully Integrated	Yes
Max G8	1 Precision Regulator	2	1	Compatible (Not Included)	Yes
Smith	1 Standard Regulator	1	none	Compatible (Not Included)	No

Handpieces and tools not included with any Standard System.

*For use with air turbine and rotary tools.



GraverMax® G8

#004-995-EU

This engraving system gives each handpiece excellent range of power with perfect control throughout an expanded range of impact speeds.

The GraverMax G8 features 400-8000 strokes per minute, a throttle bias adjustment valve for tailoring throttle response, and a dual-stage precision air regulator. Advanced ergonomics include front air pressure adjustment, Quick Connect air couplings, rear mount throttle connection, and an advanced valve pulse unit that operates with virtually no noise or vibration.

The GraverMax G8 has connections for two impact handpieces and an auxiliary air connection for other air tools, including the GRS Ultra 850 Rotary handpiece. Handpieces and tools sold separately. All Standard Handpieces are compatible with this machine.

→ Dimensions (L x W x H): ca. 30.5 x 13.2 x 20.8 cm
Weight: ca. 9.5 kg

GraverMach® AT

#004-965-EU

Never before has a pneumatic handpiece system given the user so much versatility and control. A remarkable technical breakthrough is the seamless combination of hand and foot control. Using one simple knob, the user can choose between hand or foot control, whenever desired. This allows optimal working comfort and precision in a wider range of creative jobs.

The new GraverMach AT is wonderfully familiar to anyone who uses its predecessors such as the GraverMax, GraverMax SC, or the original GraverMach. With the expanded capability of precise, selectable hand control, this new power tool is in a class by itself. The hand control technology is based on the GRS Airtact. This advanced (patented) air logic system provides hand power control without adding moving parts to the handpiece itself. The result is a rugged and intuitive way to control handpiece power by hand. When foot control is preferred, it is only seconds away. Just one simple selector knob instantly provides greater control, choice, and refinement while working. The ability to instantly change from hand to foot control, as desired, means new creative freedom and reduced stress.

→ Dimensions (L x W x H): ca. 33 x 15.2 x 20.8 cm
Weight: ca. 10.3 kg

Standard Handpieces

Standard handpieces can be operated using all GRS compressed air systems, such as the GraverSmith, GraverMax G8 or GraverMach AT.

901™

901™

#004-901



Get breakthrough impact technology with fine control and a huge range of power. The comfortable, compact shape has an adjustable side hose connection. It fits most engraving and stone setting needs, including micro engraving, deep relief work, and bead raising/hammer setting. Made from fully heat-treated stainless steel. Includes 6 QC Holders.

→ Length: 66 mm

Handpiece Weight: 68 g

901™ Handpiece Kit

#004-910

Includes 901 Handpiece, QC Hand Handle (#004-805), 6 QC Tool Holders and QC tool tray.

Monarch®

Monarch®

#004-921



This is the finest impact handpiece for confident execution of ultra-fine engraving, including bulino and banknote styles. The Monarch features heat-treated stainless steel construction with an adjustable side hose connection. Includes 6 QC Holders.

→ Length: 59 mm

Weight: 51 g

Monarch® Handpiece Kit

#004-926

Includes Monarch handpiece, QC Hand Handle (#004-805), 6 QC Tool Holders and a QC tool tray.

Magnum®

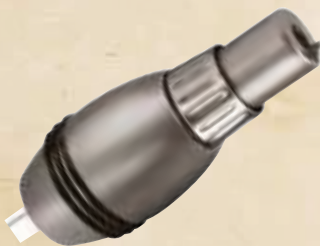
The Magnum provides a full range of power from the finest shading to heavy hammering. It is great for larger hand sizes, and its shape provides an ergonomic grip.

Magnum® Palm

#004-940

Includes standard barrel with Palm Knob and 6 QC Holders.

→ Length: 69 mm. Weight: 162 g



Magnum® Oval

#004-940-OVAL

Includes standard barrel with Oval Knob and 6 QC Holders.

→ Length: 73 mm. Weight: 173 g



901™ Piston V3

#004-406-V3

Upgrade a pre-April 2009 handpiece with this advanced V3 piston. Pre-installed after April 2009.

Handpiece Storage Strip

#024-210



The Handpiece Storage Strip keeps handpieces within easy reach. Four holes provide storage for multiple handpieces of varying size. The storage strip includes clips that fit the side of benches. It can also be mounted to a flat surface with the included hardware.



Handpiece Holder

#602-510

This holder makes a perfect addition or replacement because it fits all GRS handpieces! Can be used to attach the handpiece to the control unit, workbench, etc.

Maestro™**Maestro™ Original**

#004-947

The GRS Maestro Original wand-shaped handpiece is specifically designed for scrimshaw and stippling applications. It is ergonomic and slim, nicely balanced, and very smooth in operation. Because it is internally similar to the Monarch, the Maestro also works well for fine metal engraving applications that require light to medium power. Heat-treated stainless steel and solid brass. Includes 6 QC Holders.

→ Overall Length: 101.6 mm

Barrel length adjustable up to 108 mm
with locking ring.

Weight: 68 g

Maestro™ EX

#004-905

The Maestro EX is the same length as the original Maestro and just 20% bigger in outside diameter. The Maestro EX piston is over 3.5 times heavier, producing astounding power for a wide variety of stone setting, general metal engraving, texturing, and hammering applications. Control is excellent across the full power range. Uses standard GRS QC Tool Holders. Made from heat-treated stainless steel and solid brass. Includes 6 QC Holders.

→ Overall Length: 101.6 mm

Barrel length adjustable up to 108 mm
with locking ring

Weight: 99.8 g

Maestro™ MX

#004-909

Built with a piston that outweighs the EX model by 72%, the Maestro MX delivers the widest range of power and control. Includes 6 QC Holders. Ideal for hammering, texturing, light to heavy sculpting, stone setting, and more.

→ Length: 101.6 mm

Barrel length adjustable up to 108 mm
with locking ring

Handpiece Weight: 140.6 g

Airtact® Handpieces

Airtact handpieces can only be operated using the GraverMach AT compressed air system.

901™ AT

#004-901-ATSS

Get breakthrough impact technology with fine control and a huge range of power. The comfortable, compact shape has an adjustable side hose connection. It fits most engraving and stone setting needs, including micro engraving, deep relief work, and bead raising/hammer setting. Made from fully heat-treated stainless steel. For Airtact. Including misc. accessories.

→ Length: 66 mm

Weight: 105 g

Monarch® AT

#004-921-ATSS

This is the finest impact handpiece for confident execution of ultra-fine engraving, including bulino and banknote styles. The Monarch features heat-treated stainless steel construction with an adjustable side hose connection. For Airtact. Including misc. accessories.

→ Length: 59 mm

Weight: 102 g

Magnum® AT

#004-940-ATSS

The Magnum provides a full range of power from the finest shading to heavy hammering. It is great for larger hand sizes, and its shape provides an ergonomic grip.

→ Length: 69 mm

Weight: 175 g

EasyAT Palm Cap

#004-937 EasyAT Palm Cap, Light

#004-938 EasyAT Palm Cap, Medium

#004-939 EasyAT Palm Cap, Heavy

#004-936 EasyAT Palm Cap, 3 Pack



The EasyAT Palm Cap increases the responsiveness of your Airtact handpiece. Once installed, the entire EasyAT Palm Cap surface activates the handpiece, allowing it to be positioned comfortably in the user's hand. Available in three levels of sensitivity. The same caps fit all three handpieces.

*What is
"Quick Change (QC)"?
See page 44.*

Workholding

MicroBlock®

#003-683

Designed for a unique combination of solid work support in a small and manoeuvrable size, the MicroBlock has a self centering jaw system made for stone setting, small engravings, and other precision work.

The internal rotational brake system lets the user choose the amount of rotational resistance from free to locked. Its low profile is suited for microscope work.

Includes 4 pins, 2 wrenches, 6 screws, plastic base, 1 plastic hex key, and Thermo-Loc sample kit.

→ Block Weight: 1.8 kg

Ball Diameter: 79 mm

Jaw Width: 46 mm

Jaw Height: 22 mm

Max. Opening: 50 mm



Height: 86 mm

MicroBlock® & Attachment Set

#003-684

Vise, accessories, and 520 Attachment Set (#003-520).

StepRisers For MicroBlock®

#003-674

Now users can easily adjust the working height with these new StepRisers for MicroBlock. Reduce fatigue and increase efficiency, especially under a microscope. Each riser adds 12.7 mm to the working height of the GRS MicroBlock (#003-683). Designed for easy and secure stacking. The standard MicroBlock base fits the moulded pocket in each riser, or the riser itself can be used as the base.



MicroBlock® Short Jaw Kit

#003-651



Reduce the height of GRS MicroBlock or MicroBlock XL jaws by 9.5 mm.

- Great with Alexander Ring Fixture and ID Ring Holder
- Same pin holes and threads as standard MicroBlock jaws
- Thread nut included
- Ideal for microscope users

Compatible with all GRS MicroBlocks (#003-683 and #003-773), sold separately.

Details of Alexander Ring Fixture can be found on pages 20-21.

MicroBlock® XL

#003-773

The GRS MicroBlock has been expanded to give it additional weight and functionality. The new MicroBlock XL is a 3.1 kg vise with a 100 mm ball diameter. It is the perfect size between the GRS MicroBlock and GRS Standard Block. By utilizing the same jaws from the MicroBlock, the XL allows compatibility with all your favorite MicroBlock attachments. It also comes with two bases, one plastic and one rubber, for increased control. The small and maneuverable vise is great for stone setting, small-to-medium-size engravings, and other precision work. The internal rotational brake system lets the user choose the amount of rotational resistance from free to locked. Its low profile is suited for micro-scope work.

Includes: Vise, 4 pins, 1 rubber base, 1 plastic base, 1 plastic hex key, 1 wrench, 6 screws, Thermo-Loc sample kit

→ Block Weight: 3.1 kg

Ball Diameter: 100 mm

Jaw Width: 46 mm

Jaw Height: 22 mm

Max. Opening: 70 mm



Height: 95, 25 mm

MicroBlock® XL & 520 Attachment

#003-774

Includes: Vise, accessories, and 520 Attachment Set (#003-520).



Standard Block

#003-530

This vise is an economical choice that fills the need of many engravers and craftsmen.

With a double-ball bearing system for smooth rotation without wear or looseness, the Standard Block combines outstanding quality with value for workholding. Control the rotational resistance with an internal rotational brake system. Machined from solid stainless steel with a satin finish and black jaws to reduce glare and eye strain.

Includes upper jaw plates, 4 pins, base, 1 plastic hex key, and wrench.

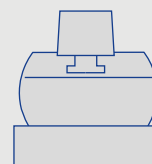
→ Block Weight: 8.6 kg

Ball Diameter: 130 mm

Jaw Width: 63 mm

Jaw Height: 38 mm

Max. Opening: 76 mm



Height: 152 mm

Standard Block & Attachment Set

#003-531

Vise, accessories, and 520 Attachment Set (#003-520).



520 Attachment Set

#003-520

Various pins fit into the jaws of every GRS ball vise help to quickly solve workholding problems. Includes 4 one-half Thermo-Loc sticks (not shown), 8 small pins, 4 medium dark pins, 4 flat square pins, 2 rectangular inset-curve pins, 4 thick round inset pins, 8 rubber-coated pins, 2 leather-faced ring clamp pins, and 2 pin plates in moulded base.



MicroBlock® Rubber Base

#003-439



The MicroBlock Rubber Base provides additional friction and control. Compatible with all GRS MicroBlocks (#003-683 and #003-773), sold separately.

Low Profile Vise

#003-615



Find just the right working height under a microscope with this vise. When a workpiece calls for a lower height, the Low Profile vise provides a comfortable 152 mm of space for a proper view and position. This vise has the same jaw size and capacity as the MagnaBlock, yet is 38 mm shorter. Top half of vise rotates while bottom half remains stationary. Add the Turntable Base (#003-616-V2) for whole vise rotation.

Includes upper jaw plates, 5 pins, base, 1 plastic hex key, and wrench.

→ **Block Weight:** 9.19 kg
Ball Diameter: 156 mm
Jaw Width: 76 mm
Jaw Height: 46 mm
Max. Opening: 89 mm

MagnaBlock®

#003-021



The MagnaBlock provides additional stability while using power tools, chasing hammers, and similar equipment. A massive ball-and-roller bearing system allows smooth rotation without wear or looseness. The internal rotational brake system allows the user to easily adjust rotational resistance. Machined from solid stainless steel with a satin finish and black jaws to reduce glare and eye strain.

Includes upper jaw plates, 5 pins, base, 1 plastic hex key, and wrench.

→ **Block Weight:** 13.6 kg
Ball Diameter: 147 mm
Jaw Width: 76 mm
Jaw Height: 46 mm
Max. Opening: 89 mm

Positioning Vise

#003-541



Similar to the MagnaBlock, the Positioning Vise from GRS has one very unique difference: a positionable centre of rotation. While working under a microscope, this is an important function that allows the workpiece to remain centred in the field of view. This detail saves time while working. As the largest vise made by GRS, the extra weight and a larger base provides the most stability and adjustability available.

Includes upper jaw plates, 5 pins, base, 1 plastic hex key, and wrench.

→ **Block Weight:** 19.1 kg
Ball Diameter: 180 mm
Jaw Width: 76 mm
Jaw Height: 46 mm
Max. Opening: 89 mm

Universal Positioning Pin Vise

#003-775



From the mind of Sergej Manaenko, this workholding solution turns any vise into a positioning vise. The rail system on the bottom fits into the jaws of any GRS vise. Slide it within the jaws or rotate it to always find the perfect center point under the microscope.

- Self-centering jaw system
- Ideal for smaller items such as watch parts, pendants, small knives, and more
- Always work within center under the microscope
- Bidirectional rotation
- Resistance from free to locked
- High-quality stainless steel
- 2.38 mm brass and steel pins

Includes Positioning Pin Vise, 4 steel pins, 4 brass pins, hex key, MicroBlock Rubber Base.

The Universal Positioning Pin Vise is compatible with all GRS Vises, sold separately.

→ **Vise Weight:** 337 g
Vise Diameter: 50 mm
Jaw Width: 50 mm
Jaw Height: 8.3 mm
Max. Opening: 31 mm (68.5 mm with pins)



Design and Layout Surface

#003-730

The GRS Design and Layout Surface is a convenient multi-purpose work surface that mounts into all GRS vises. The six-inch diameter provides a sufficiently large and stable work surface, allowing users to safely carry out any work that could benefit from microscope magnification. It is covered with high-quality genuine leather for a soft surface that will not damage fine workpieces. The Design and Layout Surface also allows for free movement, which can be a big advantage during the layout process.



Knifemaker's Contour Vise

#003-622

Designed and built by an engraver and knifemaker, this vise holds knives securely in just seconds for engraving and other detail work. Special chain-like linear jaws conform to unusual and compound shapes with ease. Lined with a special hard rubber ribbon, these jaws grip securely without high clamping force. The Knifemaker's Contour Vise is totally adjustable for a variety of knife widths and depths. Mounts easily in most engraving blocks.

→ Overall Size: 76.2 × 127 mm

Holds objects up to 22.2 mm wide

Clamping Area: 38.1 mm wide

Super Pins

Ideal for holding larger items without marring, these pins are heavy-duty plastic over steel and fit the jaw holes of any GRS vise.



Super Pins, 9.5 mm, 2 pieces

#003-547

Super Pins 6.3 mm, 4 pieces

#003-546

Contour Vise Jaws

#003-623

An innovative and safe way to hold irregularly shaped parts, this clever jaw fits the top holes of any GRS engraving vise. The hard rubber-lined jaws automatically conform to grip almost any shape with minimal clamping force. This is the fast and safe way to hold unusual items for engraving or other important work.



Ball Vise 6 mm Hex Key

#003-662



With a knurled aluminium handle and low-profile design, this key can remain in the block chuck while working. Fits all GRS vises except the MicroBlock.

Turntable Base Kit

#003-616-V2



The 254 mm diameter turntable has a unique bearing system coupled between the two flat ground steel plates. A removable centering post allows easy positioning of the turntable directly under the microscope. Also includes a Teflon Pad (#044-165) and Turntable Base Brake Kit (#003-343).

Workholding Plate Assembly

#003-698



Originally designed to assist the scrimshaw artists at the GRS Training Center in holding ivory panels for engraving, this unique tool uses modeling clay or Thermo-Loc that can be pressed into the milled slots to gently hold a workpiece without damage. Perfect for detailing thin, light pieces that cannot be held by themselves in a ball vise.

→ Diameter: 152.4 mm

Leather Pads

#003-609



Thick, top grain leather pads are perfect for safely holding parts in any engraving block or vise. Use them with diamond spray for polishing gravers and tools. Set of two leather pads.

→ Dimensions (L × W): 50.8 × 76.2 mm

Turntable Mount Kit

#004-672



Needed to attach Turntable Base (#003-616-V2) to a large block shelf.

Satellite® Turntable Package

#003-740



Take control of your work and feel less tied to your workbench. The Satellite Turntable Package is the ultimate worktop for hand engravers and gem setters. It provides artists with maximum ease of movement and the ability to work on larger pieces. It can be quickly stowed away to save space when not in use.

The tripod base provides for incredible stability and the successful completion of even the most intricate cuts. The stand adjusts to ideal working heights between 46 and 73 cm. Its

gas spring mechanism and integrated chuck make adjusting quick and effortless. The new Satellite Turntable (#003-656) is included in the package. Its new and robust design features an entirely reengineered bearing requiring minimum maintenance while providing a smooth and quiet glide. Lifetime sealing will keep chips and dirt away from the turntable's interior. Centering lines on the turntable surface facilitate the positioning of any GRS vise.

Satellite® Turntable Stand

#003-735



Artists appreciate the Satellite Turntable Stand for the maximum ease of movement and the ability to work on larger pieces. The stand adjusts to ideal working heights between 46 and 73 cm. Its gas spring mechanism and integrated chuck make adjusting quick and effortless. The tripod base provides for incredible stability and the successful completion of even the most intricate cuts. The Satellite Turntable Stand is compatible with the

Turntable Classic (#003-616-V2) and the Satellite Turntable (#003-656). Turntables sold separately.

Satellite® Fixed Top Package

#003-750



Take control of your work and feel less tied to your workbench. The Satellite Fixed Top Package is the ultimate worktop for hand engravers preferring to use a Positioning Vise (#003-541). It provides artists with maximum ease of movement and the ability to work on larger pieces. The tripod base provides for incredible stability and the successful completion of even the most intricate cuts. The stand adjusts to ideal working heights between 46 and 73 cm. Its gas spring mechanism and

integrated chuck make adjusting quick and effortless. Owing to its 25.4 cm diameter, the steel surface provides ample space to secure a Positioning Vise.

SATELLITE™

Satellite® Turntable

#003-656



The Satellite Turntable is the most advanced GRS turntable yet. Its new and robust design features an entirely reengineered bearing requiring minimum maintenance while providing a smooth and quiet glide. Lifetime sealing will keep chips and dirt away from the turntable's interior. Centering lines on the turntable surface facilitate the positioning of any GRS vise. Comes with turntable Brake Kit (#003-343) and Teflon Pad (#044-165) for GRS vises.

Satellite® Catch Pan

#003-738



Catch precious metals and stones during machining. Includes mounting accessories and a braking system.

Shelf Systems

Add these attachments to quickly switch to a vise.



1 Optional Mounting Adapter #004-559

For attaching Fixed Mounting Plate to curved or thin bench tops.

2 Fixed Mounting Plate #004-557

For use with shelving, BenchMate, and Multi-Purpose Vise Systems.

3 Adjustable Height Bracket & Fixed Mounting Plate Kit #004-666

Allows an additional 101.6 mm to work support. Adjustable in 12.7 mm increments.

4 Standard Vise Shelf #004-578

Recommended for use with the Standard Block or MagnaBlock. This block shelf's height adjustability is 24.5 mm.

→ 178 × 178 × 178 mm

5 Large Block Shelf & Adjustable Height Bracket Kit #004-665

Recommended for use with the Positioning Vise or any vise used with the Turntable Base. With the Adjustable Bracket, this shelf has height adjustability of 127 mm.

→ 178 × 209.5 × 178 mm

6 Block Vise Shelf Support #003-649

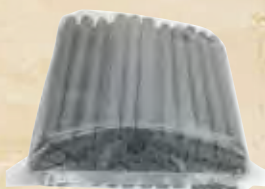
Adds stability that helps eliminate vibration.

→ Minimum Height: 476 mm

Maximum Height: 864 mm

Thermo-Loc®

Thermo-Loc softens with heat to a pliable clay-like consistency that you can form around your work. At room temperature, it hardens and holds anything from firearms to wood securely. Developed to hold irregularly shaped or fragile items, Thermo-Loc is a medium grey colour designed to reduce eye strain under work lights. It is non-toxic and biodegradable. Available in several convenient packages and kits.



Thermo-Loc®, 225 g
#003-664

Thermo-Loc®, 450 g
#003-665

Thermo-Loc®, 2.25 kg
#003-666

Thermo-Loc® Jaw Set #003-745



Replace the BenchMate Pin Vise (#004-879) in the Positioning Pin Vise and the BenchMate QC Vise with Thermo-Loc Jaws.

- Specially machined to keep Thermo-Loc in place
- High-quality stainless steel
- Great for oddly shaped pieces
- Great for making custom forms for doing multiple of the same piece

Includes Thermo-Loc jaws and Thermo-Loc sample kit. The Thermo-Loc jaw Set is compatible with the Universal Positioning Pin Vise (#003-775, sold separately).

Thermo-Loc® Starter Kit #003-667

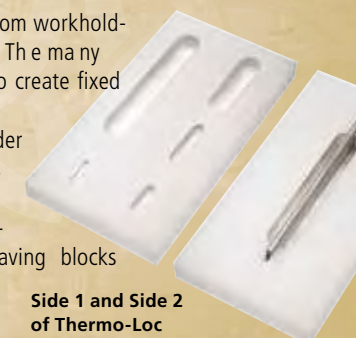
Includes (152 × 152 mm) non-stick square PTFE/Teflon pad for microwave use and 1 pound of 450 g Thermo-Loc.

450 g = approximately 60 sticks

PTFE/Teflon Pad, Non-stick #003-291

Thermo-Loc® Form Block #003-699

Use this Thermo-Loc Form Block to create custom workholding fixtures that allow flexibility in a holder. The many smaller cavities are used without the divider to create fixed holders for items such as pendants or fobs. With the divider, making a flexible hinged holder is easy! This allows even longer items (such as bracelets) to be held securely and then engraved without chatter. These custom workholding fixtures will work with most engraving blocks and vises.



Side 1 and Side 2 of Thermo-Loc Form Block.

BenchMate Encore®

The GRS BenchMate Encore launches the next generation of efficient, versatile work-holding tools. These innovative updates to an industry standard provide better and faster methods for everyday work. No other clamping device fixes jewellery as securely as the GRS BenchMate while providing more freedom of movement for work, with or without a microscope.



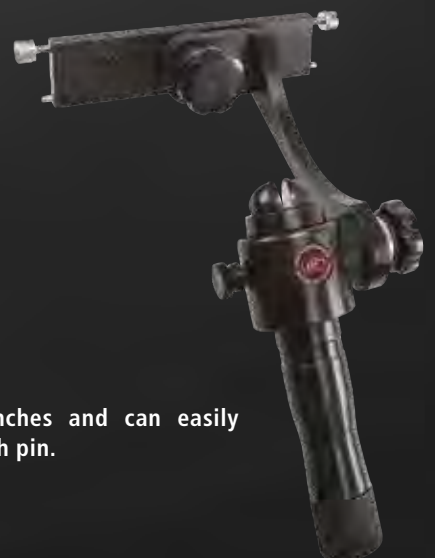
BenchMate Encore®

- Precise height adjustment
- Excellent freedom of movement
- Ergonomic handle
- Easily attachable handrest, usable on either side
- Easy scope centering



Work with both hands

Workpieces are held steadily in place but can still easily be repositioned to apply a very wide range of techniques and carry out almost any kind of work.



Bench mountable

Attaches to most workbenches and can easily switch to a compatible bench pin.

Handrest positioning

The handrest can be quickly and easily attached to and used on either side.



QC Fixtures

Drop and lock the QC fixture into the mandrel for fast switching, without needing additional tools.



BenchMate Encore® QCX

The redefined form of the BenchMate Encore QCX delivers the widest range of motion available from any hands-free workholding tool. The BenchMate Encore QCX is easy to keep centred under the microscope and can be adjusted without losing sight of the workpiece. Two threaded collar rings make height changes to the basic holder fast and easy. The handrest can be quickly attached to either side, making it perfectly suited for either left- or right-handed users.

Switch fixtures in a flash with the new Quick Change design. Drop and lock the QC fixture into the basic BenchMate Encore holder with no additional tools.

BenchMate Encore® QC

Work is held steadily in place yet easily repositionable to accommodate a range of techniques and jobs. The new BenchMate Encore QC arm measures 152 mm and has a cut-out for superior access angles and better clearance when using tools. Adjust the relieved arm to a lower or higher vertical position for maximum comfort and control. The handrest can be quickly attached to either side, making it perfectly suited for either left- or right-handed users.

Switch fixtures in a flash with the new Quick Change design. Drop and lock the QC fixture into the basic BenchMate Encore holder with no additional tools.

BenchMate Encore® QCX: Basic Package

#004-831



Includes: BenchMate Encore QCX, Fixed Mounting Plate, and Encore QCX Accessory Pack with 4 Extra Plastic Jaws, 2 wrenches (4 mm Allen and large spanner), and 5 mounting screws.

BenchMate Encore® QC: Basic Package

#004-839



Includes: BenchMate Encore QC, Fixed Mounting Plate, and Encore QC Accessory Pack with 4 Extra Plastic Jaws, 2 wrenches (4 mm and 4.8 mm Allen), and 5 mounting screws.

BenchMate Encore® QCX: Stone Setter's Package

#004-832



Includes: BenchMate Encore QCX, Fixed Mounting Plate, Horizontal I.D. Ring Holder, Vertical I.D. Ring Holder, Bench Pin Kit, and Encore QCX Accessory Pack with 4 Extra Plastic Jaws, 2 wrenches (4 mm Allen and large spanner), and 5 mounting screws.

BenchMate Encore® QC: Stone Setter's Package

#004-840



Includes: BenchMate Encore QC, Fixed Mounting Plate, Horizontal I.D. Ring Holder, Vertical I.D. Ring Holder, Bench Pin Kit, and Encore QC Accessory Pack with 4 Extra Plastic Jaws, 2 wrenches (4 mm and 4.8 mm Allen), and 5 mounting screws.

BenchMate® Accessories

When used with the BenchMate Encore system, these innovative components boost productivity and reduce the time spent on daily tasks.



**BenchMate Encore®
Pin Vise**
#004-879

Quickly turn your BenchMate Encore QC or QCX into a jeweler's vise with the BenchMate QC Vise.

- Self-centering jaw system
 - Ideal for stone setting, small engravings, and precision work
 - Great for use with or without microscope
 - High-quality stainless steel
 - 2.38 mm brass and steel pins
- (Includes BenchMate QC Vise, 4 steel pins, 4 brass pins, hex key)



**BenchMate Encore®
Wood Block**
#004-716

- Ideal for stone setting, small engravings and precision work
- Suitable for use with or without a microscope
- Ideal for use with glue or shellac
- Compatible with BenchMate Encore QC (#004-839 and #004-840), BenchMate Encore QCX (#004-831 and #004-832) and original BenchMate that has been fitted with the BenchMate Retrofit Kit (#004-845)



**BenchMate Encore®
PitchCup**
#004-714

- Ideal for stone setting, small engravings and precision work
- Suitable for use with or without a microscope
- Well-made high-quality durable aluminium
- Filled with pitch that softens on heating
- Holds fragile, small or irregular pieces
- Compatible with BenchMate Encore QC (#004-839 and #004-840), BenchMate Encore QCX (#004-831 and #004-832) and original BenchMate that has been fitted with the BenchMate Retrofit Kit (#004-845)



**BenchMate Encore®
PitchCup
without Pitch**
#004-713

Suitable for Thermo-Loc, pitch or other work-holding equipment.



**BenchMate Encore®
Vertical ID Ring Holder**
#004-878

Vertical design ensures optimal positioning for working on the sides of the ring. Includes a vertical ring holder and 10 mandrels.



**BenchMate Encore®
Horizontal ID Ring Holder**
#004-877

Holds the ring securely from the inside. Includes a horizontal ring holder and 10 mandrels.



BenchMate® Retrofit Kit

#004-845

Upgrade your GRS original BenchMate to be compatible with QC(X) fixtures.



BenchMate Encore® Storage Strip

#024-213

Storage solution for all QC(X) BenchMate Fixtures.



Multi-Purpose Vise

#004-628

The Multi-Purpose Vise uses the versatile "lift on/lift off" BenchMate mounting system. Unlike other bench vises, the Multi-Purpose Vise adjusts to any angle because it tilts and rotates on two axes. Workpieces adjust with the user, adding comfort and efficiency to the bench setup. It is precision made from steel for rugged dependability. Includes vise assembly and wrench. Jaws open to 45.7 mm and are 58.4 mm wide by 40.6 mm tall. Fits any BenchMate Fixed Mounting Plate and Optional Mounting Adapter (not included). Add the 520 Attachment Set for Multi-Purpose Vise (#003-520MPV) to solve dozens of daily workholding problems in an instant (sold separately).



Sawing Plate Right Handed

#004-680

Sawing Plate Left Handed

#004-684

Insulated Soldering Clamp

#004-592



Bench Pin Kit

#004-556

Wood Replacement Pin

#004-108



520 Attachment Set For Multi-Purpose Vise

#003-520MPV

Various pins fit into the jaws of every GRS ball vise help to quickly solve workholding problems. Includes 4 one-half Thermo-Loc sticks (not shown), 8 small pins, 4 medium dark pins, 4 flat square pins, 2 rectangular inset-curve pins, 4 thick round inset pins, 8 rubber-coated pins, 2 leather-faced ring clamp pins, and 2 pin plates in moulded base.

Extra Plastic Jaws for BenchMate®

#004-558

Package of ten plastic jaws.



Third-Hand Attachments

With these attachments, users can gain an extra hand while working. High quality with sturdy construction.



**Short
Third-Hand**
#004-646

**Regular
Third-Hand**
#004-546

Third-Hand with Base

GRS Third-Hands make precise soldering easy by holding parts in the exact position needed. With unequal flexibility, these Third-Hands can twist, rotate, and bend in all directions. These convenient Third-Hands with a weighted base help reduce bench clutter and speed up soldering jobs.



**Standard
Third-Hand on
Weighted Base**
#004-568

→ Dimensions (L × W × H):
76.2 × 76.2 × 305 mm



**Short Third-
Hand on
Weighted Base**
#004-689

→ Dimensions (L × W × H):
76.2 × 76.2 × 228.5 mm

Third-Hand with Soldering Station

GRS Third-Hands make precise soldering easy by holding parts in the exact position needed. With unequal flexibility, these Third-Hands can twist, rotate, and bend in all directions. GRS Soldering Stations combine Third-Hands with durable non-asbestos solder boards. These convenient packages help reduce bench clutter and speed up soldering jobs. Sits on a bench or fits BenchMate fixed mounting plate.



**Standard Double
Third-Hand Soldering
Station**
#004-570

Includes two removable standard Third-Hands and 150 mm square solder board.

→ Dimensions (L × W × H):
152 × 152 × 305 mm

**Short Double
Third-Hand Soldering
Station**
#004-545

Includes two short Third-Hands and 150 mm square solder board.

→ Dimensions (L × W × H):
152 × 152 × 228 mm

Third-Hand Jaw Points

These Jaw Points are made to work with GRS Third-Hand Attachments. Jaw Points are sold individually, so make sure to order two (2) per Third-Hand Attachment.

**Standard Jaw Point for
Third-Hand.**
#004-097



**Optional Tungsten Jaw
Point for Third-Hand.**
#004-097TUNG



The Optional Tungsten Jaw Points are for high-temperature work, including platinum work. Tungsten High-Temp.

Soldering Boards

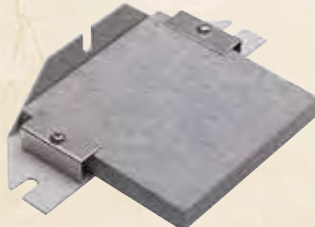
Perfect for use with GRS Third-Hands. Max 316°C.

**Soldering
Board
152.4 mm**
#004-129



**Soldering
Board
101.6 mm**
#004-130

**Soldering Station
100 × 100 mm**
#004-569



High-Temp Soldering
#004-691

The High-Temp Soldering Platform is for platinum or other high-temperature work. Works great with Third-Hand Attachments.

→ Max. 1760 °C
Size 152 × 152 mm



Jewellery Work

GRS Metal Former

#004-725



Easily shape "C" style bracelets with the GRS Bracelet Former. Form flat strips of metal to a perfect "C" shape after engraving the design. The die cup contains a soft alloy material that supports pressure from the die, but does not distort engraved work. The die cup material can be reformed by heating, when necessary.

The GRS Metal Former unit comes with two different fixed die sizes and one adjustable die cup. Metal strips that are 6.3 mm up to 44.4 mm wide can be formed. Recommended for soft metals such as copper, silver, and gold alloys at a thickness of 0.7 mm to 2.0 mm.

Includes former body, two dies, one die cup, and wrench. Bracelet / bracelet materials not included.

Urethane Die Cup & Flat Die Set

#004-726



This optional accessory for the GRS Metal Former (#004-725) has a conformable urethane die cup and a flat forming die for low dome and other bracelets with flat inside surfaces. It also can be used for non-traditional jewellery metals including some stainless steels up to 2 mm thick.

Includes Die Cup and Flat Die. GRS Metal Former not included.

GRS Ring Size Cutter

The GRS Ring Size Cutter simplifies ring sizing by removing an exact amount of ring shank. The cut is precisely to size and always parallel so soldering is neat and fast. Never again have an uneven or incorrect cut. Use the single cut pieces later for up-sizing. Note: For gold or silver rings only.

Metric Model

#004-643

Includes 9 cutters from 1 mm to 5 mm, in 0.5 mm increments.

Replacement Metric Cutter Kit

#004-600

Includes 9 cutters.



Alexander Ring Fixture

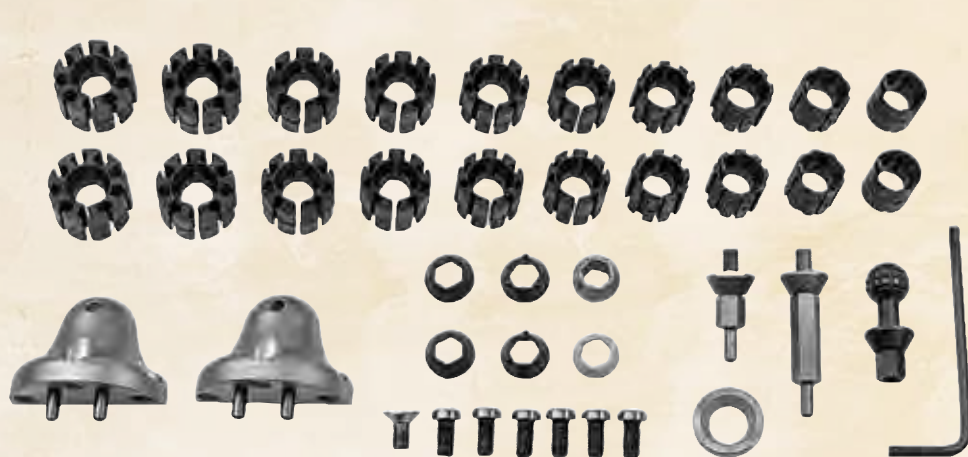
#003-782

This ring holder, designed by world-renowned stone setter Alexander Sidorov, is the result of many years' experience in applying and teaching stone-setting techniques. The Alexander ring fixture mounts directly onto the GRS MicroBlock and GRS MicroBlock XL, opening up limitless possibilities for engraving rings and setting gem stones.

The fixture features a pair of bell-shaped jaw attachments designed to enhance the function of the vertical and horizontal drawbars. The set comes with two different sizes of horizontal drawbars so it can accommodate rings of virtually any width. The vertical ring holder features a spherical base that permits multi-axis movement for optimal access to your desired work surface. The fixture also includes two full 10-piece expanding mandrel sets placed in a high-quality aluminium tray. (The GRS MicroBlock is sold separately.)

The Alexander ring fixture includes:

- 2 bell-shaped jaw attachments
- 6 button-head cap screws
- 1 wrench
- 1 short horizontal drawbar
- 1 long horizontal drawbar
- 1 vertical drawbar
- 2 plastic standard cones
- 2 plastic locking cones
- 1 steel standard cone
- 1 double-sided cone
- 1 cone cover
- 1 countersunk screw
- 20 expanding mandrels
- 1 aluminium storage tray



Alexander Ring Fixture Adapter

#003-747

Enables the use of the Alexander Ring Fixture (#003-782) with the GRS Standard Block (#003-530 and #003-531).

Alexander Stone Setter's Package

#003-783

The stone setter's package comes complete with the Alexander fixture set and a GRS MicroBlock.

The Alexander stone setter's package includes:

- Alexander Ring Fixture (#003-782)
- GRS MicroBlock (#003-683): vise
- 4 pins
- 1 wrench
- 6 screws
- plastic base
- 1 plastic hex key
- 1 Thermo-Loc sample kit



Handheld Ring Clamp

#004-625

Replaceable jaw inserts hold rings securely and without marring for stone setting, filing, and finishing. It is similar to the BenchMate holder, but lighter for hand use. Machined from solid aluminium or steel.



Ring Clamps

#003-550

These leather-faced ring clamps let GRS Blocks hold rings securely from the outside for setting stones, bright cutting, engraving, and finishing while using a block. These clamps are included in the 520 Attachment Set (#003-520).



ID Ring Holder

#004-735



Shown assembled with
18.5 mm Mandrel and
Standard Cone.

Includes:

- 1 Ring Holder Body
- 2 Sets of 10 Mandrels
- 2 Standard Cones
- 2 Locking Cones
- 1 Drawbar
- 1 Drawbar Knob
- 1 Hex Nut
- 1 GRS Hex Wrench

The GRS ID Ring Holder takes ring fixtures to a new level. The expansion cones assure equal pressure on both sides of the mandrel as it grips the inside diameter of the ring. When using the Standard Cone, the ring drag can be set to allow smooth rotation of the workpiece while setting stones or engraving the ring surface. The unique locking action of the Locking Cone allows the user to hold the ring in position without rotation and provides a steady platform on which to raise beads or pavé set. Because of portability, the ID Ring Holder is a great alternative to bulkier and more expensive choices. This ring holder is a good economical option when users need a simple, functional, and quality workholding solution.

→ sizes: 13.5 mm, 14.5 mm, 15.5 mm, 16.5 mm, 17.5 mm, 18.5 mm, 19.5 mm, 20.5 mm, 21.5 mm, 22.5 mm

ID Ring Holder Parts Kit

#004-707



This spare parts kit is intended for use with an existing ID ring holder (#004-735), but you can also use it to put together a full ID ring holder package with the new outside frame assembly (#004-754) which can be purchased separately.

This kit includes:

- 2 sets of 10 mandrels
- 2 standard cones
- 2 cones with special toothings
- 1 tension axle
- 1 clamping nut
- 1 hex nut
- 1 GRS hex wrench

Outside Frame Assembly for ID Ring Holder

#004-754



Get better clearance when engraving the outer side or circular edge of rings with this outside frame assembly. The assembly can be kept in place at various angles in a vise. The set screws which help to hold it in the vise can also be removed for greater freedom of movement.

This assembly is intended for use with an existing ID ring holder (#004-735), but you can also use it to put together a full ID ring holder package with the new ID ring holder parts kit (#004-707) which can be purchased separately.

Mandrels for ID Ring Holder

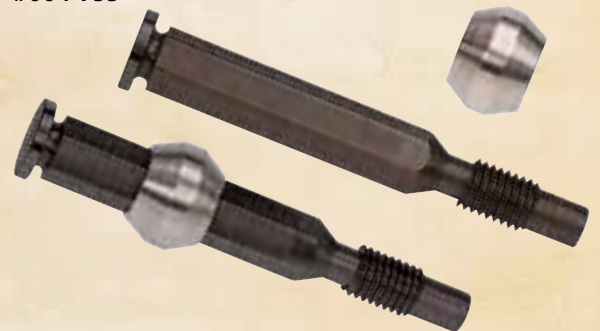
#004-705

Set of 10.



ID Ring Holder Expansion Kit

#004-755



Double the working area of the GRS ID Ring Holder with this expansion kit. The ID Ring Holder Expansion Kit includes a longer drawbar and a double-sided cone to accommodate two mandrels at once, allowing users to work on two rings at the same time or work on one wider ring. This kit does not include the ID Ring Holder or any mandrels; these items must be purchased separately.

Inside Ring Holders

These fixtures securely hold rings from the inside, giving easy access for stone setting and ring engraving. Use in any GRS block and most vises. Both include holder body, seven collets, expansion cone, screws, and wrench.

Horizontal

#004-679



Vertical

#004-847



Extra Collet Set

#004-616

Set is compatible with the Horizontal Inside Ring Holder (#004-679), Vertical Inside Ring Holder (#004-847), and Inside Ring Mandrel (#004-589). Includes seven collets, expansion screw, and wrench.



PitchCup

#004-660



The PitchCup is filled with a special material that softens when heated to hold small, fragile, or irregular pieces for engraving, setting, and finishing. Fits any vise, engraving block, or BenchMate Workholding System.

→ Diameter: 50.8 mm

PitchCup Only, No Pitch

#004-659

Pitch, 453 g

#002-230

PitchBowl

#003-022



The PitchBowl is filled with a special material that softens when heated to hold small, fragile, or irregular pieces for engraving, setting, and finishing. Fits any vise or engraving block.

→ Dimensions (L x W x D): 127 x 89 x 12.7 mm

Inside Ring Engraving Holder

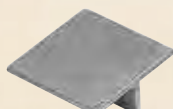
#004-697



Unique holder secures rings, allowing easy access to the inside. It can be handheld or mounted in a vise. Made by GRS from solid steel to last a lifetime.

Shellac Pad

#004-106



Air Compressor & Accessories

Why do I need oil-free air?

GRS Air Systems, handpieces, and components are all laboratory-grade tools that require clean, dry, oil-free air. Because the systems use air not only as a method for power but also for lubrication in handpiece operation, any contaminants introduced to the system ultimately cause loss of performance and even permanent damage.

With oil and water contaminating your machine and its parts, the system has to work overtime to produce the same results. This places a strain on both the motor and the controller boards inside the machine. With oil contamination, multiple parts can become damaged and the warranty is no longer valid. Using a compressor such as the Val-Air by Silenaire is highly recommended to avoid such an outcome.

Please contact our sales team if you have any questions about connecting your equipment or selecting a compressor.

Air Compressor, California Air

#004-982

The California Air Tools oil-free air compressor is ideal for anyone seeking a favourable price-performance ratio.

These air compressors have been designed to run continuously for longer. The powerful 1.0 HP motor operates at 1,680 RPM, creating less noise and reducing wear.

The oil-free dual piston pump system is engineered for high performance and durability and can be used at a wide variety of temperatures and on uneven surfaces.

It includes a hook-up kit (#004-983), which contains a 15.24 m compressed air hose with brass fittings.

Features:

- Ultra-quiet: Only 60 dB
- Oil-free pump: cleaner compressed air optimises tool operation, reduces maintenance and lowers costs.
- Two pressure-control gauges
- Two universal 1/4" quick connectors
- Thermal overload protector
- Maximum pressure: 8.3 bar
- 220 V/50 Hz
- Low current consumption: 4.5 A
- Time to fill tank from empty to full: 130 s
- Recovery time from 6.2 to 8.3 bar: 30 s
- Little heat is generated and it dissipates efficiently
- The lightweight, easily transportable 20.6 kg aluminium air tank has a capacity of 17.4 l
- L x W x H: 48.5 x 42.4 x 50 cm
- Comes complete with air filter



Hook-Up Kit for California Air Compressor

#004-983



Kit includes a hose 15.24 m long with a diameter of 6.35 mm and brass fittings. NB: All compressors purchased from GRS Tools are supplied with a hook-up kit.

Val-Air by Silentaire Technology

#004-678-220

Silentaire Val-Air compressors are virtually noiseless and completely automatic. All units come equipped with a tank, pressure regulator with built-in moisture trap and line pressure gauge, tank pressure gauge, safety valve, air intake filter, and a carrying handle or wheels for extra portability.

All Val-Air models are top of the line, and this model has an upgraded heavy-duty 1/2 horsepower "AL" pump featuring an aluminium head with cooling fins. Also included on all models is an internally-painted tank to prevent rust and an in-line coalescing filter for oil mist removal. It is perfect for apartments, mall stores, bedrooms, or situations where air compressor noise is undesirable.

The Val-Air compressor, which is an upgraded version of the Sil-Air, comes equipped with the necessary options to protect your pneumatic engraving and stone setting equipment from unnecessary wear and damage. Includes Hook-Up Kit (#004-527), which includes 15 meter of air tubing and brass fittings, and Auxiliary Cooling Fan (#004-693-230).



Features:

- Silent running
- Automatic operation
- In-line regulator with moisture trap
- Regulator and waste bottle
- In-line coalescent filter (0.01 micron)
- Aluminium pump housing cover to cool the pump
- Internally-painted tank to prevent rust
- Line pressure gauge
- Tank pressure gauge
- Thermally protected

- Delivers: 3.65 m³/h at 7.86 bar
- Operating Pressure: 5.8–7.86 bar
- Power: 0.5 PS
- Connection: 230 V / 50 Hz
- Noise: Approx. ca. 40 dB
- Weight: 23.1 kg
- Dimensions (L × W × H): ca. 35 × 35 × 55 cm

Silentaire Compressor Oil, ca. 700 ml

#022-163



For use with Silentaire compressors. Please note that using a different oil can damage a Val-Air compressor.

Hook-Up Kit for Compressors

#004-527

Kit includes 15 m of (6.35 mm) hose and brass fittings.



Air filter/Oil-removal kit

#004-730-6MM

This compact air filter/oil-removal kit combines both filters and mounts in one. It reliably removes dirt and oil from compressed air and is needed if you are using an oil-lubricated compressor with our GRS equipment. The connectors are designed for 6-mm tubes. M5 screws (not supplied) are recommended for attaching to walls or workbenches.

Rotary Systems & Accessories

The GRS Ultra 850 High Speed Handpiece uses external compressed air (min. 2 – 2.5 bar, 38 l/min.). The Badeco micromotor provides an electronic rotary solution for jewellers, engravers and more. These systems are made for drilling, engraving, and similar applications.

Badeco "MX-1 Strong" Micromotor Kit #602-600



Top-class micromotor with high pulling power and flexibility. It is characterised by vibration-free concentricity and extremely low noise emission.

Technical data:

Control system: 230 V/50 Hz. With overload protection.
Micromotor: 24 V, 3.7 A, 24.7 cNm, max. 180 W

"Deluxe" Filing Handpieces

Badeco's new file has a diameter of just 10 mm and a mechanism with an anti-vibration effect. The handpiece does not get hot even when used over a protracted period. The ergonomic design of the handpiece and the shape of the adaptable file itself enable filing and polishing even in the tightest spaces, corners and recesses. The file may even be rotated 360° during filing to adapt it to the piece being worked on. The specially constructed file handpiece requires no maintenance and no lubrication. Ideal for micropolishing, filing and deburring – and not just in inaccessible niches!

For your safety we recommend wearing protective goggles and a mask.

→ Stroke length: 1 mm, Stroke rate: 5000 strokes/min., Vibration: 0.55 m/s²

"Deluxe" 4 #602-404

For the micromotor
#602-600.



"Deluxe" 2 #602-402

For flex shaft motors with
an EU slipjoint cable.



GRS Ultra 850 High Speed Handpiece

This rotary handpiece provides 320,000 RPM for effortless engraving, decorating, and grinding on almost any material. It only accepts 1.6 mm diameter burs with FG shanks. Connects directly to a GraverMach AT, GraverMax G8, or any regulated air supply.

GRS Ultra 850 High Speed Handpiece with GRS Foot Control #004-861



GRS Ultra 850 Handpiece #004-850



GRS foot switch #004-863



Perfect with the GRS Ultra 850 High Speed handpiece.

Ceramic-fibre files

Standard ceramic-fibre file

These ceramic-fibre-based file inserts are ideal for precise working of metal surfaces, even in hard-to-reach places such as curves or narrow parts. The inserts are long-lasting, can be used over their entire length and will not break or get clogged. The shape of the file can be adapted to meet all your needs, and its texture enables both frontal and lateral filing. Perfect for use on all materials with a hardness of less than HRC 57 (gold, silver, and so on).

Files with the following shapes and grains are available:

Flat 4.0 × 1.0 × 100 mm

Grit:	1200 (red)	#602-430
	1000 (white)	#602-432
	800 (blue)	#602-434
	600 (black)	#602-436
	400 (orange)	#602-438
	300 (light brown)	#602-440
	220 (dark brown)	#602-442
	120 (violet)	#602-444

Round Ø 2,35 × 50 mm

Grit:	1200 (red)	#602-422
	1000 (white)	#602-423
	800 (blue)	#602-424
	600 (black)	#602-425
	400 (orange)	#602-426
	300 (light brown)	#602-427
	220 (dark brown)	#602-428

Diamond-impregnated ceramic-fibre file

Sharing the same properties as their equivalents made of pure ceramic fibres, files impregnated with diamonds guarantee rapid, top-quality results when polishing, grinding or filing. The files are very long-lasting, can be used over their entire length and will not break or get clogged. Perfect for use on all materials harder than HRC 57 (stainless steel, titanium, and so on).

Available in the following shapes and grains:

Flat 4.0 × 1.0 × 100 mm

Grit:	800 (grey)	#602-470
	400 (blue-green)	#602-472
	200 (black)	#602-474

Round Ø 3,0 × 50 mm

Grit:	400 (blue-green)	#602-480
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Ceramic File-Holder #602-420



Practical holder for ceramic hand files.

Tool Sharpening – GraverHone®

Tool sharpening is one of the most important aspects of engraving and gem setting. The GRS GraverHone® tool-sharpening system produces sharp edges for precise cutting in less time than traditional sharpening devices.

Keeping tools sharp is essential for making clean cuts in metal and provides greater control for less effort.

Quickly and easily grind, sharpen and polish carbide or HSS gravers with the GraverHone VS. This variable speed hone features high torque with a unique motor, guaranteeing the highest quality and durability. Each spindle and drive plate are individually qualified parallel to the top surface of each GraverHone. This extra step in the manufacturing process ensures that each unit is in proper alignment for even, repeatable grinds every time.



GraverHone® VS Dual Angle Package

#003-801-EU

The Dual Angle Sharpening Fixture included in this package is the perfect solution for producing any graver geometry desired. The GraverHone VS and the GRS Sharpening Fixture, now an industry standard, make the perfect team.

GraverHone™ VS features include:

- Variable speed (400-900 RPM)
- Dual direction
- Top-quality motor and components
- Direct drive system
- Top surface qualified parallel to the spindle and drive plate
- Time-saving quick lock for diamond wheels (no threads)
- Design matching the GRS Air Systems

The package includes:

- GraverHone VS
- 260, 600 and 1200 grit diamond wheels
- Diamond wheel rack
- Dual Angle Fixture w/ Premium Sharpening Post



GraverHone® VS

#003-598-EU

GraverHone VS features include:

- Variable speed (400-900 RPM)
- Dual direction
- Top-quality motor and components
- Direct drive system
- Top surface qualified parallel to the spindle and drive plate
- Time-saving quick lock for diamond wheels (no threads)
- Design matching the GRS Air Systems

GraverHone® VS Apex® Sharpening System

#003-800-EU



Meet the next generation sharpening system from GRS Tools. This complete package contains the high-torque, variable speed GraverHone VS and the 4-in-1 Apex Sharpening System. This combination of products is the ultimate in sharpening efficiency. The speed range of the GraverHone together with the user-friendliness of the Apex system make this the perfect setup for everyone from novice to expert.

The features include:

- Colour-coded dials with storage rack
- Speedline dials for easy step-by-step sharpening
- Dual Angle dial for unlimited graver geometries
- New longer post with increased magnetism
- Updated compact profile
- Steel locking screws
- Works exclusively with GRS QC Tool Holders
- ¼ turn graver lock
- Simplified post dial

The package includes:

- GraverHone VS
- Apex Fixture, Apex Post, Dual Angle Dial, Speedline dials (90, 105 and 120 degree)
- 260, 600 and 1200 grit diamond wheels
- Diamond wheel rack



Dual Angle Sharpening Fixture

The front end features an accurate and secure locating seat for gravers and a wide variety of tools. With two degree dials, the elevation and rotation angle can be set quickly. The vertical locating post and the mating slide collar are made from precision-ground stainless steel.

With Post Assembly

#003-570

Fixture Head Only

#003-571



QC Locking Adapter Kit

#003-706



Spend even less time on sharpening your tools with this adapter kit for the GRS Dual Angle Sharpening Fixture, making it easier to hold tools and gravers in position that are mounted in QC tool holders. The kit includes two fasteners, which are designed for vertical or horizontal use, that keep the QC tool holders in place with their fixing pin.

EasyGraver® Sharpening Fixture

This fixture will only make a 120° or 105° graver.



Many new engravers are challenged with understanding and consistently producing accurate sharpening results. Professionals want to save time during the sharpening process to increase profitable moments spent at the bench. The design of the Easy-Graver Sharpening Fixture is based on the standard geometries that we observed in use by hundreds of engraving artists and jewellers throughout the world over many years. The tool geometry is limited to the model, marked either 120° or 105° V-point gravers. For hand engravers and jewellers who currently use other geometries, the time it takes to adjust to these presets is outweighed by the benefits of accuracy and efficiency. Please note that the Post Assembly (#003-502) IS NOT INCLUDED and must be purchased separately. Post positions #1 and #2 are for truing or reshaping the base of the graver for a 120° or a 105 degree V-point. The side post positions, #3 and #4, are then used to sharpen a parallel heel. After the heels are sharpened, the center post position (#5) allows the user to sharpen a face angle and easily adjust the length of the heel.

V-Point Model 120° #003-700

V-Point Model 105° #003-701

Tool Sharpening – Apex[®]

The Apex Sharpening System is the perfect fixture for anyone from the novice learning to sharpen their first graver to the veteran seeking efficient repeatability.

Apex[®] Sharpening System

#003-760



The Apex is an innovative 4-in-1 update to the classic Dual Angle fixture. The new shorter fixture nose and longer fixture post easily accommodate longer gravers. Locking knobs have been updated with a quality knurled steel. A quarter-turn locking system works exclusively with GRS QC tool holders to promote ultimate efficiency for loading and locking tools. The post dial has been simplified to promote finding the correct angle setting quickly. Most notably, the fixture now features the ability to switch Apex dials in seconds without tools or screws to turn. Simply press the dial of your choice onto the fixture and go.

Each Speedline dial is clearly marked for simple step-by-step sharpening. The numbers and text on the dials provide a built-in guide on which part of the graver is being sharpened and the settings to do so. For a beginner, this will teach the identical movements and terminology required to make custom gravers with the Dual Angle dial. For an advanced artist, it will create efficient repeatability for faster sharpening. A simple switch to the Dual Angle dial and you can make any graver geometry desired.

Includes:

Apex Sharpening Fixture, 90° dial, 105° dial, 120° dial, Dual Angle dial, Apex fixture post and storage rack.

Apex[®] Speedline Dial Set

#003-762

Add Speedline dials to the Apex Dual Angle Fixture for quicker sharpening of the three most popular graver angles. Each Speedline dial is clearly marked for simple step-by-step sharpening. The numbers and text on the dials provide a built-in guide on which part of the graver is being sharpened and the settings to do so. For a beginner, this will teach the identical movements and terminology required to make custom gravers with their Dual Angle dial. For an advanced artist, it will create efficient repeatability for faster sharpening.

Includes:

90° dial, 105° dial, 120° dial, and storage rack.



Apex[®] Organizer Rack

#003-438

This organizer rack features 4 slots for Apex dials.



Apex[®] Sharpening Post

#003-759

The Apex post has been updated with an 36.3 kg magnet that can be heavily dampened with the included cover. The overall height of the post has been extended to 17.8 cm for use with longer gravers. This post promotes more accurate, repeatable grinds.



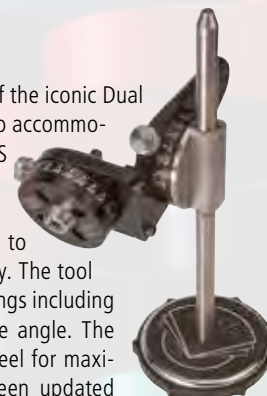
Apex[®] Dual Angle Fixture

#003-761

The new Apex Dual Angle fixture is a redesign of the iconic Dual Angle fixture. It features a shorter front profile to accommodate longer gravers, and exclusively accepts GRS QC tool holders. A quarter-turn locking system promotes ultimate efficiency for loading and locking tools. The post dial has been simplified to promote finding the correct angle setting quickly. The tool dial has also been refreshed with updated markings including an "F" to quickly find the marking for the face angle. The locking knobs have been updated to knurled steel for maximum durability. Lastly, the fixture post has been updated with a much stronger magnet, and has been lengthened to 17.8 cm to accommodate longer gravers. Graver geometry possibilities are endless with this fixture.

Includes:

Apex Sharpening Fixture, Dual Angle dial, and Apex fixture post. Compatible with #003-762 Apex Speedline Dials, sold separately.



Quick Wheel Change Adapter for Original Power Hone

#001-838



This drive plate assembly replaces the standard wheel knob on the original Power Hone for quick and simple wheel changes.

Diamond Wheels

These Diamond Wheels enable fine machining by carbide and HSS gravers. The shanks of these wheels are 2.35 mm in diameter and are easy to mount in a micromotor or flex-shaft hanging motor. Wheel dimensions: 25 × 2.5 mm.

Yellow Fine Diamond Wheel, with Support Disc

#023-120

Maximum speed: 5,000 RPM.

Blue Medium Diamond Wheel, with Support Disc

#023-123

Maximum speed: 5,000 RPM.

Grey Coarse Diamond Wheel

#023-122

Maximum speed: 20,000 RPM.



Cast Iron Lap

#002-412

Achieve a finer, longer-lasting finish on gravers and tools, especially carbides, with the GRS Cast Iron Lap. Made from superior cast iron, this precision-ground lap offers tool polishing advantages that even the latest high-tech abrasive materials simply cannot match. Instantly notice the difference in tool performance and life. Both lap sides are identically prepared, providing the sharpening life of two laps in one. For tool steel, high-speed steel or hardened carbon steel, consider the GRS Ceramic Lap (#002-415) for the best performance. 1 Micron Diamond Spray (#002-754-NF) recommended.

Ceramic Lap 150 mm

#002-415

For polishing a mirror finish on tools. Requires Diamond Spray; ½ micron recommended (#002-753-NF).

Wheel Blanks

Precision aluminium wheel blanks allow users to make special sharpening or polishing wheels by attaching abrasive paper, leather, and similar surfaces.

125 mm

#002-129

150 mm

#002-537



Wheel Storage Rack

#001-694



Protect and organise wheels with this convenient storage rack. Steel construction. Rack only; does not include wheels.

Diamond Wheels 125 mm

Diamond wheels last for years and stay flat for accuracy. Get coarse to mirror-finish polishing and precision sharpening without heat using the GRS GraverHone. When selecting both a GraverHone Complete System and diamond wheels, check which wheels are included before ordering.

180 Grit "Gator"

#011-194

260 Grit (coarse)

#002-138

600 Grit (medium)

#002-055

1200 Grit (fine)

#002-139

Diamond Powder 5 ct, ½ Micron

#023-200

By applying a small amount of Diamond Powder on a ceramic or cast iron lap, you will see superior polishing results when sharpening gravers. For use with Ceramic Lap (#002-415) or Cast Iron Lap (#002-412).



Diamond Spray

For use with ceramic lap and other surfaces, this atomized spray bottle contains approx. 60 ml of diamond spray.

1/4 Micron (extra fine)

#002-752-NF

1/2 Micron (fine)

#002-753-NF

1 Micron (medium)

#002-754-NF

3 Micron (coarse)

#002-755-NF



Gravers & Accessories

We offer an extensive range of standard gravers as well as liners, beading tools, burs and more. Our QC system is perfect for ensuring orderly tool storage, and our QC tool holders enable you to switch tools quickly and easily.

Choosing Gravers

If you are unsure what you need, read our recommendations on how to use gravers.



V-Point

The V-point works well for general engraving and comes in various geometries: 60, 75, 90, 105 and 120 degrees.



Flat

Flat gravers are the favourite tool of many Western bright-cut artists and lettering engravers. Narrower flats are perfect for lettering, while wider ones are commonly used for large bright-cut engravings.



Onglette

Once the standard graver, the onglette is mainly used for jewellery engraving and stone setting because of its narrow profile.



Round

The round is often reserved for specialty engraving, like sculpting and some styles of lettering.



Knife

A more delicate version of a V-point, the knife executes an extremely narrow cut. This graver is not as versatile as a V-point, but can be used for many similar applications.



Liner

The liner (or line graver) saves time when several parallel lines need to be cut. It is mainly used for Western shading, but can also be used for background removal and texturing.

Metal Types

What's the difference between high-speed steel, carbides, C-Max, GlenSteel and other materials used for gravers? While it's easy to get overwhelmed by technical details, the most important aspect when selecting the material for a graver is its behaviour relative to that of the surface to be engraved.

Today's alloys of steel, stainless steel and even titanium pose a challenge for modern engravers, stone setters and jewellery makers. The graver material needs to be hard enough to cut, but not so hard that it breaks easily.

C-Max®

Provided your gravers are optimally sharp, this special carbide alloy will enable you to achieve a perfect, unrivaled high-gloss mirror finish on any metal. Even hard metals including steel and titanium can easily be engraved. Carbide is very hard and resistant, but it is also brittle. To grind it you will need a diamond wheel (see p. 31) compatible with the GraverHone sharpening system (see p. 27 – 28). Gravers can also be given a high-gloss finish using a diamond polisher (see p. 30).

GlenSteel®

A special high-speed steel (HSS) that is tougher and more resistant than conventional HSS alloys. Being less brittle than carbide, this alloy can substitute for or complement C-Max. GlenSteel can achieve a high-gloss finish on precious metals as well as on most hard metals (steel).

HSS

A conventional high-speed steel used for all work that does not require any particular gloss or hard finish. HSS gravers have proved their worth over many years and are used in many domains.

C-Max® Carbide Gravers

Years of development have produced a tungsten carbide graver with the right blend of hardness and toughness for hand engraving and stone setting applications. C-Max achieves a metallurgical balance like no other carbide. For years, engravers and jewellers have used other carbide gravers that break easily or do not hold a fine edge. This frustration is gone forever, thanks to C-Max carbide. Try these tools and do better work in noticeably less time.

C-Max® Stepped Round Blanks

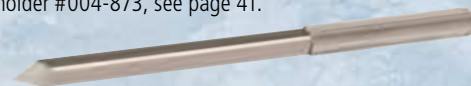
The C-Max carbide gravers with a 2.35-mm shaft are available with diameters rising in 0.2-mm gradations from 0.8 mm to 2.2 mm. A finely-tapered point perfect for texturing or stippling is also available. Use with QC tool holder #004-853, see page 41.



Round taper point				#022-791
• Round graver blank	Ø 0.8 mm	tool point 12 mm	#022-782	
• Round graver blank	Ø 1.0 mm	tool point 12 mm	#022-783	
• Round graver blank	Ø 1.2 mm	tool point 12 mm	#022-784	
• Round graver blank	Ø 1.4 mm	tool point 15 mm	#022-785	
• Round graver blank	Ø 1.6 mm	tool point 15 mm	#022-786	
• Round graver blank	Ø 1.8 mm	tool point 15 mm	#022-787	
• Round graver blank	Ø 2.0 mm	tool point 15 mm	#022-788	
• Round graver blank	Ø 2.2 mm	tool point 15 mm	#022-789	
All nine tools and one blank #022-393 in a set.				#022-854

C-Max® V-Points

Save time sharpening gravers with preformed gravers. Use with QC tool holder #004-873, see page 41.



◆	V-Point 60°	#022-615
◆	V-Point 75°	#022-616
◆	V-Point 90°	#022-617
◆	V-Point 105°	#022-618
◆	V-Point 120°	#022-619

C-Max® Onglette

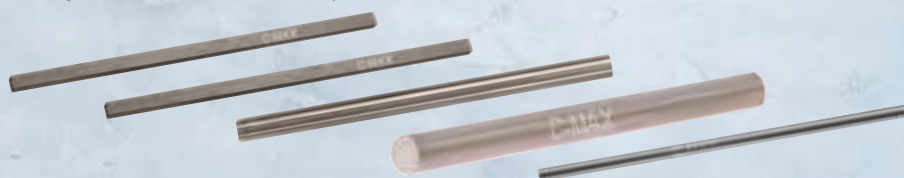
The 'C-Max graver onglette' has angled sides that taper down to a pointed tool bottom. Use with QC tool holder #004-873, see page 41.



◀	#0 Onglette	#022-625
◀	#1 Onglette	#022-626
◀	#2 Onglette	#022-627
◀	#3 Onglette	#022-628
◀	#4 Onglette	#022-629
◀	#5 Onglette	#022-630

C-Max® Blanks

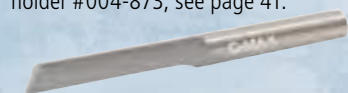
Grind gravers and tools in line with your needs.



■	Square, 2 mm	#022-612
	Use with QC tool holder #004-803, see page 41.	
■	Square, 2.38 mm	#022-610
	Use with QC tool holder #004-803, see page 41.	
●	Round, 3.17 mm	#022-611
	Use with QC tool holder #004-873, see page 41.	
●	Round, 2.35 mm	#022-393
	Use with QC tool holder #004-853, see page 41.	
●	Round, 1.8 mm	#022-622
	Use with QC tool holder #004-852, see page 41.	
●	Round, 1.8 mm, 10 pack	#022-780
	Use with QC tool holder #004-852, see page 41.	

C-Max® Graver Tapered Round

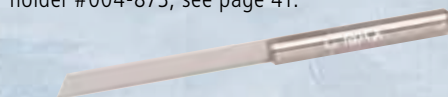
The 'C-Max graver tapered round' has angled sides that taper down to a rounded tool bottom. Use with QC tool holder #004-873, see page 41.



	#2	Ø 0.2 mm	#022-680
	#4	Ø 0.4 mm	#022-681
	#6	Ø 0.6 mm	#022-682
	#8	Ø 0.8 mm	#022-683
	#10	Ø 1.0 mm	#022-684
	#12	Ø 1.2 mm	#022-685
	#14	Ø 1.4 mm	#022-686

C-Max® Graver Tapered Flat

The 'C-Max graver tapered flat' has angled sides that taper down to a flat tool bottom. Use with QC tool holder #004-873, see page 41.



	#2	0.2 mm × 15°	#022-723
	#4	0.4 mm × 15°	#022-724
	#6	0.6 mm × 10°	#022-725
	#8	0.8 mm × 10°	#022-726
	#10	1.0 mm × 10°	#022-727
	#12	1.2 mm × 10°	#022-728
	#14	1.4 mm × 10°	#022-729
	#16	1.6 mm × 10°	#022-730
	#18	1.8 mm × 10°	#022-731
	#20	2.0 mm × 10°	#022-732

C-Max® Graver Parallel Flat

The 'C-Max graver parallel flat' has parallel sides with a flat tool bottom. Use with QC tool holder #004-873, see page 41.



	#6	0.6 mm wide	#022-712
	#8	0.8 mm wide	#022-713
	#10	1.0 mm wide	#022-714
	#12	1.2 mm wide	#022-715
	#14	1.4 mm wide	#022-716
	#16	1.6 mm wide	#022-717
	#18	1.8 mm wide	#022-718
	#20	2.0 mm wide	#022-719

C-Max® Parallel Bevel Graver

This wide-angled bevel graver with precision-ground parallel sides and a rounded upper edge creates an accurate, preformed cutting angle. Available in various angles. Use with QC tool holder #004-873, see page 41.



	90°	#022-667
	105°	#022-668
	120°	#022-669

C-Max® Wedge Graver

Like conventional knife gravers and V-point gravers, C-Max wedge gravers are available with rounded upper edge at various angles, ranging from an ultra-narrow 30° to a very wide 120°. Use with QC tool holder #004-873, see page 41.



	30° point	#022-792
	45° point	#022-793
	60° point	#022-794
	75° point	#022-795
	90° point	#022-796
	105° point	#022-797
	120° point	#022-798

C-Max® Burin



This GRS Burin is a special tungsten carbide graver made for hand engraving, especially intaglio print-making. The material is GRS C-Max, a grade of carbide that has the ability to hold a sharp edge for an incredibly long time. Because this material is a very hard tungsten carbide, it can only be sharpened using a diamond abrasive. The burin is made from a 3.17 mm diameter round blank approximately 75 mm long.

C-Max Burin Kit #044-504

Includes 1 C-Max Burin, 1 Graver Handle and 1 Allen wrench.

GlenSteel®

GlenSteel is a special high-speed steel (HSS) made by GRS. It features outstanding toughness to resist breaking and chipping, even with a slender, fine geometry. It wears predictably to help eliminate catastrophic tool failures that damage work and confidence. GlenSteel is an excellent all-around choice for professionals and hobbyists when a tough graver is needed. It is cobalt-free so users are not exposed to cobalt dust when sharpening.

GlenSteel® V-Point Gravers

Made with a precision V-Point geometry and a convenient 2.4 mm square shank. Available in 60, 75, 105, and 120 degree preshaped points. Use with QC tool holder #004-803, see page 41.



◆ 60° V-Point Graver	#022-590
◆ 75° V-Point Graver	#022-591
◆ 105° V-Point Graver	#022-592
◆ 120° V-Point Graver	#022-593

GlenSteel® Blanks

■ Blank	Dimensions: 2.35 × 2.35 × 70 mm Use with QC tool holder #004-803, see page 41.		#002-120
◆ Rhombus	Dimensions: 2.35 × 2.35 × 70 mm Use with QC tool holder #004-803, see page 41.		#002-115
■ Flat	Dimensions: 2.35 × 2.35 × 70 mm Use with QC tool holder #004-803, see page 41.		#002-116
● Round, 3.17 mm	Length: 63.5 mm Use with QC tool holder #004-873, see page 41.		#022-585
● Round, 2.35 mm	Length: 50.8 mm Use with QC tool holder #004-853, see page 41.		#022-586

GlenSteel® Graver Onglette

The 'GlenSteel graver onglette' has angled sides that taper down to a pointed tool bottom. Use with QC tool holder #004-873, see page 41.



◀ #0 Onglette	#024-220
◀ #1 Onglette	#024-221
◀ #2 Onglette	#024-222
◀ #3 Onglette	#024-223
◀ #4 Onglette	#024-224
◀ #5 Onglette	#024-225

GlenSteel® Stepped Round Blank

These new stepped round blanks made from GlenSteel, a special high-speed steel (HSS) made by GRS, takes the same shape as the round C-Max stepped blanks. These blanks improve the efficiency of stone setting and engraving jobs by providing a carefully-graduated tool point. Stone setters will save time removing the metal between and around stones in pavé and other setting jobs. Engravers can shape small tools without the hassle of starting with a tool blank that is far too big for the job. Use with QC tool holder #004-853, see page 41.

→ Shaft diameter: 2.35 mm
Point: Ø 1.8 mm
Total length: 50.8 mm
Tool length: 17.78 mm



● Single graver	#022-779
● Ten pack	#022-781

*Find QC Tool Holders
on page 41.*



GlenSteel® Graver Parallel Flat

The 'GlenSteel graver parallel flat' has parallel sides with a flat tool bottom. Use with QC tool holder #004-873, see page 41.



	#6	0.6 mm wide	#024-237
	#8	0.8 mm wide	#024-238
	#10	1.0 mm wide	#024-239
	#12	1.2 mm wide	#024-240
	#14	1.4 mm wide	#024-241
	#16	1.6 mm wide	#024-242
	#18	1.8 mm wide	#024-243
	#20	2.0 mm wide	#024-244

GlenSteel® Graver Tapered Round

The 'GlenSteel tapered round' has angled sides that taper down to a rounded tool bottom. Use with QC tool holder #004-873, see page 41.



	#2	Ø 0.2 mm	#024-228
	#4	Ø 0.4 mm	#024-229
	#6	Ø 0.6 mm	#024-230
	#8	Ø 0.8 mm	#024-231
	#10	Ø 1.0 mm	#024-232
	#12	Ø 1.2 mm	#024-233
	#14	Ø 1.4 mm	#024-234

GlenSteel® Graver Tapered Flat

The 'GlenSteel graver tapered flat' has angled sides that taper down to a flat tool bottom. Use with QC tool holder #004-873, see page 41.



	#2	0.2 mm wide	#024-247
	#4	0.4 mm wide	#024-248
	#6	0.6 mm wide	#024-249
	#8	0.8 mm wide	#024-250
	#10	1.0 mm wide	#024-251
	#12	1.2 mm wide	#024-252
	#14	1.4 mm wide	#024-253
	#16	1.6 mm wide	#024-254
	#18	1.8 mm wide	#024-255
	#20	2.0 mm wide	#024-256

GlenSteel® Wedge Graver

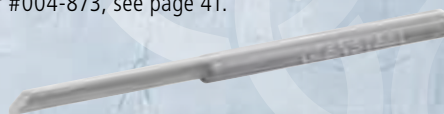
Like conventional knife gravers and v-point gravers, GlenSteel wedge gravers are available with rounded upper edge at various angles, ranging from an ultra-narrow 30° to a very wide 120°. Use with QC tool holder #004-873, see page 41.






	30° point	#024-259
	45° point	#024-260
	60° point	#024-261
	75° point	#024-262
	90° point	#024-263
	105° point	#024-264
	120° point	#024-265

GlenSteel® Parallel Bevel Graver

This wide-angled bevel graver with precision-ground parallel sides and a rounded upper edge creates an accurate, preformed cutting angle. Available in various angles. Use with QC tool holder #004-873, see page 41.

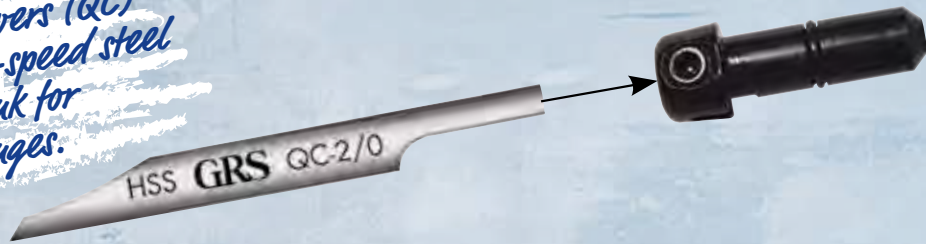


	90° point	#024-267
	105° point	#024-268
	120° point	#024-269

Quick Change Gravers (QC), HSS

With factory-shaped tips, these gravers save time by eliminating initial shaping.

Quick Change Gravers (QC) are made from high-speed steel with a QC shank for quick tool changes.



Quick Change Gravers (QC) GRS, Flat, HSS

EUR	USA	mm	Item No.
2	QC-36	0,2	#022-436
4	QC-37	0,4	#022-437
6	QC-38	0,6	#022-438
8	QC-39	0,8	#022-439
10	QC-40	1,0	#022-440
12	QC-41	1,2	#022-441
14	QC-42	1,4	#022-442
16	QC-43	1,6	#022-443
18	QC-44	1,8	#022-444
20	QC-45	2,0	#022-445
22	QC-46	2,2	#022-446
24	QC-47	2,4	#022-447
26	QC-48	2,6	#022-448
28	QC-49	2,8	#022-449

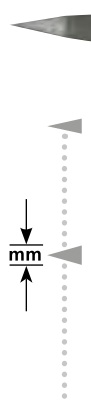
Quick Change Gravers (QC) GRS, Round, HSS

	EUR	USA	mm	Item No.
	2	QC-50	0,2	#022-450
	4	QC-51	0,4	#022-451
	6	QC-52	0,6	#022-452
	8	QC-53	0,8	#022-453
	10	QC-54	1,0	#022-454
	12	QC-55	1,2	#022-455
	14	QC-56	1,4	#022-456
	16	QC-57	1,6	#022-457
	18	QC-58	1,8	#022-458
	20	QC-59	2,0	#022-459
	22	QC-60	2,2	#022-460
	24	QC-61	2,4	#022-461
	26	QC-62	2,6	#022-462
	28	QC-63	2,8	#022-463

Quick Change Gravers (QC) GRS, Onglette, HSS

EUR	USA	mm	Item No.
5/0	QC-5/0	1,16	#022-396
4/0	QC-4/0	1,24	#022-397
3/0	QC-3/0	1,35	#022-398
2/0	QC-2/0	1,45	#022-399
0	QC-0	1,58	#022-400
1	QC-1	1,78	#022-401
2	QC-2	1,94	#022-402
3	QC-3	2,16	#022-403
4	QC-4	2,54	#022-404
5	QC-5	2,74	#022-405
6	QC-6	2,94	#022-406
7	QC-7	3,14	#022-407
8	QC-8	3,36	#022-408

Quick Change Gravers (QC) GRS, Knives, HSS

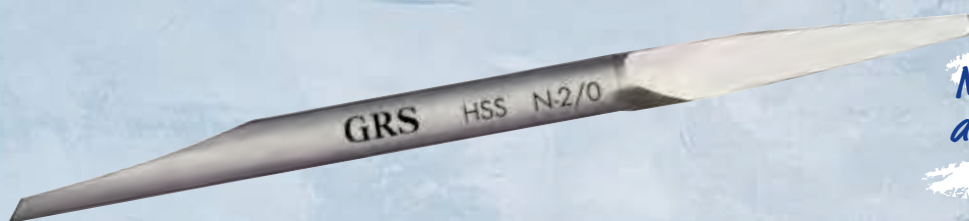


EUR	USA	mm	Item No.
18	QC-K0	1,8	#022-470
20	QC-K1	2,0	#022-471
22	QC-K2	2,2	#022-472
24	QC-K3	2,4	#022-473
26	QC-K4	2,6	#022-474
28	QC-K5	2,8	#022-475
30	QC-K6	3,0	#022-476
32	QC-K7	3,2	#022-477

Use with QC tool holder #004-803, see page 41.



New Traditional Gravers (NTG), HSS



New Traditional Gravers (NTG) are made from high-speed steel and have a standard shank.


New Traditional Gravers (NTG) GRS, Flat, HSS

	EUR	USA	mm	Item No.
	N-2	36	0,2	#022-636
	N-4	37	0,4	#022-637
	N-6	38	0,6	#022-638
	N-8	39	0,8	#022-639
	N-10	40	1,0	#022-640
	N-12	41	1,2	#022-641
	N-14	42	1,4	#022-642
	N-16	43	1,6	#022-643
	N-18	44	1,8	#022-644
	N-20	45	2,0	#022-645
	N-22	46	2,2	#022-646
	N-24	47	2,4	#022-647
	N-26	48	2,6	#022-648
	N-28	49	2,8	#022-649

New Traditional Gravers (NTG) GRS, Round, HSS


EUR	USA	mm	Item No.
N-2	50	0,2	#022-650
N-4	51	0,4	#022-651
N-6	52	0,6	#022-652
N-8	53	0,8	#022-653
N-10	54	1,0	#022-654
N-12	55	1,2	#022-655
N-14	56	1,4	#022-656
N-16	57	1,6	#022-657
N-18	58	1,8	#022-658
N-20	59	2,0	#022-659
N-22	60	2,2	#022-660
N-24	61	2,4	#022-661
N-26	62	2,6	#022-662
N-28	63	2,8	#022-663

New Traditional Gravers (NTG) GRS, Onglette, HSS



EUR	USA	mm	Item No.
N-5/0	5/0	1,16	#022-596
N-4/0	4/0	1,24	#022-597
N-3/0	3/0	1,35	#022-598
N-2/0	2/0	1,45	#022-599
N-0	0	1,58	#022-600
N-1	1	1,78	#022-601
N-2	2	1,94	#022-602
N-3	3	2,16	#022-603
N-4	4	2,54	#022-604
N-5	5	2,74	#022-605
N-6	6	2,94	#022-606
N-7	7	3,14	#022-607
N-8	8	3,36	#022-608

New Traditional Gravers (NTG) GRS, Knives, HSS



	EUR	USA	mm	Item No.
	#N-18	K-0	1,8	#022-670
	#N-20	K-1	2,0	#022-671
	#N-22	K-2	2,2	#022-672
	#N-24	K-3	2,4	#022-673
	#N-26	K-4	2,6	#022-674
	#N-28	K-5	2,8	#022-675
	#N-30	K-6	3,0	#022-676
	#N-32	K-7	3,2	#022-677

GRS X-7 Graver Blank

#022-350

This super high-speed steel is extremely hard (nearly Rockwell C70) and very wear resistant. Applications include fine shading, bulino, and banknote engraving.

→ Dimensions: 2.35 × 2.35 × 63.5 mm

Mixed Graver Kits

These kits are a balanced mix of gravers just right for stone setters and engravers.

Stone Setters Kit GRS

#022-580

Onglette: 2/0, 0, 1
Flat: 4, 10, 14
Round: 2, 4, 6, 8
Knife: 20, 22

Engravers Kit GRS

#022-581

Onglette: 2/0, 1, 3
Flat: 4, 6, 8, 10, 14
Round: 4, 6
Knife: 20, 22

Inside Ring Gravers

Made especially for engraving inside a ring.

Curved Ring Graver

#022-819

Two-Curve Ring Graver

#022-820

Serpentine Ring Graver

#022-818

Liners & Bevels

Create shading and more.

What Do The Numbers Mean ?

The first number tells the spacing distance when divided by two. The second number shows how many lines are on the graver. See examples below.



18-10 Liner
18 divided by 2 = 9
10 lines spaced
0.009" (0.23 mm)



14-6 Liner
14 divided by 2 = 7
6 lines spaced
0.007" (0.18 mm)

Straight Line Gravers



32-8	#022-358
30-10	#022-359
28-10	#022-360
24-10	#011-026
20-10	#002-695

18-10	#002-122
16-6	#002-694
14-6	#002-693
12-8	#022-812
8-6	#022-249

Curved Line Gravers



28-10	#022-374
24-10	#002-699
20-10	#002-698

18-10	#001-389
16-6	#002-697
14-6	#002-035

HSS Bevel Line Gravers

Made of high-speed steel (HSS).



#1 Bevel (small)
#002-702



#2 Bevel (large)
#002-703

Graver Accessories

Tip: See pages 34-38 to find out which QC Tool Holder fits your chisel.

QC Tool Holders

QuickChange (QC) tool holders keep tools always within reach and ready for use. QC tool holders are compatible with most GRS handpieces and save time by quickly fitting into different handles and handpieces.

Soft-Hit QC Tool Holder #004-870



Change the impact characteristics of GRS handpieces just by mounting a tool or graver in these new Soft-Hit QC Tool Holders. These give a softer impact because the back end of the tool holder is made with a special plastic tip. This creates a smoother, softer energy transfer from the handpiece piston to the tool.

Fine engraving and shading are easier to control, tool stress is reduced, and hand vibration is decreased with Soft-Hit holders. The difference is subtle, but well worth a try for fine work. The Soft-Hit works only in GRS Monarch, 901, Magnum, or System 3 handpieces. Package of 3.

Traditional 3.45 mm QC Tool Holder

Single Holder #004-803

3 Pack #004-804

10 Pack #004-806



Stainless Steel
Single Holder
#004-803-SS

Bronze
Single Holder
#004-803-BR

1.8 mm QC Tool Holder

Single Holder #004-852

3 Pack #004-871

10 Pack #004-872



3.17 mm QC Tool Holder

Single Holder #004-873

3 Pack #004-874

10 Pack #004-875



Bronze
Single Holder
#111-541

Extra Length 3.45 mm QC Tool Holder

Extends tool length by 12.7 mm.

Single Holder #004-856

3 Pack #004-857

10 Pack #004-858



Blank QC Tool Holder

Centre-drilled blank for user customization to hold special tools.

Single Holder #004-848

3 Pack #004-859

10 Pack #004-860



2.34 mm QC Tool Holder

Single Holder #004-853

3 Pack #004-854

10 Pack #004-855





QC Storage System

#011-219

Craftsmen can now organize work areas and protect tools by utilizing the QC Storage System, featuring colour-coordinating trays and collars for better organization. Collars slide over the tools above the QC Tool Holder. The colour coding system saves time and keeps tools organized.

The trays are set at an angle for easy removal and quick view of graver points. The system of twelve trays holds a total of 120 QC tools (ten per tray) in a compact and structured way. Includes small plastic magnifier for tool identification. Tools not included.

The QC Storage System (#011-219) and the QC Storage Tray Set (#011-384) include one tray in each colour.



Combination Tool Carousel

#011-193

Holds thirty standard tools and gravers in the top tray. The bottom has four removable QC tool trays that each hold ten QC Holders. Store up to seventy tools in this compact carousel.

QC Storage Tray Set

#011-384

With twelve trays in this set, users can easily organize up to ten tools per colour. Each tray includes ten colour coordinated collars that slide over the tools above the QC Tool Holder. Includes small plastic magnifier for tool identification. Tools and carousel not included.



QC Tool Trays

#011-336

Each coloured tray holds ten tools using QC Holders.



1 of 12 colored trays
in this set!

Top View



Handles

Graduated Length QC Handle Set #004-934



The GRS Quick Change tool-holding system continues to grow. As a tool's length decreases from wear or resharpening, the longer handles allow continued full comfort and tool control while extending useful tool life. The handles are made from machined stainless steel and a nearly unbreakable fibre-reinforced thermoplastic. The set includes a sapphire blue acrylic storage tray that fits all GRS tool carousels, and three handles: 51, 57 and 64 mm length.

QC Long Handle, 64 mm #004-931

QC Medium Handle, 57 mm #004-932

QC Short Handle, 51 mm #004-933



GRS QC Hand Handle #004-805



Get ultimate comfort and patented Quick Change capability in this GRS handle to save time. No wrench is required to change gravers with the QC system, so users can switch QC tools or handpieces in seconds. Craftsmen can go from any compatible GRS handpiece to the QC Hand Handle for hand work without delay. Includes 3 QC Tool Holders.



GRS Hand Chuck #004-000

Extremely versatile with a comfortable shape and size, this precision hand chuck holds a wide variety of tools, including many gravers. Its two-jaw chuck is made of hardened and ground steel with a V-notch in each jaw for superior grip.

→ Length: 51 mm

Thermo-Loc[®] Handles #004-800



GRS Thermo-Loc handles feel like wood, but are virtually unbreakable – they can even take the force of a hammer without splitting. The best feature is how they hold gravers, files, and tools. Inside each handle is a formed piece of GRS Thermo-Loc that softens with heat. As soon as the Thermo-Loc core is softened, insert the tool and move it to the desired position. When the Thermo-Loc core returns to room temperature, the tool is secure and ready for use. Set includes four Thermo-Loc core handles, one of each colour: Rosewood, Honey Beige, Pewter, and Dusk.

Multi-Purpose Tool Holder #002-704



Collet chuck holds beading tools, prong pushers, and some gravers. Collet accepts shaft diameters up 3.2 mm.

→ Overall Length: 83 mm

Adjustable Graver Handle Set #004-670



These handles allow hand engravers to adjust the graver length for added comfort and accuracy. Just slide the desired length of graver out of the handle and tighten the lock screws. Set includes three different coloured handles made from aircraft aluminium. Tools not included.

Points & Tips

Stipple, texture, etc.

Heat-Treated Steel Points

These hardened steel points allow users to create custom tools fast. They are easily made into special punches, hammer tools, bead raisers, prong pushers, stipple points, and more. All points are properly hardened and come in economical packages of six.

Short, Thin – 6 Pack #002-031

→ Diameter: 1.8 mm
Length: 38 mm

Short, Thick – 6 Pack #001-624

→ Diameter: 3.0 mm
Length: 38 mm

Long, Thin – 6 Pack #002-118

→ Diameter: 3.3 mm
Length: 76 mm

Ground Point Carbide Blank #022-351



Carbide tool with ground point.

Brass Rod #022-159



This rod can be used as is or shaped to make a custom tool.

Stone Lifter

Ideal for removing and accurately setting small gems and objects. The tip is available in three different sizes. If the tip loses adhesion, simply remove any dust and oil residue with an adhesive film.



Small tip, red #604-010

Medium tip, blue #604-012

Large tip, green #604-014

Burnish Tool #022-346



This special tool, made from solid tungsten carbide, is used for burnish, rub-over, or "Gypsy" stone setting.

→ Size: 2.38 × 2.38 × 48.2 mm

What is "Quick Change"?

The GRS Quick Change, or QC, system adds the ability to switch between gravers and tools easily without having to retighten them. Simply place the tool in a Quick Change Tool Holder and use it with any compatible GRS product.

The QC Tool Holders allow the craftsman to use a graver in the Maestro Handpiece and then quickly switch to the Magnum without having to manually remove, reinsert, tighten, and lock the tool in the handpiece itself. Also, the same graver can be quickly replaced in the Maestro with a different tool in a QC Tool Holder. With the Quick Change Sharpening fixture (page 28), users can easily go between sharpening and working when using a QC Tool Holder.

Beading Tools

Raise beads easily for setting stones or engraving designs.

Beading Tools 2.0

Traditionally beading tools are also used when setting jewellery stones. Busch's new beading tools make this even easier. Note the perfectly shaped, highly polished spherical cap at the tip of the tool and the delicately rounded edge. If you want to get even closer to the action, you can easily shorten the shaft at the breaking point. The clearly legible laser marking shows the beading tool size.

→ Shaft diameter: 2.6 mm

Total length: 60 mm

Shortened length: 50 mm



Busch®
There is no substitute for quality



Diamond Point Stipple Tool

#002-123



Steel shank with a natural diamond lapped to a cone point. For glass and crystal stippling, jewellery texturing, and similar applications.

Threaded Diamond Point Tool for Hammer Action

#002-956



Faceted diamond point creates a bright, sparkling texture on jewellery, which is often called a "laser" finish. Threaded steel shank.

Size / No.	Item No.	
00	#601-813-00B	
01	#601-813-01B	
02	#601-813-02B	
03	#601-813-03B	
04	#601-813-04B	
05	#601-813-05B	
06	#601-813-06B	
07	#601-813-07B	
08	#601-813-08B	
09	#601-813-09B	
10	#601-813-10B	
11	#601-813-11B	
12	#601-813-12B	

Beading Tool Set

#002-812

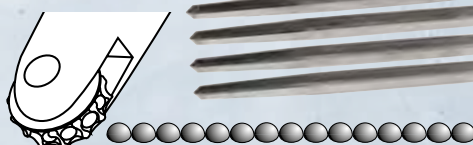


Hardened concave steel tools for forming beads around stones or making dot backgrounds. Set includes twelve beading tools: Size 2, 4, and 6 – 16. Tool #16 makes a 1 mm bead or dot. Tool size increases 0.05 mm.

Millgrain Tool Set

#022-333

These tools create a uniform series of decorative beads as the wheel rolls along the edges of jewellery and other metal items. Set includes six millgrain tools: 5, 7, 8, 9, 10, and 12. Each tool works almost effortlessly in GRS impact handpieces or by hand pressure.



Chasing Hammers

GRS Chasing Hammer Set

#011-472

The GRS Chasing Hammers are made from carefully heat-treated high alloy tool steel. After heat treating, the heads have a rich black oxide colour treatment applied and then each end is beautifully hand polished. The hardwood handles are made from carefully selected wood that is superior to the wood used on lower quality hammers. The combination of balance and fine craftsmanship adds precision and satisfaction to daily work.

Set includes one round and one flat hammer, 46 g.

Also sold individually.

GRS Chasing Hammer, flat

#011-470

GRS Chasing Hammer, round

#011-471



Sam Alfano Chisel Handle

#111-540

Used to hold gravers with a QC Tool Holder for hammer and chisel work.



Learn Old School Hammer & Chisel Engraving DVD

#024-475



With minimal tools, master engraver Sam Alfano teaches old school hammer and chisel engraving. Learn to sharpen chisels by hand and engrave a variety of designs that will give you a solid grounding in this ancient art form. If you want to learn engraving on a budget or simply want to learn the old way, this video is for you. 1 hour 20 minutes.

GRS QC Chasing Tool Holder

#044-220

Add a graver with this QC Tool Holder for hammer and chisel work.



Sam Alfano Hammer & Chisel Complete Kit

#022-588

With minimal tools, master engraver Sam Alfano teaches old-school hammer and chisel engraving. Learn to sharpen chisels by hand and engrave a variety of designs that will give you a solid grounding in this ancient art form. If you want to learn the traditional methods of hammer and chisel engraving, this kit is for you.

Includes:

- 1 Learn Old School Hammer & Chisel Engraving DVD
- 2 GRS Chasing Hammer
- 3 2× Sam Alfano Chisel Handle
- 4 5× QC Tool Holders 3.17 mm, bronze
- 5 #2 GlenSteel tapered flat
#4 GlenSteel tapered flat
#6 GlenSteel tapered flat
#8 GlenSteel tapered flat
- 6 90° GlenSteel Wedge Graver
- 7 2.38 × 101 mm tool steel
- 8 Square practice plates, 51 × 51 mm, mild-carbon steel, five-pack
- 9 2× square practice plates, 51 × 51 mm, half-hard brass, three-pack
- 10 Fine pad on 152 × 19 mm stone
- 11 Double-sided 19 × 101 mm super-fine stone



Alfano Hammer & Chisel Kit

#022-587

If you want to learn the traditional methods of hammer and chisel engraving including sharpening, this kit is for you. DVD sold separately.

Includes:

- 2 GRS Chasing Hammer
- 3 2× Sam Alfano Chisel Handle
- 4 5× bronze QC Tool Holders for 3.17 mm round
- 5 #2 GlenSteel tapered flat
#4 GlenSteel tapered flat
#6 GlenSteel tapered flat
#8 GlenSteel tapered flat
- 6 90° GlenSteel Wedge Graver
- 7 2.38 × 101 mm Tool Steel
- 8 Square practice plates, 51 × 51 mm, mild-carbon steel, five-pack
- 9 2× square practice plates, 51 × 51 mm, half-hard brass, three-pack
- 10 Fine pad on 152 × 19 mm stone
- 11 Double-sided 19 × 101 mm super-fine stone

LEICA® Microscopes

High productivity, low costs

The Leica A60 is a stereomicroscope system that can really boost your productivity. Thanks to Leica's sophisticated precision optics, working with the microscope is significantly faster and more convenient. Low operating and maintenance costs make the Leica A60 an investment that pays off.

Comfort and convenience while working can enhance production quality

Ergonomic design is not just a phrase; it is a prerequisite for increased comfort and convenience while working, more performance capacity and therefore a higher-quality end product. The Leica A60 is optimised for long periods of continuous use, can be used intuitively, and can quickly be tailored to different users.

Ergonomics leads to success

Ergonomically designed workstations have been proven to increase performance and work quality. Leica Microsystems' many years of experience in ergonomics is evident in the Leica A60: its 38° viewing angle is close to a person's natural head posture. The zoom and focus knobs could not be more accessible; users can adjust the rheostat of the focus drive as they wish. The operating elements of the Leica A60 ring illuminator are equally as intuitive and easily accessible for both left and right-handed users.

From a quick overview to the smallest detail

In most cases, components examined under a stereomicroscope during the production process are only a few millimetres in size. However, the entire piece of jewellery is often substantially larger. The Leica A60 offers you a magnification range from 5× to 30×, which enables both a large surface overview and detailed observation with consistent sharpness and without time-consuming refocusing, saving valuable time.

Eagle eye in the millimeter range

The Leica A60's depth of field of up to 13.6 mm is approximately twice that of comparable stereomicroscopes without FusionOptics technology. In practical terms, this means that all areas within a height of up to 13.6 mm are displayed in sharp focus without refocusing. Working with the microscope becomes more comfortable, convenient and efficient.

What is FusionOptics?

Conventional stereomicroscopes have two identical beam paths that reveal a spatial impression of the object. In contrast, Leica Microsystems' innovative FusionOptics technology takes advantage of a neurological phenomenon: the microscope's left beam path has a great depth of field, while the right beam path shows an image with super-high resolution. The human brain then combines the best information from both channels to form an image with a depth of field never achieved before in stereomicroscopes.



Leica® A60 & Acrobat® Adapter Package

#003-658

GRS now offers the Leica A60 for a high-resolution view of hand engraving, stone setting, and jewellery work. Leica FusionOptics provides a greater depth of field for the best optical experience possible.

The Adapter Package includes a Leica A60 microscope and adapter for the GRS Acrobat (previous model). Acrobat Versa Microscope Stand not included.

Optical data

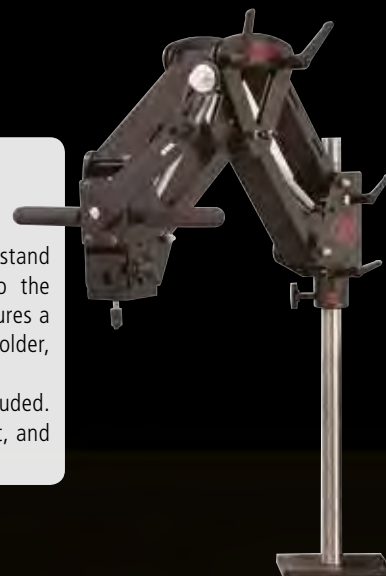
Optical system:	Greenough, with Leica FusionOptics
Convergence angle:	10°
Zoom factor:	6:1
Zoom range:	5× – 30×
Working distance:	122 mm (without illumination)
Viewing angle:	38°
Max. depth of field:	13.6 mm
Eyepieces:	10×/23 B, adjustable, suitable for glasses wearers
Interpupillary distance:	52 – 76 mm
LED ring illuminator service life:	50,000 hours
LED ring illuminator colour temperature:	5,600 K

Acrobat[®] Versa Stand**#003-635**

Long trusted by hand engravers and jewellers, the GRS Acrobat stand has been redesigned with a sleek form particularly suited to the high-powered Leica A60 microscope. The new Acrobat Versa features a rigid frame that makes positioning easy, a magnetic document holder, and ergonomic handles for the best optical experience possible. Mounting base, post, stand, and primary document holder included. Leica A60 microscope, secondary document holder, camera mount, and Optia LED Ring Light sold separately.

**Adapter Kit for Acrobat[®] Classic****#003-599**

This high-quality adapter kit allows owners of the Acrobat Classic stand to attach almost any microscope setup that has a 15.8 mm mounting pin.

**Acrobat[®] Versa & Leica[®] A60 Complete Package****#003-657-220**

Enjoy a top-quality microscope and maximum flexibility with the Acrobat Versa Stand.

The Complete Package includes the Acrobat Versa stand, Leica A60 microscope, Optia LED light and control, mounting base, post, and primary document holder. Secondary document holder and camera mount sold separately.

Leica[®] A60 Complete Headrest Kit**#003-660**

This ergonomic head rest attaches to the Leica A60, enabling you move with the microscope in total comfort.



Leica® A60 with Flex-Arm Stand – F Value Package #003-654

Enjoy the high-resolution view of the Leica A60. Leica's FusionOptics has had a major impact on hand engravers and jewellers. Additional light and depth of field have increased efficiency by limiting the need to adjust the focus on the workpiece. The value package features Leica's flex-arm-style stand, LED light and an 0.63× objective lens with a GRS adapter. A truly top-class package for an artist who wants quality optics on a budget.



Double Document Holder Kit #003-632

With the double document holder kit, the Acrobat Versa can easily be adapted to support a secondary document holder. The Versa was designed with document holders in mind, so you can attach notes, templates, customer invoices or anything else to the 6.35-kg magnet and keep your hands free (not suitable for original Acrobat).



GRS Horizontal F Mount #023-238

This ultra-sturdy solution is an excellent alternative to the clamp-style mount provided with the Leica A60F. Use the screws provided to securely fix the flex-arm stand to the bench top.



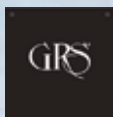
Camera Mount for Leica® A60 #003-728

Attaches to either side of the Acrobat Versa for a lightweight camera-mounting solution. Its RAM ball mounting components enable the camera to be moved into virtually any position. Only available for use with the A60 Complete Headrest Kit. (#003-660).

Leica[®] A60 Objective Lens Adapter #003-727



The Leica A60 was not originally designed to use objective lenses, meaning that traditional offerings only allow a 5:1 zoom ratio with an objective lens. GRS has engineered an objective lens adapter that allows you to get the full value of the 6:1 zoom range Leica intended.



Dust Cover with GRS[®] printed logo #003-729

Protect your microscope from dust with this durable cover.

Leica[®] Objective Lenses

Adding an objective lens increases working distance and optimises the field of view.



0.50× Leica[®] Objective Lens #003-850

Zoom range: 2.5× – 15×
Working distance: 200 mm
Field of view: 90 mm – 15 mm



0.63× Leica[®] Objective Lens #003-863

Zoom range: 3.15× – 18.9×
Working distance: 155 mm
Field of view: 70 mm – 11.7 mm



0.75× Leica[®] Objective Lens #003-875

Zoom range: 3.75× – 22.5×
Working distance: 130 mm
Field of view: 60 mm – 10 mm

Choosing the Right Magnification

Most professional engraving artists agree that magnification can significantly improve the quality of work. Stone setters rely on a microscope for ultimate technical precision, while some hobbyists use lower-powered optics when working metal. Before choosing the best optical aid for you, you should consider what you want your engraving or stone setting work is intended to achieve. The highest-precision work will probably require microscopic magnification to see the finest details. For larger workpieces and some engraving styles, an OptiVISOR or jeweller's loupe will provide sufficient magnification.

These images compare typical magnifications using an OptiVISOR with those of a microscope.



Nickel silver engravable key tag engraved by Jake Newell. Shown at actual size.



Magnified 2.5 times, this image shows what the above key tag would look like through a #5 OptiVISOR (#002-711).



This image is shown at 10 times actual size, which is less than half the maximum magnification of a microscope.

Meiji Microscopes

EMZ-5 for Acrobat® Stand

#003-563NFB

Comes with 10× wide-field eyepieces.

EMZ-5 for Eyeglass Wearers

#003-563NFB-G

Comes with 10× eyepieces for glasses.

→ Numbers Shown Using 10× Eyepieces & 0.5× Lens

Microscope: Binocular

Zoom Ratio: 6.5:1

Zoom Range: 0.7× – 4.5×

Magnification: 3.5× – 22.5×

Field of View: 65,6 – 10,2 mm

Working Distance: 148 mm

Eyepiece Inclination: 45°

Dioptric Adjustment: Dual (+/- 5 diopters)

Extended Range: 2.1× – 270×



GRS Acrobat® Stand for EMZ-5

#003-630

This innovative GRS Acrobat Stand is a truly flexible solution for the EMZ-5 Acrobat Microscope (#003-563NFB). Quickly adjust vertically and horizontally to a variety of workholding situations, or swing the Acrobat Stand to either side when not in use. Set the arm resistance as desired or lock it in position. The built-in headrest reduces neck and back strain.

GRS Ball Pivot Camera Mount for Acrobat® Stand

#003-678

Get a perfect angle of vision for your photographs with this lightweight camera mount. In contrast to older models, the ball pivot camera mount does not lengthen the distance to the point of focus. It is attached to the Acrobat Stand base and can be positioned to the left or the right. Its design means that it can be continuously moved into various positions. Appropriate for all cameras with a ¼-inch screw thread (standard for most cameras).



Eyepieces, Lenses, Accessories

Meiji 10× Eyepieces for Eyeglasses

#003-648



These GRS spectacle-friendly 10× eyepieces are drop-in replacements for the standard Meiji 10× eyepieces. They feature a special extended relief system for a full field of view even while wearing prescription eyeglasses. A rubber ring protects spectacle lenses from being scratched. These special eyepieces are made with the same high-quality Japanese optics that come in the standard Meiji eyepieces.

Meiji 20× Eyepieces

#022-106



Optional high-powered 20× eyepieces for the EMZ-5 Meiji microscope. Sold as a pair.

0.3× Objective Lens

#003-591



Extends the working distance under the microscope to 228 mm.

Utility Shelf

#003-680



This (40.5 × 29 cm) shelf is a great way to add extra space for tools. Made from solid 6.3 mm aluminium with a tough, textured, powdercoated finish, this shelf locks into any position or rotates freely.

Utility Shelf Bracket Kit

#003-686



Mount a Utility Shelf (#003-680) to the side of a bench or any flat surface with this kit.

C-Mount with 0.6× Lens

#003-626



Video cameras with a "C" type lens mount (25.4 mm diameter thread) may be mounted using C-Mount attachments.

Headrest Kit For GRS Stands

#003-584



Headrest reduces neck and back strain. This item is included with the Acrobat Stand, but it is NOT included with the Original Stand.



Protective glass cover

#003-350

Lighting

A variety of illuminate work.

Optia[®] LED Microscope Ring Light, 220 V

#024-290-220



With natural spectrum light and adjustable intensity, this LED ring light is easily added to most microscopes using the three adjustable threads.

Fluorescent Microscope Ring Light 220 V

#022-268T-220



Extra-bright circular fluorescent bulb gives cool, glare-free illumination. Fits GRS/Meiji microscopes and many others with three adjustable threads.

Replacement Ring Bulb

#022-338



Low-Power Optics

Affordable and portable optics for a close-up view.

Headband Magnifier – OptiVISOR



The OptiVISOR helps users see work better. It features ground plastic lenses and an adjustable headband. Includes special kit for changing the position of each lens. We recommend starting out with OptiVISOR #5 for first-time users.

#7 (2.75 power)

#002-712

Replacement Lenses

#002-967

#5 (2.50 Power)

#002-711

Replacement Lenses

#002-966

#3 (1.75 Power)

#002-710

Replacement Lenses

#002-965

Optiloupe-Kit

#022-119

This kit adds an extra 2.5× to the OptiVISOR. Swings away when desired.



Layout Tools

Leave the guesswork out of layout and keep it precise with these tools.

Bow Compass & Divider

#022-156

Use this rugged and dependable Starrett product for design layouts, borders, circles, and distances between centres on rings, barrels, receivers, and more.

→ Length 127 mm



Scribe Kit

#022-584

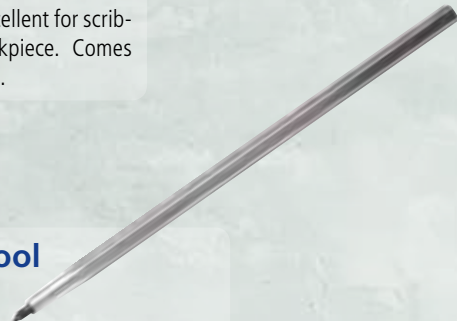
This scribe kit is perfect for scrimshaw! The metal and aluminium handle with a removable point is excellent for scribing layouts on a workpiece. Comes with six identical points.



Scribe Tool

#022-140

The tip makes stipple design transfer and marking layouts quick and easy.



Top-Quality AlexTools Compass

#023-118



This high-quality compass, aimed at goldsmiths, stone setters, engravers and any other users with strict quality requirements, offers a winning combination of user-friendly operation and ultra-high precision. The surface coating guarantees glare-free use, while its solid legs ensure accurate control without any lateral bending. An Allen key supplied with the compass can be used to adjust the replaceable 1.6-mm carbide tips to meet your requirements. Length: 85 mm, ideally suited to working under a microscope. Supplied in a handy storage box which also serves as a tool holder.

GraphGear 500 Pencil

#024-007

Perfect for layout and design that requires precision and light lines. Mechanical, 0.5 mm.



Lubricants

Super Lube Synthetic Lubricant with Teflon

#022-162

Teflon is combined with a synthetic lubricant to form this clear, light grease for superior friction reducing properties. Works up to 260° C. Great with QC Tool Holders, Bench-Mate, and all GRS vises. Tube contains 14 g.



TAP Magic Graver Lube Kit

#004-638

Extends graver life and brightens cuts. Users will sharpen gravers less often and work will look better. Includes sealable sponge pad. Contains 125 g fluid lubricant.



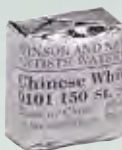
Design Transfer

Use these compounds and tools to transfer designs.



Moulding Clay
#022-290

Reduce glare with this clay by gently applying pressure to the workpiece surface. Hold delicate scrimshaw pieces with this clay and the Workholding Plate Assembly (#003-698). Ca. 450 g.



Chinese White
#002-708

Chinese White puts a dull water-based film on most surfaces for drawing or tracing designs easily. Refer to James Meek's The Art of Engraving (#002-164, see page 58) for tips.



Transfer Wax
#002-709

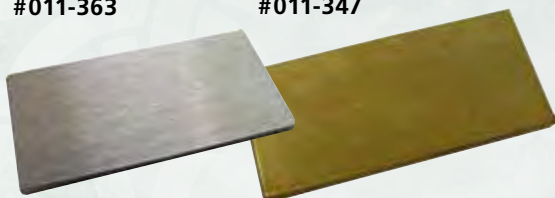
Sam Alfano's Transfer Wax is his own blend of pure beeswax, mutton tallow, emu oil, and other oils and waxes. Sam has used it daily for layouts, replicating, and reversing engraved designs.

Practice Plates

Use these quality materials to practice engraving and stone setting. Each material performs predictably and consistently for faster improvements in work. Keep plates oiled to prevent rust. Half-hard brass works like 10-karat gold, and Cronite is highly polished.

Practice Plates 25.4 × 50.8 mm

416 Stainless Steel **Half-Hard Brass**
#011-363 #011-347



Practice Plates 50.8 × 101.6 mm

Cronite
#022-907

Copper
#003-361

This copper plate is perfect for practicing Western-style engraving as well as scrolls, lettering, shading and more.



Practice Plates 50.8 × 50.8 mm



Cronite, Single
#022-287



**Mild Carbon Steel,
5 Pack**
#001-638



**Half-Hard Brass,
3 Pack**
#001-804



Copper, 3 Pack
#003-594

Practice Jewellery

From rings to watch bezels to practice stones for setting techniques, try out new methods for jewellery work with these practice pieces.

Brass Practice Ring, Flat with Chamfered Edge

Flat surface and chamfered edge.

OD: 22.2 mm

ID: 16 mm



Brass Ring, 4.5 mm wide
#004-490



Brass Ring, 5 mm wide
#004-412

0.5 mm wider surface, same OD & ID!

Brass Practice Ring, Dome

Slightly domed surface.

OD: 18.8 mm

ID: 15.7 mm



Brass Ring, single
#004-300
5.6 mm wide



Brass Ring, 5 pack
#001-953
5.6 mm wide

12-Sided Brass Practice Ring

Available with or without 6 pre-drilled holes for 5 mm stones.

24 mm OD and 6.8 mm surface width



Brass, no holes
#011-389



**Brass, 6 holes
for 5 mm stones**
#004-491

Channel Practice Ring

Practice channel setting 3 mm square stones or round stones.

22.6 mm OD and 4.8 mm surface width



Brass, 3 mm square
#004-401



**Brass, 20 holes
for 3 mm round**
#004-489

Pavé Practice Ring

1.5 mm / 2 row holes. Flat surface and chamfered edge.

20.8 mm OD and 7 mm surface width



1.5 mm stone holes, brass
#011-379

Pavé Triangle Practice Ring

Geometric practice ring perfect for pavé applications. Available with or without 6 pre-drilled holes for 2.4 mm stones on each triangular face.

Brass with 25 mm OD and 10 mm surface width



Brass, no holes
#011-388



**Brass, 2.4 mm
Stone hole**
#011-366

Practice Stones

Clear, Cubic Zirconia Stones



In a variety of sizes are great for practicing stone setting techniques. Each comes in a package of 20.

●	1.5 mm Round	20 Pack	#023-005
●	2.0 mm Round	20 Pack	#023-006
●	2.4 mm Round	20 Pack	#023-007
●	3.0 mm Round	20 Pack	#023-008
■	3.0 mm Square	20 Pack	#023-004
●	4.0 mm Round	20 Pack	#023-009
●	5.0 mm Round	20 Pack	#023-010

Key Fobs

**For practice or project.
Makes a great personal gift.**

Brass & Nickel Silver Key Tags

These tags are made of 1.27 mm thick brass or nickel silver for another fast and easy engraving project. Give them as a gift or make a name tag for pets – the possibilities are endless! Available in two shapes. Includes split ring.



Style 3, Brass

Rounded Rectangle: 25.4 × 38.1 mm

#003-304



Style 3, Nickel Silver

Rounded Rectangle: 25.4 × 38.1 mm

#003-305



Style 4, Brass

Circle: 29.2 mm diameter

#003-302



Style 4, Nickel Silver

Circle: 29.2 mm diameter

#003-303

Stainless Steel Key Fobs

These stainless steel fobs are made from annealed 400 series stainless steel for a fast and fun engraving or stone setting project. They make great personal gifts. Made from extra thick 1.9 mm stainless steel with a fine brush finish. Includes split ring.



Style 1, oval

45.7 mm H

#003-300



Style 2, rounded teardrop

45.7 mm H

#003-301



Style 3, rounded rectangle

25.4 × 38 mm

#003-334



Style 4, round

29.2 mm diameter

#003-335

Practice

Self-Study Kit, with Books

#022-873



This is an effective training kit for serious engravers that contains precisely applied and highly-detailed scroll patterns. It will allow users to execute some of Ron's "Rules for Beauty" in metal and experience master-level work at the same time.

Includes the following material for engraving:

- 2 designs from book #022-199-H on steel practice plates
- 2 designs from book #022-843-H on steel practice plates
- 2 designs not found in his books on steel practice plates
- 1 Buck 525 Knife (#019-001) with Smith design
- 1 steel practice plate with same pattern as knife
- Prints of each pattern shown in three different sizes
- Includes Self-Study Kit, plus Advanced Drawing of Scrolls (#022-843-H) and Drawing & Understanding Scroll Designs (#022-199-H).

Script Letter Transfer Sheet

#022-200-24

Aa
actual size

These clear sheets can be used two ways: transfer the characters directly onto surfaces by rubbing with a pencil, or photocopy to enlarge or reduce the letters as needed. Each sheet has several full alphabet sets, plus numbers and special characters.



ScrollMaster Template System

#022-196

This template system quickly teaches new artists basic scroll design and saves time for professionals. The three templates have 20 scroll sizes, plus dozens of inner and outer elements and leaves. Includes instructions, mechanical pencil, and a fine line pen. Tempered plastic templates can be used on flat or curved surfaces.



Blank Stencil Sheets

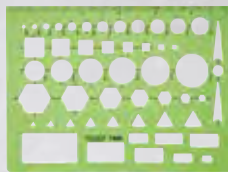
#022-197P



Self-adhesive 216 × 279 mm plastic sheets let users photocopy patterns for easy transferring. Cut right through the sheet by following the lines.

Geometric Template

#022-890



Flexible template has circles, squares, hexagons, triangles, and rectangles. Works on flat and curved surfaces.

Layout Template no. T41

#022-049



Flexible template with squares, triangles, hexagons, and circles in 10 different sizes. Nine other designs help users lay out stone setting and engraving patterns. Works on flat and curved surfaces.

Books

From educational to collectible, these books are the most popular.

**Ornate Scrollwork & Ornamental Design**

#024-496

100 pages containing over 300 complex ornamental designs designed by master hand engraver Sam Alfano. Includes banners, frames, rule lines, flourishes, corner designs, stationery headers, labels and more.

Advanced Drawing of Scrolls

by Ron Smith

#022-843-H



This is one of the most comprehensive studies in the anatomy of leaf and spiral structures. This compilation of forty years of experience is an adventure into beauty and grace that will awaken creative abilities. Second edition, 2007. Hardcover, with dust jacket. 231 pages.

The Art of Engraving

by James B. Meek

#002-164



Find complete instruction to the art of engraving in this comprehensive book written for beginners and experienced engravers. It contains 1,378 examples of design, layout, photography, and engraving. Hardcover, 196 pages.

**Pavé by Alexander**

#023-114

Alexander Sidorov has published an attractive new volume of photos showing his diamond-setting techniques. The large high-resolution colour photos feature a variety of setting techniques, with some even illustrated in detail, step by step. Hardcover, 184 pages.

The Diamond Setting Manual: Procedures & Techniques

by Robert Wooding

#022-531



Divided into 17 units based on actual cases, each unit includes step-by-step instructions describing how to set diamonds into particular mountings. Recommended for professionals or students under the supervision of a qualified instructor. Spiral bound, 230 pages.

Basic Engraving

by Benno Heune

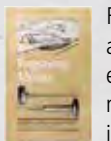
#022-192



Every engraver will gain important knowledge from this useful book, which presents the basics in an easy-to-understand format. Spiral bound 45 pages.

Engraving Metals

#022-570

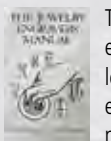


Find out more about engraving tools and their use, exercises for basic engraving, precious metal engraving, monogram engraving, steel engraving and etching techniques. Paperback, 160 pages. Only available in English.

The Jewelry Engravers Manual

by R. Allen Hardy and John J. Bowman

#022-202



This book concentrates on jewellery engraving, with a special emphasis on lettering, monogramming, and ring engraving. Use of tools and proper techniques are clearly described so jewellery artists can learn to hand engrave. Paperback, 143 pages.

Great Book of Celtic Patterns

#023-083



Not just another simple pattern book, Great Book of Celtic Patterns delves into the details of Celtic patterns with ten chapters on the subject. The book features over 180 pages on line and knot patterns, complete with colour examples, grids, and more. From the origins of Celtic knots to step-by-step guides on creating patterns, this book will leave artists inspired and ready to create Celtic patterns for new projects. Paperback, 189 pages.

Firearms Engraving Theory and Design

by George Sherwood

#022-198



Learn to draw proper, flowing designs for any firearm by understanding good designs with this guide. Paperback, 38 pages.

Decorative Flower and Leaf Designs

#023-071



An attractive selection of illustrations for decorating surfaces, including textiles and other materials. None of the images are copyright protected. Printed in black for simple transmission, copying or scanning. Paperback, 48 pages. Only available in English.

Drawing & Understanding Scroll Designs

by Ron Smith

#022-199-H



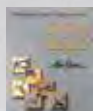
Written by a professional engraver, this book helps anyone design outstanding and pleasing scrolls. This book is written for artists, engravers, and collectors of engraved work. Hardcover, 47 pages.

Florid Victorian Ornament

#002-720



Paperback, 102 pages. Only available in English.



Setting Repair

by Alan Revere

#024-083

Paperback, 143 pages.



Firmo & Francesca Fracassi: Master Engravers

by Stephen Lamboy & Elena Micheli-Lamboy

#023-069

Hardcover, 236 pages.



Il Grande Libro Delle Incisioni

by Marco E. Nobili

#022-845

Italian and English text. Hardcover, 587 pages.

Books for Stone Setting

by Robert R. Wooding



Diamond Setting. The Professional Approach

#002-625

Includes a wide variety of stone setting. Hardcover, 178 pages.



Bead Setting Diamonds. With Pavé Applications

#002-626

Concentrates on bead and bright cut setting. Hardcover, 192 pages.



Channel Setting Diamonds. With illustrated Procedures

#002-627

Specializes in channel setting. Hardcover, 136 pages.

Set of all 3 Wooding books. Also sold separately.

#002-628

DVDs

Graver sharpening and general engraving methods – all available on DVD.

DVDs: Metal Engraving



Engraving the Meek Squirrel

with Jake Newell

#023-111

Follow professional hand-engraving artist Jake Newell from start to finish on this special bulino project. Gain a better understanding of photorealistic engraving as he shares with you his tips and tricks and tells you how to avoid common mistakes. DVD with a printed image guide. 2 hours 4 minutes.



Engraving the Meek Squirrel DVD & image guide + the Meek Squirrel kit

#023-503

Engraving the Meek Squirrel with Jake Newell DVD and image guide (023-111) comes as a package with the Meek Squirrel kit (#030-609), allowing you to engrave the lasered key fob provided under Jake's guidance.



The Expert's Guide to Graver Sharpening

by Sam Alfano

#022-375

This excellent video shows how to sharpen tools that are easier to control and produce finer cuts. Benefit from the expertise of Sam Alfano by ordering this DVD today. 1 hour, 7 minutes.



Easy Step-by-Step Graver Sharpening

#011-484

This video teaches graver and tool sharpening in a simple and effective way. Each tool is first sharpened and then demonstrated in proper use, including metal engraving and stone setting. Everyone using gravers, chisels, and similar tools will save time, end frustration, and produce finer results with this training. 2 hours.



Engraving Scrollwork Start to Finish

by Sam Alfano

#023-502

Watch through Sam Alfano's microscope as he takes you through the whole of his finely shaded scroll engraving process. The techniques Sam demonstrates here on a stainless-steel knife handle are the same ones he uses to engrave firearms, jewellery and many other articles. Thirteen chapters cover work-holding, layout, cutting the scroll backbones, mirror transfers, rotary-burr background removal, stippling, shading and cross-hatching, and blackening the finished product. Over one hour of high-end engraving techniques. 1 hour 15 minutes.



Learn Old School Hammer & Chisel Engraving DVD

#024-475

With minimal tools, master engraver Sam Alfano teaches old school hammer and chisel engraving. Learn to sharpen chisels by hand and engrave a variety of designs that will give you a solid grounding in this ancient art form. If you want to learn engraving on a budget or simply want to learn the old way, this video is for you. 1 hour 20 minutes.



Engraving Methods & Techniques

by Don Glaser

#011-483

This two-part set puts years of engraving experience into a 4-hour presentation. Look "over his shoulder" while the instructor teaches. Three of the world's most popular engraving methods are shown: Hand Engraving, Chasing Hammer Engraving, and Power-Assisted Hand Engraving. 4 hours.

Wood, Western & Scrimshaw

**Wood Finishing**

by Bill Janney

#024-012

Learn step-by-step instructions on the process of how to finish a gun stock. This technique can also be applied to other wood projects.

1 hour, 7 minutes.

**Beginning Scrimshaw**

by Sandra Brady

#023-104

Learn about materials, scribe sharpening, and much more. A must have for any professional or enthusiast.

2 hours, 55 minutes.

**Carving Scrolls**

by Bill Janney

#022-932

This 2-disc instructional DVD set provides step-by-step details on the art of carving scrolls. Stencils are also included to apply patterns used.

2 hours, 2 minutes.

Layout & Design

The Essential Guide to Drawing Scrolls

#023-103



Watch and learn as Sam Alfano unravels the mystery of designing ornamental scrollwork. This video includes chapters on basic, intermediate, and advanced scroll design, point errors, and leaf foldovers. Learn variation in scroll elements to make designs more interesting while achieving a proportional balance. Avoid common design errors and learn to shade for a rich, three-dimensional look.

1 hour, 20 minutes.

**AlfanoArt Monogram System**

by Sam Alfano

#023-109

The AlfanoArt Monogram System was developed to create beautiful script monograms using a computer. Designed by a hand engraver for hand engravers, this system is perfect for beginners and advanced professionals alike. Speed up the learning process by viewing Sam's online tutorials. You need either Adobe Illustrator, CorelDRAW or another vector-editing software to use this system.

**Lettering Techniques for Hand Engravers**

by Sam Alfano

#023-116

Learn the art of engraved lettering with Sam Alfano and quickly discover the pleasure – and profit – that can be derived from your newly acquired skill. Customers who get the chance to see the difference between machine and hand engraving are often more willing to pay for the quality and skill required to create fine hand-engraved lettering. So what are you waiting for? Start creating beautiful hand-engraved lettering today.

Here is an overview of the 10 chapters:

- Introduction
- Engraver's Script
- Brightcut Script
- Wiggled Block Lettering
- Layout
- Stippled Script
- Ribbon Cut Monogram
- Roman Lettering
- Roman Variations
- Leaf Script
- There are also dozens of tips and tricks.

Jewellery & Stone Setting

**The Art of Setting Princess Cuts**

#022-922

This video presented by Blaine Lewis features extreme magnification, 3D animation, and hundreds of tips demonstrating safe and efficient techniques for setting princess-cut and fancy-cut stones into both common and V-prong heads. An assortment of practice mountings and CZ stones are included to learn new prong-setting techniques without fear of damaging valuable jewellery. Three essential burs for these bearing-cutting procedures are also included.

2 hours, 11 minutes.

**Bezel & Flush Setting**

#022-548

Master jeweller Blaine Lewis shows bezel and flush setting with diamonds and coloured stones using microscopic video and animation techniques to transfer his expertise. It is so clearly presented, it is like being in a live classroom. Mountings, stones, and tools to actually practice the procedures shown in the DVD are part of the package. Includes 1 DVD, 2 practice mountings, 2 sets of practice stones, 1 GRS hard steel point, bur-nisher, and templates.

2 hours, 14 minutes.

**Successful Jewellery Engraving**

#022-855

Sam Alfano provides this instructional video designed to get artists up to speed quickly in the jewellery engraving field. Learn basic to advanced techniques that put jewellery artists in demand with local stores and manufacturers. Bright cut leaf borders are always in demand, but it does not stop there. Learn high-end techniques of relief engraving, sculpting, and more. The two hours of close-up video focuses on ring engraving. Five Chapters, including: Running Leaf Border, Lumesque Scrollwork, Relief Engraving, Sculpting Scrolls & Leaves, Nick & Round Border. 2 hours.

**Diamond Setting Bead & Bright Cut**

#011-482

Don Glaser presents how to drill and size stone seats, raise each bead, and make final bright cuts. These skills are regarded by jewellers as a necessary part of advanced bench work. 2 hours.

**Up-Close with Sam Alfano**

#011-381

These eight special stone setting and engraving demos are amazing! A fast-paced, fun, and informative hour with master engraver Sam Alfano provides instructions for different stone setting and engraving techniques. 1 hour.

Dealer Directory

Find your dealer within Europe, Russia & Northern Africa:

Austria 1:

Felber's Nachfolger

Siebensterngasse 30
1070 Vienna/Austria
Phone +43 1 523 24 73-0, Fax +43 1523 24 73-18
www.j-felber.at

Austria 2:

AuruTec Schmuck- und Uhrentechnik Baumgartner KG

Auergasse 9
6170 Zirl/Austria
Phone +43 664 535 6770
www.j-felber.at

Belgium:

Alexandre BVBA

Appelmansstraat 25-27
Empire Shopping Center
2018 Antwerp/Belgium
Phone +32 3 213 00 39, Fax +32 3 213 31 40
www.alexandreschool.com

Cyprus:

B.J.P – Panagiotidou Elli & Sia Epe

Villara 1
54625 Thessaloniki/Greece
Phone +30 2310555270, Fax +30 23105 27708
www.bjp.gr

Czech Republic:

Advantage-fl.cz s.r.o.

Soukenicka 11
11000 Prague 1/Czech Republic
Phone +420 222 310 298
www.advantage-fl.cz

Denmark:

Aktiv Guld A/S

Vallensbækvej 46
2625 Vallensbæk/Denmark
Phone +45 43 66 20 00, Fax +45 43 66 20 01
www.aktivguld.com

Finland:

K.A. Rasmussen Oy

Etelaranta 14
00130 Helsinki/Finland
Phone +358 10 337 50 00, Fax +358 9 2764 2710
www.rasmussen.fi

France 1:

Tena Butty

116, Chemin de Mialouze
26130 Montsegur Sur Lauzon/France
Phone +33 475 98 10 22, Fax +33 475 98 16 96
www.tena-buty.com

France 2:

TBRP Paris (Pouget Pellerin, Robur)

15, rue de Montmorency
75003 Paris/France
Phone +33 1 42 74 44 11, Fax. +33 1 42 74 55 12
www.pouget-pellerin.com
www.robur-fr.com

France 3:

Schwartzmann Fisseau Cochot

12 rue Rene Payot
25503 Morteau/France
Phone +33 381 67 18 34, Fax +33 381 67 37 13
www.schwartzmann.com

Germany 1:

Rudolf Flume Technik GmbH

Hachestrasse 66
45127 Essen/Germany
Phone +49 201 1899 0, Fax +49 201 1899 100
www.flume.de

Germany 2:

Horbach GmbH

Hauptstrasse 139 A
55743 Idar-Oberstein/Germany
Phone +49 6781 458 97-0, Fax +49 6781 458 97-29
www.horbach-technik.de

Greece:

B.J.P – Panagiotidou Elli & Sia Epe

Villara 1
54625 Thessaloniki/Greece
Phone +30 23105 55270, Fax +30 23105 27708
www.bjp.gr

Iceland:

14K-Heildsala

Dalvegi 10–14
201 Kopavogur/Iceland
Phone +354 511 0014
www.14k.is

Ireland:

Betts Metal Sales Limited

49-63 Spencer Street
Birmingham, B18 6DE/England
Phone +44 121 233 2413
www.bettsmetalsales.com

Italy 1:

Luigi Dal Trozzo S.A.S.

Via Claudio Treves 26
20090 Vimodrone/Italy
Phone +39 02 2885871, Fax +39 02 2870812
www.luigidaltrozzo.it

Italy 2:

Garbarino & Titonel srl

Via del Lavoro 3
15048 Valenza/Italy
Phone +39 0131 924 264
Fax +39 0131 945 867
www.garbarinotitonel.com

Netherlands:

Bijou Moderne B.V.

Edisonlaan 36-38
2665 JC Bleiswijk/Netherlands
Phone +31 10 529 66 00, Fax +31 10 529 00 88
www.bijoumoderne.nl

Norway:

K.A. Rasmussen AS

Postboks 4455
2326 Hamar/Norway
Phone +47 625 12 710
www.karasmussen.no

Poland:

W. Kociuba S.J.

ul. Rakowicka 1
31-511 Krakow/Poland
Phone +48 12 430 36 79, Fax +48 12 421 05 73 ext. 21
www.wkociuba.pl

Portugal:

Maquinouro LDA

Rua Engenheiro Adelino Amaro da Costa 1140/44
4420-005 Gondomar/Portugal
Phone +351 22 483 55 51
Fax +351 22 464 55 69
www.maquinouro.pt

Russia:

Jewellery Air

Ul. Bumazhnaya, 17 / 109
190020 St. Petersburg/Russia
Phone +7 495 16 28 477
www.jewelleryair.com

Slovakia:

Advantage-fl.cz s.r.o.

Soukenicka 11
11000 Prague 1/Czech Republic
Phone +420 222 310 298
www.advantage-fl.cz

Spain :

Chamorro y Moreno, S.A

C/ Isla de Sicilia
1 - 3º B, Edificio Guadalcanal
28034 Madrid/Spain
Phone +34 91 315 20 49, Fax +34 91 733 52 04
www.comrashop.es

Sweden 1:

Sargenta AB

Singelgatan 6B
212 28 Malmö/Sweden
Phone +46 401 26 550
Fax +46 401 22 530
www.sargenta.se

Sweden 2:

Aktiv Guld AB

Vallensbækvej 46
2625 Vallensbæk/Denmark
Phone +46 22 27 80 100, Fax +45 43 66 20 01
www.aktivguld.com

Switzerland:

Artsupport GmbH

Glattalstrasse 222
8153 Rumlang/Switzerland
Phone +41 44 818 18 18, Fax +41 44 818 18 48
www.artsupport.ch

United Kingdom 1:

Betts Metal Sales Limited

49-63 Spencer Street
Birmingham, B18 6DE/England
Phone +44 121 233 2413
www.bettsmetalsales.com

United Kingdom 2:

Cooksongold

59-83 Vittoria Street
Birmingham, B1 3NZ /England
Phone +44 345 100 1122
www.cooksongold.com

Other countries

Albania, Algeria, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Estonia, Hungary, Latvia, Libya, Lithuania, Luxembourg, Macedonia, Malta, Mauretania, Moldova, Montenegro, Morocco, Romania, Serbia, Slovenia, Tunisia, Turkey, Ukraine:

Artsupport GmbH, Glattalstrasse 222, 8153 Rumlang/Switzerland, Phone +41 44 818 18 18, Fax +41 44 818 18 48, www.artsupport.ch, E-Mail: info@artsupport.ch

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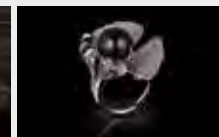
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