

The Timeless Value of Rotary Engraving



Rotary Engraving Remains a Strategic Technology for Your Business

The engraving industry is a diverse marketplace comprised primarily of small business owners serving their local communities. For many years, rotary engraving has been the foundation for most businesses in this market, and while the technology is mature, it continues to be embraced as the preferred production platform industry wide.

There are many reasons for rotary engraving's continued popularity. While newer technologies such as laser engraving provide more detailed reliefs for applications involving photographic images and dimensional graphics, only rotary engraving delivers the durability required for permanent results and the versatility with respect to materials that many applications require.

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What is Rotary Engraving?

Rotary and diamond drag engraving form a design by cutting into a rigid material. This has been the preferred method for creating name badges, permanent signage, industrial I.D. tags and trophy plaques. Rotary engraving allows for deeper engraving into materials, which creates a long-lasting finished product. Also, rotary engraving allows a wide variety of materials to be used with one machine, without the need for air filtration. Within rotary engraving, there are different types of workflow techniques. The basic two are as follows:

- Nose cone engraving
- Diamond drag or diamond scribe

Nose cone engraving uses a Z axis movement to glide the spindle on the surface of the material, adjusting to any small slope or contour on the material's surface. When using nose cone engraving, the tool's depth is set by exposing the tool through and out of the bottom of the nose cone. This type of engraving is for cutting away material such as plastics, acrylics, woods and foam board.

Diamond drag or diamond scribe uses a diamond tipped tool to scratch the surface of the material. This method creates an attractive result on metal. Diamond drag is ideal for industrial I.D. tags, trophy plates and gift items. A classic diamond drag application utilizes brass material that has been coated with a color lacquer finish such as black. The diamond scratches through the lacquer into the brass background leaving a bright, two-color contrasting engraved image.



Diamond drag or diamond scribe engraving



Nose cone engraving

Applications for Rotary Engraving

The following demonstrates the versatility of rotary engravers.

Application	Engraving Type	Material
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Simple Outdoor Sign	Rotary	Plastic, acrylic, wood, and foam board
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Electrical Control Panels	Rotary	Plastic
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Name Tags	Rotary	Plastic
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Gift Items	Diamond Drag	Metal (stainless steel, aluminum, brass)
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Asset and Industrial Tags	Diamond Drag	Metal (stainless steel, aluminum, brass)
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Trophies and Awards	Diamond Drag	Metal, (lacquered brass, stainless steel, aluminum, brass)
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Return on Investment

Return on investment is very important, especially for small businesses looking to maximize the profitability of each job. Consider these examples below that demonstrate just how profitable rotary engraving can be.

NAME BADGES 3x1 IN. (76 x 25 MM.) (ORDER OF 50)	
Cost of engraving stock & magnet fastener	\$80.00
Labor (15 minutes to design and 50 minutes of engraving)	\$9.66
Total Cost	\$89.66
Suggested Retail	\$349.00
Profit	\$259.34

SILVER TRAY 7x10 IN. (178 x 254 MM.) OVAL	
Cost of silver plated tray	\$10.00
Labor (10 minutes to design and 10 minutes of engraving)	\$5.66
Total Cost	\$15.66
Suggested Retail	\$45.00



Sample Application: How to create name badges with text substitution

Working with rotary engravers is easy. The following workflow outlines the simple steps required for one of the most common engraving applications, a series of name badges created from a template. This application was created using a Roland EGX engraver and EngraveLab Foundation for Roland design software.



1. Make plate the size of material.
2. Draw outline of badge.
3. Create text within a shape (If the text object represents a company name, then type "Company name").
4. Select the text object, and then choose from Layout menu >> Templates >> Set Template.
5. The Set Template dialog will open. Click Text and then OK.
6. Create a new workspace. From a new workspace, open the file via Layout menu >> Templates >> Run.
7. When the file is loaded, the template object will already be populated (e.g., the current date for a Date template), a dialog will query for additional information.
8. Create a pattern of the badges, select all objects. Choose from Layout menu >> Array
9. Select grid array style. Input desired spacing in between badges, and desired number of copies.
10. The file may now be output to device.

The Roland Solution

Roland rotary engravers are based on the company's advanced vector-based technology, which is proven in the marketplace and renowned for its precision. Roland offers several rotary engravers at different price points to serve the awards and recognition market.

	EGX-20	EGX-30A	EGX-350	EGX-400	EGX-600
Engraving Speed	Up to 0.6 in/sec	Up to 1.9 in/sec	Up to 2.4 in/sec	Up to 3.9 in/sec	Up to 3.9 in/sec
Max Work Area	8x6x1.25 in. (220x170x31.8 mm)	12x8.06 in. (305 x 205 mm)	12x9.1x1.6 in. (305 x 230 x 40 mm)	16x12x1.5 in. (407x 305 x 42.5 mm)	24x16x1.5 in. (610 x 407x 42.5 mm)
MSRP	\$2,995	\$3,995	\$5,995	\$10,995	\$13,995
					

These devices vary from small, entry-level models to larger, powerful production solutions for higher-volume environments.

To support its engraving products, Roland offers EngraveLab Foundation for Roland, an easy-to-use design and production software that is fully compatible with all Roland EGX engraving machines, including the EGX-20, EGX-30A, EGX-350 and EGX Pro (400/600) series.



Featuring all the tools needed to operate a successful engraving business, EngraveLab Foundation for Roland can be paired with an EGX engraver to produce custom awards, trophies, name tags, badges, jewelry, giftware and simple two-dimensional engraved signs, all in a streamlined workflow.

EngraveLab Foundation for Roland - Main Features

65+ Import/Export Filters - Supports industry-standard file formats and also imports stroke width. Import filters include EPS, AutoCAD DXF, CMX, GenericCAD, DWG, HPGL / DMPL, PLT, TIF, JPG, BMP, SCV, WMF, WPG, PRN, PCD, PCX, GIF, FS, and more.

1,100 Fonts & 5,000+ Clipart Images - Thousands of options are available and easy to produce. The library also supports

Windows TrueType fonts, Adobe fonts and Corel WFN fonts.

WYSIWYG Text Compose - More than 100 engraving fonts are available. Simply type text on screen and edit its properties (font, style, height, kerning, etc.).

Edit Fast & Easy - Flexible node editing tools for vectorized graphics.

EngraveLab Expert - Advanced Features

In addition to EngraveLab Foundation for Roland, Roland offers EngraveLab Expert, a high-level professional software package with a host of additional features and upgrades for more complex applications, including the production of Braille and pictographic signage that meets the requirements of the Americans with Disabilities Act (ADA).

Fill Routines - Automated fill routines, including s-sweep, line sweep, spiral and island fills add another dimension to your text, logos and artwork.

Block & Shape Nesting - Nesting your work optimizes the efficient use of space and materials.

Badges & Serialization - The Badges feature makes text substitution and serialization a snap.

Braille Translator - Convert text into Grade 2 Braille with a click of the mouse. The Braille Drill tool automatically locates individual dots and drills to a pre-determined depth.

Case Study: Virtuoso Graphics, Thomas Wink

Getting started in engraving is easy with the right tools, especially if you already operate a graphic service business. The following profile of a Roland EGX customer demonstrates the versatility of the technology and its ability to help small business owners branch out into profitable new markets.



Virtuoso Engraving with the Roland EGX-600

Virtuoso Graphics owner Thomas Wink likes to be able to say “Yes” when a customer asks “Can you do this?” Virtuoso Graphics is located in Houston, Texas and is known for creating eye-catching printed graphics for its clients.

Virtuoso caters primarily to corporate clients, including hospitals, corporations, restaurants, and libraries and small businesses.

“We had been getting lots of requests for engraving services,” said Wink. “I just hated having to send that stuff out.” To resolve his dilemma, Wink invested in the Roland EGX-600 benchtop engraving machine.

“The EGX has been an excellent investment. The capability it provides definitely answers a need for us and gives us more ways to say yes to our customers.”

Virtuoso already trusted Roland’s line of digital printers for their sign work. “Roland’s products are low maintenance, easy to use and the performance is outstanding,” said Wink. “I went ahead and took the plunge.”

One particular job got Wink motivated to make his purchase. A client wanted their logo on the black aluminum they use to create Texas-style BBQ smoker grills. “With the heat, decals wouldn’t work,” added Wink. “Engraving was the perfect solution.”

Using the EGX’s diamond tip to engrave the company’s logo into the black aluminum exterior of the smokers, the engraving image showed up as silver on black, highlighting the design. “Our client was really pleased with the way the engraving popped visually,” said Wink.



Since the machine arrived, Wink has been busy with engraving directional and room signage. He enjoys the artistry he can employ in his engraving, even when developing something as simple as a nameplate.

Wink typically engraves in acrylics, aluminum and plastic. “Get noticed is our slogan,” he added. “Customers can choose from a variety of substrates at our location and we can help them take their engraving projects one step further.”

In addition to signage, Virtuoso also produces a variety of corporate and sports awards on their engraver. One style that Wink favors begins with a one-inch-thick piece of clear acrylic sized to 5 by 7 inches. He engraves the award surface with a mirror image behind it, creating a rich effect.

With engraving capability onsite, Virtuoso can offer faster turnaround times than many of its competitors. The EGX-600 is made to handle high-speed work and has a generous work area of 24 inches by 16 inches, allowing Wink to rapidly execute production of multiple item projects, such as nameplates and nametags. “I can run 15 or 100 nametags on the EGX and still turn them out in a day. The setup is easy and it saves both my time and my client’s time,” he added.

Conclusion

Rotary engraving remains one of the most versatile production platforms for customizing awards, gifts, accessories, promotional items and consumer and industrial products - and one of the easiest technologies to master. Not only is rotary engraving proven in the marketplace, but its precision and durability are unrivaled. It is a staple for most successful engraving businesses and a valuable resource for any newcomer to the market looking to develop a broad, diversified and profitable product line.

For more information on Roland rotary engravers, visit www.rolanddga.com/engravers.



Roland DGA - A Worldwide Leader

Founded in 1981, Roland DG is a leading worldwide manufacturer of precision digital devices, including best-selling wide format inkjets, milling and engraving machines, vinyl cutters, 3D scanners, and photo impact printers. Built on 25 years of precision milling innovation, Roland milling machines combine superior performance with legendary Roland reliability. Tens of thousands of loyal Roland users in more than 150 countries rely on Roland's unmatched customer service and support. As a company, Roland DGA has earned ISO 9001:2008 certification, which, in combination with parent company Roland DG's

ISO 9001:2008 and 14001 certifications, promotes consistent quality in manufacturing, distribution and customer service.

Each Roland machine is hand built in a state-of-the-art factory using an advanced cell-production system, called "Digital Yatai." Using a 3D graphic manual displayed on a monitor that is connected to a rotating rack of parts, a single worker is able to quickly and accurately build a machine from start to finish. This innovative process has been studied by numerous manufacturers including Toyota.

Imagine.  **Roland**[®]