

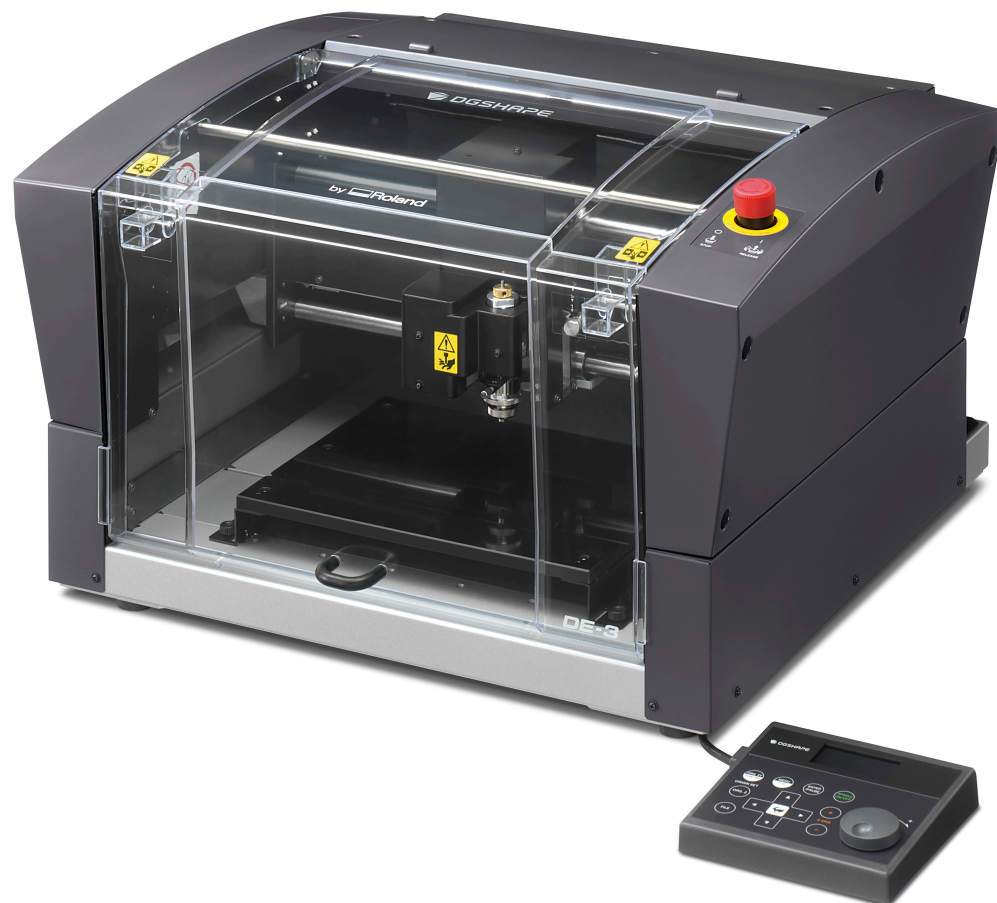


 **DGSHAPE**

**DE-3**

DESKTOP ENGRAVER

Precise. Productive. Profitable.



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## What You Need to Know

With over 30 years of experience in 3D and engraving products, Roland DGA announces the new DE-3 Rotary Engraver by DGSHAPE. The DE-3 is a low-cost, high-profit engraving solution engineered to handle a wide range of engraving needs, including jewelry, giftware, glassware, ADA signage, and much more. The DE-3 can engrave on wood, glass, acrylic, brass, bare metals, stone, ceramics, plastic, and many other substrates. It comes with three types of tools, allowing for versatility in the types of engraving you can do, such as Diamond scribe, Character cutting (V-carve), and subtractive end-mill cuts. The DE-3 has both USB and LAN connections for easy, seamless integration into an existing network environment. Network functions make the DE-3 the perfect solution for manufacturing and commercial applications. An LED laser pointer, included with the DE-3, takes the guesswork out of your setup and allows you to engrave with ease and accuracy. Technologically advanced, yet simple to use, the DE-3 offers outstanding performance and reliability at an affordable price.

- Engraves acrylic, wood, metals, glass, plastics, stone, and more (*See Tools and Materials Pg. 12*)
- Perfect for awards, signs (including ADA), jewelry, and gifts
- Three types of tools –Diamond scribe, V-carve, Endmill
- USB or LAN connectivity
- Comes with laser LED pointer
- Convenient 12” by 9” work area
- User replaceable spindle

**The DE-3 is a complete engraving solution that includes the following items:**

- DE-3 Engraver
- Dr. Engrave Plus-Software
- Metal and silicone nose cone
- 3.175mm solid collet
- Character cutter, parallel cutter
- Dust collection adapter



**MSRP: \$6,495.00**

**Warranty: Trouble-Free One-Year Warranty**

# Key Features and Benefits

## 1. Low initial investment

- Capital investment is less than \$6,500 for engraver, software, and tools
- No maintenance contract required

## 2. Safe and easy to use

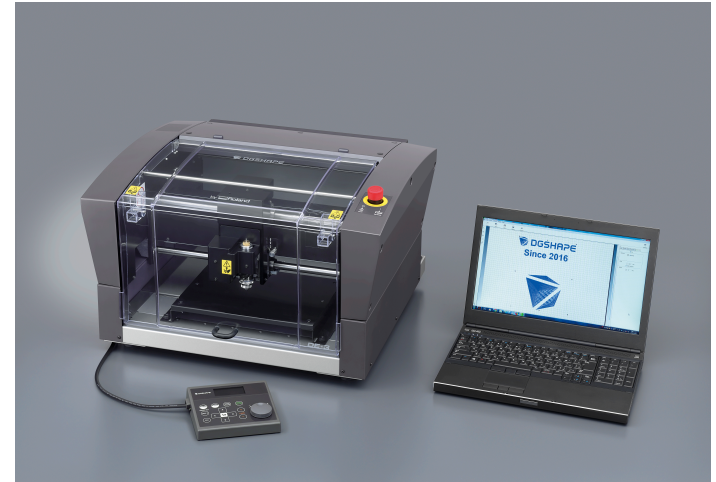
- Simple out-of-the-box setup
- No special skills required
- Has an advanced surface detector – Manual or automatic
- LED laser pointer allows for pinpoint accuracy and alignment
- Three different tool types for diverse engraving options
- USB or LAN connectivity
- Cover safety sensors for safe operation
- Convenient 12" x 9" work area
- Engraves on a wide variety of materials
- Allows quick personalization of existing products
- Easy ADA sign workflow
- Open-source architecture
- Spindle speeds up to 20,000 rpm
- Handy control panel (separate from the machine)
- Auto Z control for uniform cutting depth

## 3. Compact design

- Small footprint requires minimal space – great for a retail countertop
- Portability makes it ideal for use at events/functions
- Can be used in home, office or warehouse environments

## 4. Roland service and support

- Trouble-Free One-Year Warranty
- No maintenance contract required



## Handy Panel



Handy panel makes operation quick and easy, allowing the user to control the machine conveniently up to two feet away from the engraver.

- LED screen provides clear view of operation and menu
- Easy operation buttons
- Adjustment dial allows quick adjustments and navigation

## Message to Dealers and End Users

### ***Dealers:***

The DE-3 is a great way for dealers to introduce the traditional sign market to a diverse and profitable engraver. Also, a whole new clientele awaits as the traditional markets are changing, evolving. It is easy to set up sale and support, even without prior knowledge of engraving products. It's a great solution for sign shops looking to offer various types of engraved signage, including ADA/Braille. Businesses that cater to the award and promotional markets rely heavily on rotary engraving and continue to expand their offerings. This product is an excellent choice not only for companies seeking to add new products and services, but also companies that want to personalize and customize their existing products in house.

- No prior engraving knowledge/experience needed
- Easy to support
- Opens up new markets
- Easy installation
- Complete package
- Sign Shops (Graphic production shops) need to diversify
- Personalization and customization are a great way to profit and add value to a companies brand
- Companies want to produce internally no more out-sourcing, in-house production

### ***End Users:***

As a business owner, you're always looking for the next best thing to grow your business, attract new customers and increase profits. The DE-3 by DGSHAPE offers the perfect opportunity to expand your business into the rapidly growing segment of on-demand product personalization/customization. This segment opens up lucrative opportunities for those looking to make custom-engraved products, either as "one-offs" or in a production environment. Imagine a client walks into your store, picks up a blank widget (MSRP \$45.00), and wants to enhance the item with a design or initials (est. \$10-\$20). This kind of scenario enables you to add value to your product offering (and charge more for it) with minimal effort and cost. It's what makes on-demand personalization/customization so attractive as a new revenue source.

- Grow your business
- Add value to existing products
- Retail and wholesale opportunities

# Target Markets and Applications

## Markets



The DE-3 is not only a great machine for the award and sign industry, but it has also crossed over into the less obvious realm of retail and micro home-based businesses. Online stores have become a norm in today's market, and this state-of-the-art engraver is ideal for B2B or B2C business models within both the cyber and brick-and-mortar worlds. The DE-3 is perfect for the retail, commercial, tech, and education markets. Its versatility and small footprint allow it to fit easily into virtually any on-demand product personalization/customization environment. Whether you're a new user or a seasoned veteran, you'll find the DE-3 simple to operate as well as easy to set up and install. The DE-3 is also ideal for industrial and manufacturing companies looking to automate and produce high-quality engraved objects.

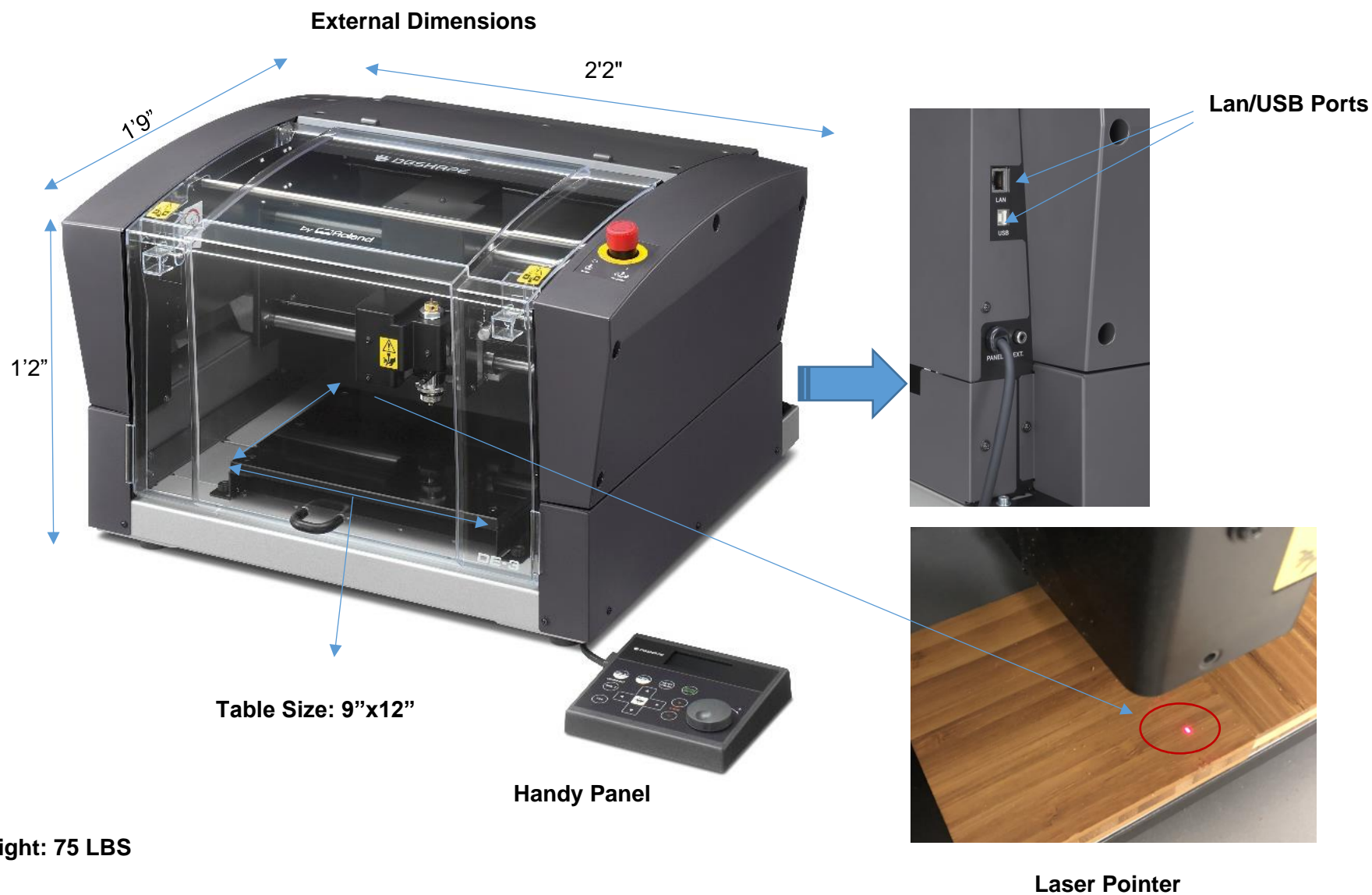
## The DE-3 fits a wide variety of clientele and applications:

- Cosmetics
- Eyewear
- Fashion
- Cannabis
- Wedding
- ADA Signs
- Picture Frames
- Hardware
- Desk accessories
- Labeling
- Watch/Jewelry
- Wood working
- Medical
- Education
- Funerary
- Stationary
- Award
- Electronics
- Ad specialties
- Hobby
- Sporting Goods
- Boat MFG
- Toy MFG

### ***NOTE: Personalization and Customization***

It is time to think outside the box and sell in an environment where clients are seeking new ways to generate revenue and profits. Personalization and customization allow for great pitching opportunities, enabling you to approach your existing clientele as well as new customers that are not normally on your radar. The new DE-3 can be networked, allowing for sales of more than one unit for a single location, or multiple units for various locations (as in a franchise sale). We encourage you to look at retail, home-based businesses, and industrial/manufacturing companies for leads and sales. All of us at Roland DGA are very excited about the new DE-3 by DGSHAPE. We know it can provide you with a diverse and attractive solution for clients looking to enter the personalization market or expand and enhance their current product offerings.

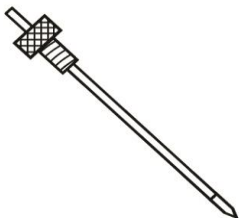

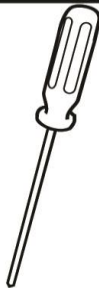
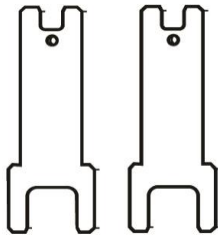





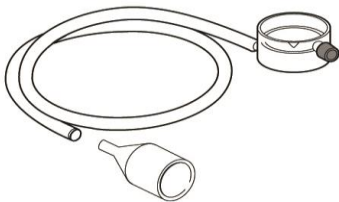



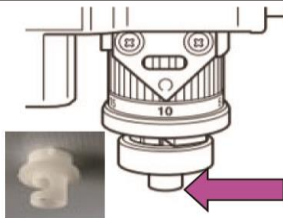
# Specifications



## Specifications (Cont.)

Work table size	Width x depth: 305 x 230 mm (12" x 9")
XYZ operation stroke	305 mm (X 12") x 230 mm (Y 9") x 40 mm (Z 1.57")
XYZ axis drive system	Stepping motor, three axes simultaneous control
Operating speed	XY axis: 0.1 mm to 60 mm / sec, Z axis: 0.1 to 30 mm / sec
Software resolution	0.01 mm / step, or 0.025 mm / step
Mechanical resolution	XY axis: 0.0025 mm / step, Z axis: 0.00125 mm / step
Spindle motor	Brushless DC motor, maximum 50 W
Spindle rotation speed	5,000 to 20,000 rpm
Tool Chuck	Cutter holder, collet type
The thickness of the installable workpiece	Up to 40 mm (maximum 38 mm when using a nose unit). Up to 40 mm (maximum 38 mm when using a nose unit) 1.57"
Interface	USB, LAN
Accessibility function	Origin setting by a laser pointer, the preview function
Control command	RML-1
Power supply	AC100~240V $\pm$ 10%、50/60Hz, 1.3A, 127W
Operating Sound	Operating: 60 dB (A) or less (uncut), standby: 40 dB (A) or less (according to ISO 7779)
External dimensions, weight	Width x depth x height: 616 (2'02") x 591 (1'9") x 393 mm (1'2"), Weight 34 kg (75 LBS)
Installation environment	Operating environment: Temperature 5° to 40° C, humidity 35 to 80% (no dew condensation) Environmental pollution degree: 3 (according to IEC 60664-1)
Accessories	Power cord, power plug adapter, USB cable, nose unit (metal, plastic nose cone), solid collet ( $\varnothing$ 3.175 mm), wrench unit, hexagonal wrench, hexagonal screwdriver, hexagonal screwdriver, hexagonal screwdriver, handy panel, sticky clothing (stainless steel spring), spare set screw (for cutter holder) Sheet, dust collection adapter, character cutter, DGSHAPE Software Package CD-ROM, user's manual, setup guide (booklet)

## DE-3 Accessories and Tools

DE-3 Accessories In Box			
 <p>Character Cutter or Parallel Cutter</p>	 <p>Solid collet</p>	 <p>Hexagonal screw driver</p>	 <p>Wrenches (2)</p>
<div> <div>  <p>Nose unit*2</p> </div> <div>  <p>Nose cone (resin or metal)</p> </div> <div>  <p>Spring</p> </div> <div>  <p>Retaining screw</p> </div> <div>  <p>Dr. Engrave Plus</p> </div> <div>  <p>Vacuum adapter</p> </div> </div>			
DE-3 Optional Accessories			
 <p>3.46 collet</p>	 <p>Replacement Spindle ZS-35S</p>	 <p>CenterVise ZV23CS</p>	 <p>Nose Cone (Plastic) DN-500R</p>
DE-3 Optional: All-in-One ADA Braille Solution: Not shown			

## DE-3 Accessories and Tools (Cont.)



Actual accessories shown

## Common Materials

- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Bare metal (Machinable grades and coated)</li> <li>• Aluminum</li> <li>• Brass</li> <li>• Stainless Steel</li> <li>• Silver</li> <li>• Gold</li> <li>• Titanium</li> </ul> | <ul style="list-style-type: none"> <li>• Ceramic</li> <li>• Stone</li> <li>• Acrylic</li> <li>• Clay</li> <li>• Wood (all types)</li> <li>• Fiberglass</li> <li>• Plastic</li> </ul> | <ul style="list-style-type: none"> <li>• ABS</li> <li>• Poly Carb</li> <li>• Marble</li> <li>• Glass</li> <li>• Quartz</li> <li>• PVC</li> <li>• Platinum</li> </ul> |
|---|--|--|

## Tools Types with SKU's

■Engraving Cutters (for plastic)	■Parallel Engraving Cutters
ZEC-A2013	ZEC-A2150
ZEC-A2025	ZEC-A2190
ZEC-A2051	ZEC-A2230
ZEC-A2076	ZEC-A2320
ZEC-A4013	ZEC-A4150
ZEC-A4025	ZEC-A4190
ZEC-A4051	ZEC-A4230
ZEC-A4076	ZEC-A4320
	ZEC-A4380
	ZEC-A4430
■Engraving Cutters (for alminum or brass)	■Diamond Engraving Cutters
ZEC-A2013-BAL	
ZEC-A2025-BAL	
ZEC-A4013-BAL	
ZEC-A4025-BAL	
	ZDC-A2000
	ZDC-A4000:only operates with the ZC-E436 collet.
■Quarter Round cutters (for plastics)	■Spindle Unit
ZEC-A2013-QR	<b>ZS-35→ZS-35S</b>
ZEC-A2025-QR	
ZEC-A4013-QR	■Nose Cone
ZEC-A4025-QR	ZDN-500
	<b>DN-500R(Nose Cone [Plastic] ) New</b>
	ZDN-200
<b>■Collet</b>	<b>■Adhesive sheet for securing material</b>
ZC-23	AS-10
ZC-23-3	
ZC-23-3175	■Center Vise
ZC-23-4	<b>ZV-23C→ZV-23CS</b>
ZC-23-6	
ZC-E436	■T Slot Table
	ZTT-35

### High-speed cutter tools

Rotating cutting/engraving tools that can be used for cutting plastics and scribe engraving soft metals. While they're not as durable as carbide-tipped cutters, they are very effective when you need a more resilient tip for jobs like fine, deep engraving in aluminum or brass. The tip sizes range from .005" to .030".

### Diamond scribing tools

Non-rotating tools for scribe or scratch engraving on trophy brass, aluminum, and stainless steel. If you're not sure which tools to start with, we suggest a handy starter kit. Roland offers tool starter kits for its best-selling models that include a variety of cutters, engraving tools, and related accessories.

## Frequently Asked Questions

1. **Q:** How do I set up the Engraver?

**A:** Open the Quick Start Guide or User Guide and follow the easy steps inside; either will provide an overview of the installation process.

2. **Q:** Do I need special skills or knowledge to operate this equipment?

**A:** No, you do not. This engraver is very easy to use – the learning curve is minimal. Start with the User Guide. Once you are operating at a basic level, you can look to Roland Academy online for mid-level to advanced training resources that will aid you in your success.

3. **Q:** Does Roland DGA offer materials to engrave on?

**A:** No, we do not. Roland DGA can make recommendations related to engraving materials, but we do not sell such products. Some Roland dealers do carry these supplies, however.

4. **Q:** Does Dr. Engrave Plus run with any version of Windows (i.e., version 7 or 10)?

**A:** Yes, we have tested this software on both systems, and it runs seamlessly.

**Q:** Can I use an end mill to cut metal?

**A:** No, this is not recommended. Acrylics, plastics or wood are acceptable materials.

5. **Q:** Can I Engrave objects thicker than 1.57" thick?

**A:** No, this is not possible. The maximum thickness is 1.57".

6. **Q:** Can I engrave pictures?

**A:** Yes, but because you are limited to fill patterns, adjustments may be needed depending upon the image. The DE-3 will not engrave tones. Fills are based on software capabilities, so using different software (other than Dr. Engrave Plus) may be helpful.

7. **Q:** How do I create artwork for engraving on the DE-3?

**A:** Dr. Engrave can create simple artwork, such as text-based art or simple shapes. For more advanced art or graphics, you can import artwork from Adobe Illustrator or Corel Draw.

8. **Q:** How does rotary engraving compare to laser engraving?

**A:** Unlike laser engraving, rotary engraving keeps the surface tone and allows different looks depending on tool usage. Laser engravers burn the surface of the material, altering the appearance and changing the surface color.

9. **Q:** How small of an object can I engrave?

**A:** You can engrave very small objects, as the engraving is based on the tool you use. For example, a fine-tip diamond scribe will allow you to engrave lines as small as .001mm. The material surface size can be as small as the graphic being engraved.

10. **Q:** How do I know which tool to use?

**A:** A good place to start is the user manual, as it describes the different types of engraving processes. Another source for this information is the Roland Academy section of Roland DGA's website.

11. **Q:** How much does the DE-3 weigh?

**A:** It weighs approximately 75 pounds.

12. **Q:** How can I connect a DE-3 to my existing network?

**A:** To connect to the existing network, you'll need to set your IP address to your network array and assign it a unique IP (based on the network). For example, if your array is 196.182.18.1, assign it to an open IP, such as 196.182.18.10.

13. **Q:** Can I use the spindle to speed up diamond scribe engraving?

**A:** No, you cannot. Using the spindle will not speed up the engraving process and may negatively affect the sharpness of your tool.

# Competitive Information

## Laser Engravers vs. Rotary Engravers

Laser engraving machines and rotary engraving machines are similar in that both can be used to engrave a variety of materials with stunning results. However, they are also different in many ways, including the mechanics of how they operate and the different “looks” they’re capable of producing. If you are new to the industry, or you are thinking of expanding your business, consider both laser and rotary engraving as possible methods for creating the specific types of products and services you want to offer your customers. Laser engraving may be a perfect fit according to your needs, or it could be that rotary engraving better meets your requirements. You might even determine that your business can benefit from both technologies.

## Rotary

Specialized applications show the versatility of rotary engraving. The ability to engrave deeper into materials broadens the applications to allow techniques that are not possible on a laser engraving machine.



- ADA Braille
- Rhinestone apparel
- Classic engraved look
- Multiple depths and surface texture
- Material characteristics unchanged after engraving
- Easy to operate
- No Fumes
- Safe
- Versatile – a variety of materials can be used
- Small footprint

## Laser

Laser engraving technology continues to develop at a fast pace, and every year we see some advancements. Generally speaking, lasers today are less expensive, faster and more user-friendly than they were just a few years ago.



- Not ideal for ADA Braille applications
- Versatile – can handle a variety of materials
- Changes material characteristics
- Large footprint – requires more space
- Halftone capabilities
- Photographic quality
- Safe

## Speeds and Feeds

The rate of the cutter rotation is referred to as the “cutting speed,” and the lateral movement is known as the “feed rate.” Each has a profound effect on the quality of the finished cut. The cutting speed, which is the measure of the distance traveled in surface feet per minute (sfpm) by the cutting edge, varies proportionally with tip size. For example, a .030" tipped cutter turning at 10,000 rpm has a speed of approximately 75 sfpm, while a .060" tipped cutter rotating at the same speed generates about 150 sfpm. Small cutters need to turn faster to achieve the same results as larger ones (and vice versa). Cutter speed is determined primarily by the material being engraved. The following table and graph can be used as a guide:

Material	Cutter Size - Measured at Tip						
	.015"	.030"	.060"	.090"	.125"	.171"	.250"
<b>Plastic Engraving Stock</b>	15,000 - 20,000					12,000	10,000
<b>Engravers Brass</b>	10,000 - 15,000			13,500	9,500	6,500	5,000
<b>Free-Cutting Aluminum</b>	15,000 - 20,000				14,000	10,000	7,500
<b>Mild Steel</b>	15,000	10,000	5,000	3,500	2,500	1,500	1,200
<b>Hard Steel / Stainless Steel</b>	12,000	6,000	3,000	2,000	1,500	1,000	750
<b>Wood</b>	20,000						

Cutter speeds can vary greatly based on several factors, including feed rates, depth of cut, and the use of cutting fluid. The above chart is intended to serve as a comparison tool for determining cutter speeds when various materials are used.



# ROI

What about cost and profit? Is the equipment investment likely to pay off? As with any business endeavor, your efforts, as well as the size and quality of your customer base, will be critical factors. In many cases, however, adding rotary engraving to a robust sign and graphics business can reap substantial dividends. For a thorough presentation on the opportunities, marketing strategies, and profit potential of rotary engraving, please [download](#) Roland DGA's Beginner's Guide to Engraving for Profit. For a quick overview of the profit in simple engraving jobs, consider the following examples.

## Personalize One-Off

### 1 Vape Pipe

Total Blank cost: \$22.00

Time taken to engrave: 10 min

Graphic and a name Charge: \$15.00

Total selling price: \$75.00

**Gross Profit: \$48.00**



## Personalize Quantity

### 100 Identical Business Card Holders

Total raw material cost: \$583.00 (\$5.83 ea)

Time taken to engrave: 90 minutes

Total selling price: \$1,582.90

**Gross Profit: \$999.90**



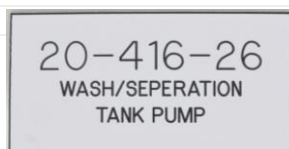
### 1 Wayfinding Signage (anodized aluminum)

Total raw material cost: \$12.00

Time to engrave, assemble & color: 30 minutes

Total selling price: \$92.00

**Gross Profit: \$80.00**



### 10 Industrial Control Panels

Total raw material cost: \$22.00

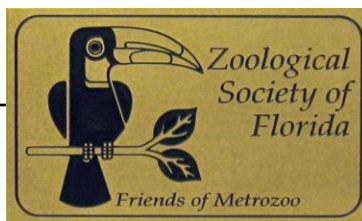
Time to engrave (1=5 min.) 50 minutes

Total selling price: (1=\$53) \$530.00

**Gross Profit: \$508.00**



## ROI (Cont.)



### Pricing Matrix – Brass Plaques

Minimum charge \$17.00

Origination charge \$50.00 per hour

The following chart is based on the amount of brass required. It includes engraving up to 50 characters, bevelled, drilled and color-filled:

Area in square inches	Engravers Brass			
	Material thickness			
	1mm	1.5mm	2mm	3mm
up to 15	\$1.83	\$2.00	\$2.17	\$2.67
16 to 30	\$1.67	\$1.83	\$2.00	\$2.33
31 to 50	\$1.50	\$1.67	\$1.83	\$2.17
51 to 75	---	\$1.50	\$1.67	\$2.00
76 to 100	---	\$1.42	\$1.58	\$1.92
101 to 200	---	---	\$1.50	\$1.83
201 +	---	---	\$1.42	\$1.75

--- Material thickness not suitable

- Add 35 cents per character over the initial 50.
- If more than one color is required in the filling, add \$16.66 per color.

Brass plaques also often require wooden backing boards or decorative panel supports. These should be additional charges.

Many brass plaques are used in unveiling ceremonies. You can also benefit from offering a curtain rental service. This can be a simple short-drop velvet curtain, mounted onto a wooden rod.

### Pricing Matrix – Laminate Signs

Minimum charge \$16.50 (for total order)

Origination charge \$50.00 per hour

The following chart is based on the amount of laminate required. It includes engraving up to 50 characters and bevelled edges:

Area in square inches	Plastic Laminate	
	Material thickness	
	1.5mm	3mm
up to 15	\$1.50	\$1.75
16 to 30	\$1.33	\$1.58
31 to 50	\$1.16	\$1.42
51 to 75	\$1.00	\$1.25
76 to 100	\$0.92	\$1.17
101 to 200	\$0.83	\$1.08
201 +	---	\$1.00

--- Material thickness not suitable

- Add 20 cents per character over the initial 50.
- For control panels, \$2.50 per profiled hole.
- \$5.00 per basic symbol (arrow/line).
- Drilling holes 26 cents each.

Engraving laminate is a 2 or 3-ply laminate. Engraving through the top coating exposes the core color, eliminating the need for color-filling. Laminates are available in many formats, including micro surfaces for fine detail, exterior UV stable and rigid. There are many different colors and finishes available. They can be supplied in sheet form or cut to size.



## ROI (Cont.)

### Pricing Matrix – Lapel Badges

Minimum charge	\$5.00
Origination charge	\$50.00 per hour

The following charge per badge is based on quantity of badges required. It includes engraving up to 50 characters and bevelled edges. It also includes a basic self-adhesive pin attachment:

Quantity			
1	2 to 5	6 to 10	11 to 30
\$8.33	\$6.67	\$5.84	\$5.00

Quantity			
31 to 50	51 to 100	101 to 200	201 +
\$4.58	\$4.16	\$3.75	\$3.33

There are many types of attachments available, including pins, clips, swivels and magnets. Prices would have to be adjusted to accommodate more expensive attachments.

Most commercial engraving programs include text merge tools for entering multiple names in one process.

Badges can be produced in any engraving laminate, however, most people use the micro laminate, engraving minimal depth for fine detail. Badges can be engraved from a sheet and profiled to any shape or size, ensuring complete unattended mass production.



### Pricing Matrix – Corporate Gifts

Minimum charge	\$8.00
Origination charge	\$50.00 per hour

The following chart does not include the price of the item. It relates to the engraving cost only, based on the price per item for a logo or text up to 50 characters. These gifts are engraved by non-rotating diamonds (also known as diamond scribing) – the fastest, cleanest, simplest way to engrave.

Quantity			
1 (proof)	2 to 5	6 to 10	11 to 30
\$8.33	\$6.66	\$5.83	\$5.00

Quantity			
31 to 50	51 to 100	101 to 200	201 to 500
\$4.58	\$4.16	\$3.75	\$3.30

Quantity			
501 to 1000	1001 to 5000	5001 to 10,000	10,000 +
\$2.92	\$2.50	\$2.08	\$1.67

The larger quantities are broad guidelines only. Often, the time to unpack and repack items takes longer than the engraving itself. Most companies will 'trial-time' the project and charge accordingly, based on a minimum of \$75.00 per hour.





DE-3 Engraver shown with optional center vise

 **DGSHAPE**

# **DE-3**

DESKTOP ENGRAVER

Precise. Productive. Profitable.