



# PS-300-R

**HIGH QUALITY – DIAMOND - COLD LASER MARKER**

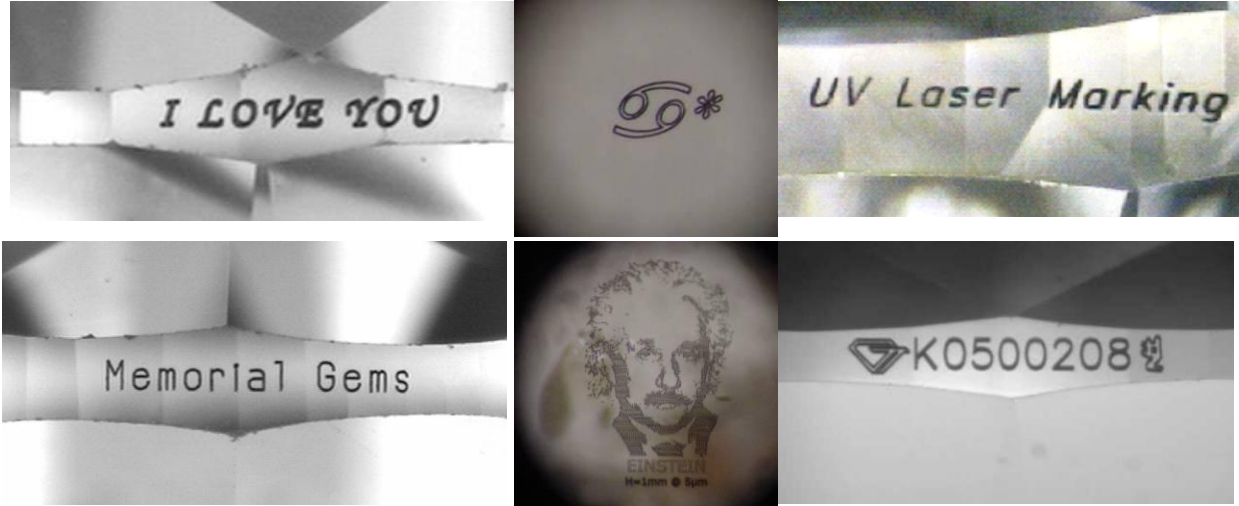


# PS-300-R

BLS-GEMSCRIPTOR\_LASERS

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## GEMSCRIPTOR *PS-300-R*



By modifying the iris or the power, one can modulate the marking to be lighter or darker.

### **Versatile: Inscription of Logos, drawings and True Type Font text**



Special table marking holder

Ring holder

Diamond holder

### **Quick release spring holders for Diamonds and special cuts, Holders for mounted stones on rings and earrings**

# GEMSCRIPTOR *PS-300-R*

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## GEMSCRIPTOR **PS-300-R**

### A SYSTEM DESCRIPTION

#### Easy installation.

The system is mounted on castors. It runs on 240 volts 50 – 60 Hz.

The electrical consumption of the machine is less than 1200 Watt. (5 VA)

The frame is isolated and the laser-marking unit **vibration free**

- Gem **authentication** and **identification**
- **Mark any type of gem, pearls, etc** on any side
- Mark: **Rounds, Fancies, Marquise, Emeralds, Princes of any sizes**
- **Mark set stones** on rings, earrings ...
- **Cold laser technology no** need for a **coating** before marking
- Easy access to the working area, easy mount of the stones on a **quick release magnetic holder**
- **Inscribe on any type of gem**
- Easy to operate even by unskilled workers
- **Direct control** of the inscription on the vision system in order to control while programming and inscribing the gem. **Never miss a marking**
- High productivity, mark **average, 300 stones** and more in a day
- **No patent infringement**
- Desk help and **fast service** when needed
- **Deep UV laser, cold ablation, no danger of damaging a stone**
- Extra fine marking with **line width of 3 to 10 microns**
- Choose any **letter and or logo height** (<25 microns to > 2 mm)
- **Import** of any characters (All **True type fonts**) **logos** and **DXF format drawings**
- **Focus** adjust is **easy** and visible on the screen, no need to focus each letter or marking
- Easy **maintenance**; gas purge is **performed automatically**
- **Mark any rounds, fancy shapes, any sizes, on any facet or on the table**

# GEMSCRIPTOR *PS-300-R*

## A1 LASER UNIT

- High performance compact Excimer Laser Unit
- Economical, Long static gas life time
- Cold UV laser technology harmless for diamonds, no coatings or protection needed
- Very high productivity, mark up to 600 jobs/stones and more in one day  
(One job is one stone marked with a Logo and 12 characters)
- Power control, for deeper or shallow marking jobs
- Dot distance control for higher marking density
- Diaphragm control for line width selection
- Computer controlled, long dynamic and static gas life time
- ArF, 193 nm Excimer laser harmless for diamonds
- Gas filter inside the lase2
- The EX300 works at 300 Hz for up to 300 marking jobs and more in one day
- (One job is one stone marked with a Logo and 12 Letters or numbers)

BLS GEMSCRIPTOR	BLS EX300
Wavelength	193 nm
Energy Max.	7,5 mJ
Energy density	8,3 mJ
Max. Rep. Rate	300 Hz
Dynamic gas life time	8,00E+06
Pulse length	10 ns
Stability	<2%
Tube service	50-80 Million Pulses
Beam size	2,5x 3 mm
Divergence	2x3 mRad full angle
Type of laser	BLS EXCIMER UV

## GEMSCRIPTOR *PS-300-R*

### A2 POSITIONING SYSTEM, GEMSCRIPTOR PS300-R

The OWIS optical grade co-ordinate tables are high precision tables

#### *X-Y-Z Tables*

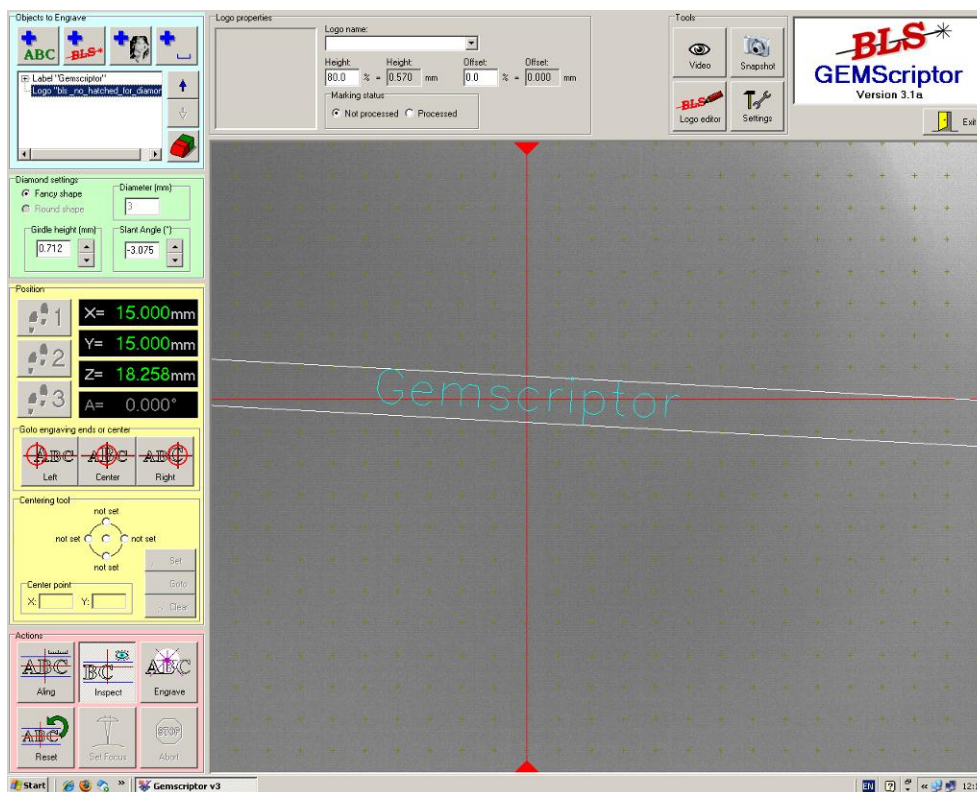
- X – Y - Z axis 25 mm, travel. High precision stepper motors
- End contacts Inductive PNP contacts on each end
- Max. Working speed 1 mm/sec
- Backlash free screw pitch: 1 mm
- Guidance linearity 10 $\mu$  for Z axis, 2 $\mu$ m/100 mm for X – Y axes
- Repeatability Z axis 10 $\mu$ m (vertical) X – Y axis 2 $\mu$ m (horizontal)
- Smallest step, resolution 0.2 $\mu$ m

# GEMSCRIPTOR *PS-300-R*

## A3 User-friendly operation

The high definition vision system makes it easy to position each stone into focus. All axes are controlled by means of on the screen buttons or with the mouse. The image of the stone is directly seen in the programming window of the computer screen. See while you work no risk of missing. This unique feature allows the operator to align the stone directly in its working position. Mark any where on the stone, at any angle, mark on two lines in one job

## A4 SOFTWARE



(The marked area has been moved for a better vision of the marking demo)

The program is easy to use and the job is visible on the screen. The working window has the image of the stone as background. The dimensions of the marking job on the viewing screen are in accordance with the marking on the stone. This allows an eventual second marking at exactly the same position as the one made before. Before starting the programmed marking there is a possibility to check the focusing of each letter or marking in order to teach-in or correct the exact focusing position of each. For strong curved or slanted surfaces, fast three point focussing (A B C)



## GEMSCRIPTOR *PS-300-R*

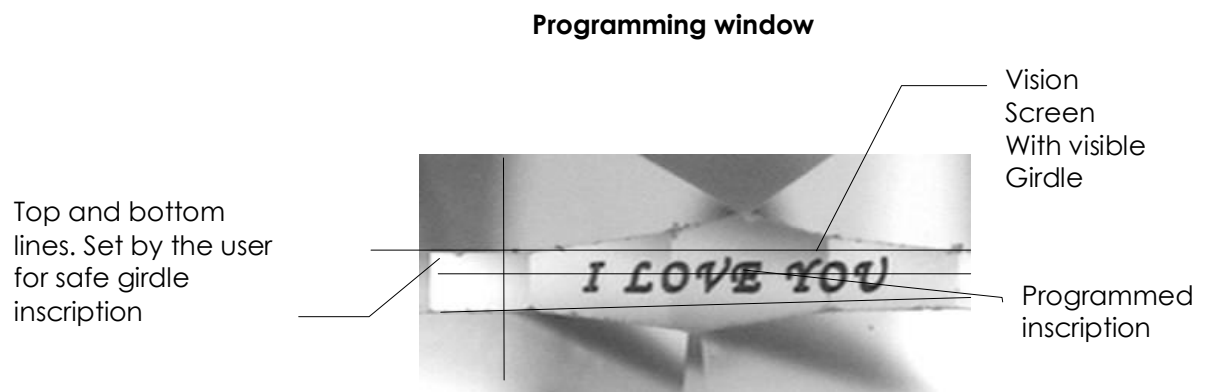
WYSIWYG system. **(What you see is what you get)**

The user selects the dimension of the marking in function of girdle height.

A cross hair with two parallel lines representing the limits of the girdle. It helps to adjust and position the marking in the centre of the girdle.

Several settings are possible: select the height in function of the girdle height and the spacing between each letter or marking in %.

**Mark up to 20 characters and two logos in one working session.**



Other significant parameters that can be adjusted:

- Speed of the X-Y Z tables
- Laser Power and line width
- Pulse rate: the dot distance is selectable, from 0,1 micron and up for lighter or deeper marking.

*Advantages of the BLS GEMSCRIPTOR PS300*

**All elements:** laser unit, electronics, computer are **inside the machine.**

**Computer and program are included. Logo import, all true type fonts available.**

**All languages and letter types are supported**

USB camera with **image enhancer and pixel position correction.**

**Three point focussing** for curved and slanted surface marking

The installation is done in a minimum of time. The **apprentice is done in half a day.**

The machine is delivered with several **holders for loose stones and set stones.**

The laser works at **250 Hz**, marking time is < 0.5 sec per character.

High speed **mark up 300 stones in one working day (Maximum daily average )**

**Mark on one or more lines** in one session

**Three programmable start positions** for fast work when having different stone sizes



# GEMSCRIPTOR **PS-300-R**

## A5 CONSTRUCTION

Industrial aluminium frame with adjustable feet.  
Laser unit with halogen filters, vacuum pump and gas canister inside the construction.  
Computer, flat screen  
Safety enclosure with security locks.  
**Security Laser class 1**

## Dimensions BLS PS300-R GEMSCRIPTOR

Length of construction.....	900 mm
Width .....	550 mm
Height .....	1450 mm
Weight.....	±160 kg

## Security

The construction is made following the DIN security standard.  
Laser Safety class I: closed safety-working area with sliding door.

## A6 SERVICES TO PROVIDE BY THE BUYER/

220 – 240 Volt, 50 – 60 Hz, single phase, 5 Vamp  
110 Volts on demand  
Air inlet and exhaust in the working room  
Excimer laser gas. 7 Litre cylinder, gas volume: 1000 litres  
Connections: CGA 679 valve and lead washer)

## MIX GAS

**GAS MIXTURE: 0.2% F2; 2.5% ARF; 3.6% HE; BALANCE NE**

**RECOMMENDED GAS SUPPLIER**

**SPECTRA GAS:**

<http://www.spectragases.com>

or

**NovaGasTechnologies**  
E-mail: [novagas@lasergas.com](mailto:novagas@lasergas.com)