

# VLASE SERIES

## LASER MARKING MADE EASY

VLASE Series is a Solid State, Laser Marking product Family dedicated to General Manufacturing, Electronics, Automotive and Aerospace industry for Direct Part Marking on high reflectivity materials, heat sensitive parts and high stability thermoplastic components.

Based on our consolidated Solid State resonator architecture VLASE Series is available in a variety of different power levels and in three wavelengths to cover a wide range of application types and materials, even on hard-to-mark materials.



## APPLICATION

### Automotive

- Coating removal and Paint stripping for NIGHT & DAY application
- High Contrast DPM for traceability, Quality Control, Testing & Sorting on high reflectivity materials.

### Electronics

- DPM for traceability to thermal sensitive, like silicon wafers,
- WLCSP, memory cards, ICs or high reflectivity materials like copper, gold and silver
- Branding and high resolution product identification



## QUICK INSTALLATION AND SETUP

VLASE Series of solid state laser markers combines a state-of-the-art Solid State laser source with a high flexibility and easy setup embedded controller, providing to machine builders, system integrators and end users a compact, full features controller, with embedded 100-240 VAC power supply, diode module, TEC cooler, and drivers.

- Embedded controller with Windows Embedded Standard 7 Operative System, full language support and dedicated Solid State Hard Disk for data storage.
- Embedded 90-240 VAC power supply.
- Embedded 4 independent step motors controller dramatically simplifies management of rotary indexers, x-y tables, z axis etc
- I/O connections, fiber delivery and IEC power inlet are located on back panel for easy integration, as well as dedicated M12 connectors for Photocell and Encoder.

- Front panel now offer main laser commands key and enable, USB port an new improved air cooling system with removable dust filter, that enhance operative temperature range up to 40°C @ full power.
- Simplified access to Laser Diode Module for fiber installation and maintenance
- Fail-Safe, redundant interlock system, fully compliant with EN 60825.1
- Completely sealed, bending free, long lifetime laser diode module.
- Full on screen diagnostic.

## FLEXIBLE PROGRAMMING CONTROL

LIGHTER Suite, with its Intuitive and easy-to-learn interface, simplifies the development of a complete and cost effective Laser Marking Station for OEM and Machine builders.

VLASE Series is thought to be used in both a STAND ALONE MODE with built-in control and software resources, and in a MASTER-SLAVE mode with a with supervising computer for advanced network-oriented Laser Marking Applications.

## MAIN VLASE SERIES FEATURES ARE:

- Advanced Graphical Layout
- Local and Remote laser diagnostic
- Local and Remote I/O & axis control
- Local and Remote laser test & setup
- Local and Remote ActiveX
- Ethernet protocol for easy integration in PLC and industrial environments
- Marking On Fly capabilities

# VLASE SERIES

|                                    | VLASE IR 10   | VLASE IR 20 | VLASE GREEN 10 | VLASE UV 3 |
|------------------------------------|---|-------------|----------------|------------|
| <b>Wavelength [nm]</b>             | 1064  | 1064        | 532            | 355        |
| <b>Nominal Power [W]</b>           | 10  | 20          | 10             | 3          |
| <b>Repetition Rate Range [KHz]</b> | 10 ÷ 100  | 20 ÷ 200    | 20 ÷ 100       | 20 ÷ 80    |
| <b>Pulse Width [ns]</b>            | 15@10KHz  | 8@20KHZ     | 10@50KHz       | 8@25KHZ    |
| <b>Max Pulse Energy [mJ]</b>       | 0.48@10kHz  | 0.55@20KHZ  | 0.31@20KHz     | 0.12@30KHZ |
| <b>Peak power [kW]</b>             | 32@10KHz  | 65@20KHZ    | 28@20KHz       | 14@25KHZ   |
| <b>Marking capabilities</b>        | Standing, Rotary axis, On the fly (marking in motion)   |             |                |            |
| <b>Integration</b>                 | Up to 4 mechanical axis driving capabilities (stepper motor)<br>Up to 10 digital inputs and 10 digital output fully programmable dedicated connectors Encoder and Photocell |             |                |            |
| <b>Interface</b>                   | Ethernet, RS 232, USB   |             |                |            |
| <b>Optical Fiber</b>               | Detachable – 3 meters standard- 5 meters OPT  |             |                |            |
| <b>Aiming Beam</b>                 | Semiconductor Laser - 630 – 670 nm  |             |                |            |
| <b>Power Supply</b>                | 100- 240 VAC 50/60Hz – 600 W max  |             |                |            |
| <b>Cooling System</b>              | Air cooled  |             |                |            |
| <b>Temperature Range</b>           | 5°C TO 40°C (41°F TO 104°F)   |             |                |            |

All laser sources described in this product guide are Class 4 laser sources.

Laser interaction with organic or inorganic material can cause TOXIC FUMES/PARTICLES. The OEM laser components described in this product guide is for sale solely to qualified manufacturers, who shall provide interlocks, indicators and other appropriate safety features in full compliance with applicable national and local regulations

# VLASE SERIES (WAVELENGTH)

New VLASE Family is available in three wavelength to satisfy all a wide range of application types and materials, where high peak power, short pulse width and high beam quality is required.

| VL-IR (INFRARED)   | VL – GREEN   | VL – UV (ULTRA VIOLET)  |
|--|--|---|
| DPSS LASER MARKERS @ 1064 NM   | DPSS Laser markers @ 532nm   | DPSS LASER MARKER @ 355 NM  |
| High peak power, short pulse Infrared laser markers available in 10, 15 and 20W power level. | High peak power, high efficiency, intracavity SHG (second harmonic Generation) laser markers available in tow power size: 4W and 10W | HIGH PEAK POWER, LOW LIFETIME, THG (THIRD HARMONIC GENERATION) LASER MARKING PRODUCT WITH EMISSION @ 355 NM |

## APPLICATIONS

Excellent beam quality, VL-IR is the general purpose laser marker for wide range of materials.

High peak power and short pulse width ensures low thermal footprint and reduced HAZ (Heat Affected Zone) assures stable and precise marking on non additivated thermoplastic polymers (such as ABS, PP, PES, PET, PVC), on coated materials or low absorption materials



### Night & Day

Automotive dashboard pushbutton, black painted. Accurate coating removal without any damage of the bulk structure



### Faucets Marking –

#### Nickel coated Solid Brass

Accurate color change of nickel coating, nickel protective coating is not removed.

Green emission laser offers significant advantages in marking applications with materials such as plastics that do not interact with the infrared wavelength, as well as with semiconductors such as silicon (e.g. wafer marking) or high reflectivity metals like copper, gold & silver.



High contrast marking on high reflectivity materials, Copper



High resolutions marking on high reflectivity materials, brass

Excellent marking quality, very fine spot size, for “cold marking” application, with very low thermal footprint for ablative damage free marking applications on various materials, including sapphire, glass, diamond, silicone, PE, HDPE (high Density Polyethylene), ceramic, alumina, and other sensitive materials.



### HDPE Marking

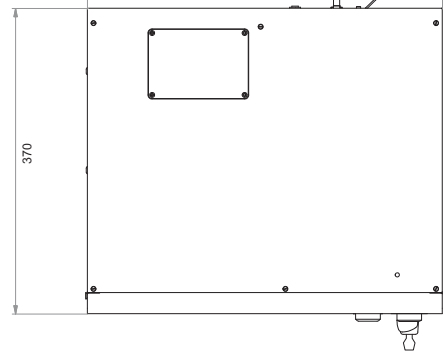
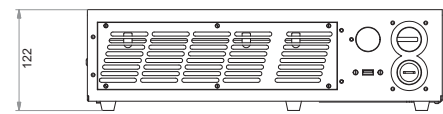
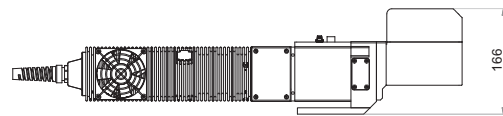
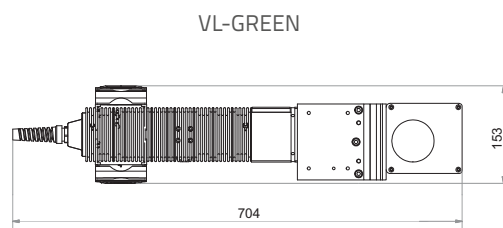
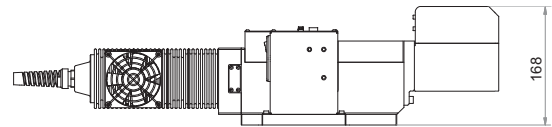
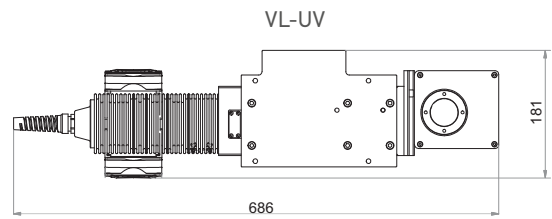
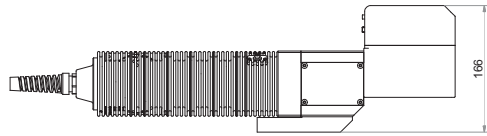
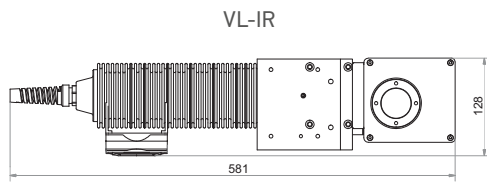
High contrast marking on high stability materials, HDPE for medical application and devices.



### Glass Marking

Cracks free glass marking and engraving

# DIMENSIONS



# MODEL SELECTION AND ORDER INFORMATION

| CODE      | MODEL                     | DESCRIPTION   |
|-----------|---------------------------|---|
| 985110073 | VLASE 1109-1343 IR Marker | VLASE 10W@1064nm with F160S-M39 Lens W10            |
| 985110074 | VLASE 1109-1443 IR Marker | VLASE 10W@1064nm with F160L-M85 Lens W10            |
| 985110075 | VLASE 1109-1643 IR Marker | VLASE 10W@1064nm with F254S-M39 Lens W10            |
| 985110076 | VLASE 1109-1743 IR Marker | VLASE 10W@1064nm with F254L-M85 Lens W10            |
| 985110079 | VLASE 1109-1943 IR Marker | VLASE 10W@1064nm with F100L-M85 Lens W10            |
| 985110080 | VLASE 1209-1343 IR Marker | VLASE 20W@1064nm with F160S-M39 Lens W10            |
| 985110081 | VLASE 1209-1443 IR Marker | VLASE 20W@1064nm with F 160L-M85 Lens W10           |
| 985110082 | VLASE 1209-1643 IR Marker | VLASE 20W@1064nm with F254S-M39 Lens W10            |
| 985110083 | VLASE 1209-1743 IR Marker | VLASE 20W@1064nm with F254L-M85 Lens W10            |
| 985110084 | VLASE 1209-1A43 IR Marker | VLASE 20W@1064nm with F 330L-M85 Lens W10           |
| 985110085 | VLASE 1209-1B43 IR Marker | VLASE 20W@1064nm with F 420L-M85 Lens W10           |
| 985110086 | VLASE 1209-1943 IR Marker | VLASE 20W@1064nm with F100L-M85 Lens W10            |
| 985110088 | VLASE 3034-1843 UV Marker | VLASE 3W@355nm with F= 103-M39 Telecentric Lens W10 |
| 985110089 | VLASE 3034-1443 UV Marker | VLASE 3W@355nm with F160L-M85 Lens W10              |
| 985110090 | VLASE 2104-1443 GR Marker | VLASE 10W@532nm with F160L-M85 Lens W10             |
| 985110091 | VLASE 2104-1743 GR Marker | VLASE 10W@532nm with F254L-M85 Lens W10             |

