



ZX AXIS[7]/TOWERMARK X[386]

2-Axes Fiber Laser Marking System



LASER MARKING INNOVATION



HIGHLIGHTS

- CLASS I LASER MARKING SYSTEM
- COMBINED XZ AXES
- READY TO BE UPGRADE WITH W AXIS (OPTIONAL)
- MANUAL OR MOTORIZED ROTATING HEAD (OPTIONAL)
- MANUAL BALANCED DOOR (STANDARD) OR PNEUMATIC ONE (OPTIONAL)
- SIDE DOORS (OPTIONAL)
- HARD ANODIZED WORKING TABLE
- FIBER LASER WITH FIXED PULSE (STANDARD) OR VARIABLE PULSE (OPTIONAL)
- 20, 30, 50, OR 100 W LASER POWER
- TTL OR LATERAL VISION SYSTEM (OPTIONAL)
- INTEGRATED EXHAUST SYSTEM WITH HEPA FILTER (OPTIONAL)
- SMART FOCUS AND 2 AXES JOYSTICK AS STANDARD EQUIPMENT
- BARCODE READER FOR PROGRAMMING FROM PRODUCTION ORDER (OPTIONAL)
- CASTERS FOR EASY MOVEMENT (OPTIONAL)
- OPERATOR'S CONSOLE WITH DOUBLE SCREEN (OPTIONAL)

> FOCUS ON THE FEATURES



XZ AXES SYSTEM

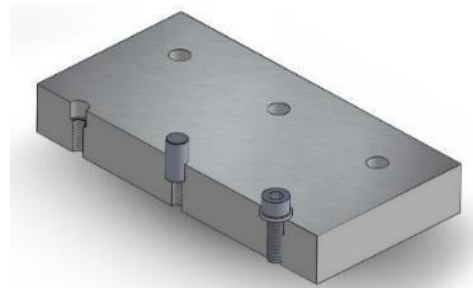
The TowerMark-X equipped with an innovative XZ axes system to translate the laser head all along a 500mm stroke. This gives a maximum marking area of 600 x 100 mm with a standard $\varnothing 140$ mm lens.

This area can be used to mark either a single particular or templates containing tens or hundreds of small parts. The axes are fully programmable from FlyCAD® software in order to automatically mark different parts at different heights. The maximum stroke of the Z axis is 450mm. Combined with the standard focal lens which has a marking area of $\varnothing 140$ mm, it allows to mark pieces up to 450 mm of height.

SCRATCH PROOF WORK TABLE

The 10 mm thick work table measures 750x475 mm. It is made of surface ground aluminum with a 30 μ m hard-anodized coating. The standard hole pattern is 50 mm center to center.

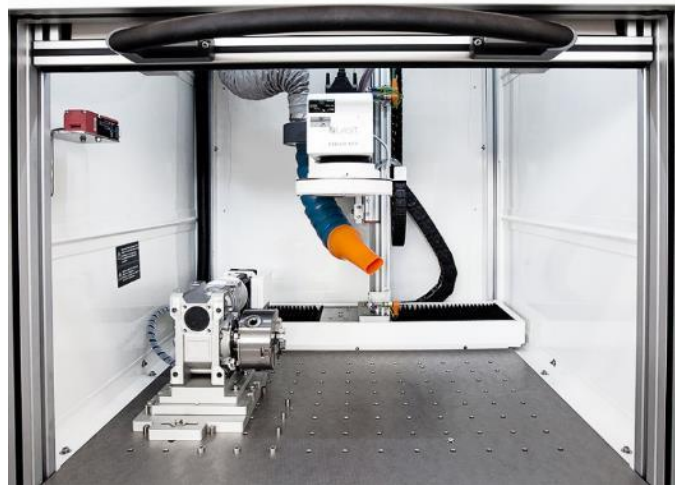
Each hole is $\varnothing 8H7$ at the top with M6 threads at the bottom. This makes it easy to affix guides, jigs, or accessories with either pins or screws.



➤ FOCUS ON THE FEATURES

W AXIS (OPTIONAL)

W axes are available in different versions, either fixed or tilting, and with various resolution. Precision ground preloaded worm gears prevent any backlash. The gears have integrated encoders that are controlled by FlyCAD®.



MANUAL ROTATING HEAD (OPTIONAL)

The manual rotating head has a rotation of up to 90° thanks to an easy lateral mechanism.

This allows to reach different points of the part simplifying the construction and the positioning of the fixtures.

This is very useful in case of long parts (e.g. crankshafts) which can be positioned horizontally rather than vertically.

In the same way, the rotating head ease the marking of tilted or more complex surfaces.

MOTORIZED ROTATING HEAD (OPTIONAL)

Differently from the manual one, the motorized rotating head has a rotation of up to $\pm 100^\circ$. The rotating head is controlled by a closed loop motor with integrated encoder and it has a resolution up to 102.400 steps/rev.



> FOCUS ON THE FEATURES

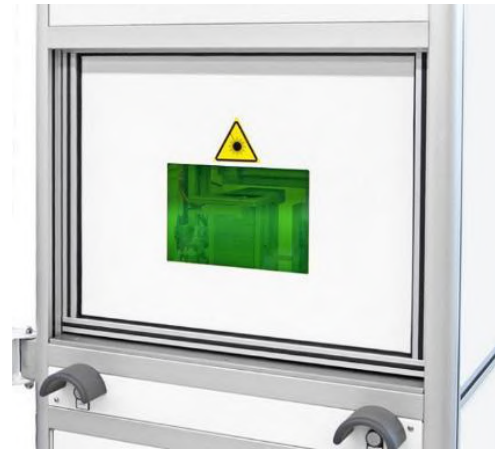


MANUAL DOOR WITH BALANCERS

The opening door of the system is equipped with balancers in order to ease the opening/closing operations

AUTOMATIC DOOR (OPTIONAL)

The door can be closed using two buttons that commands two pneumatic cylinders. It is fitted with a safety edge which is able to detect if there is an object in the way as it closes. When it detects an object, it will stop and open immediately, avoiding any damage or accident or harm to the operator.



SIDE DOORS FOR LONG PARTS (OPTIONAL)

The two side doors allow to mark even those parts that normally would not fit in the length of the marking chamber. There are several options to support long parts like roller or "V" shaped table, available upon request. The use of side door is subjected to specific safety rules and it is locked by a special safety key. (NB: the front door must be always closed during the marking)





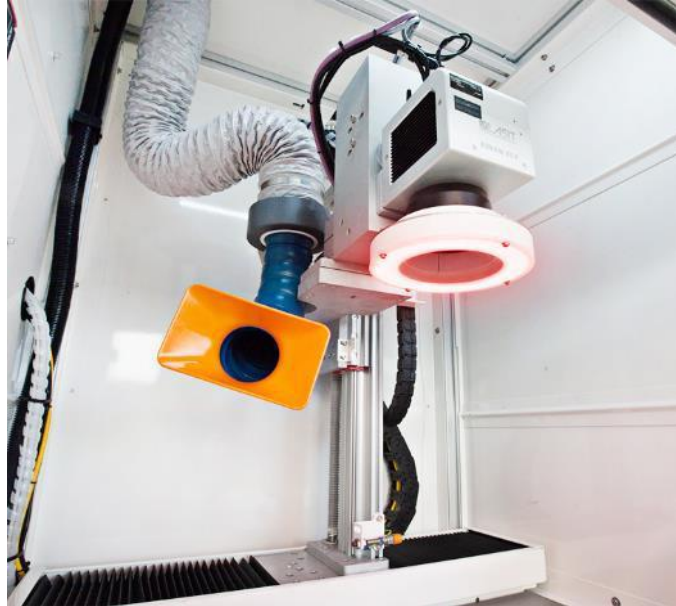
FOCUS ON THE FEATURES

TTL VISION SYSTEM (OPTIONAL)

The TTL (Through the Lens) vision system is the perfect solution for centering the marking on small parts as well as fast reading of 2D codes (DMX, QR) without moving either the laser or the camera. This is possible because the light reflected from the part is directed onto the camera detector exactly in the same exact path as the laser beam.

The visual field with an area of $\varnothing 140$ is 21x16mm.

The integrated circular illuminator offers a clear vision of the whole framed area with the ability to regulate the intensity of the light.



LATERAL VISION SYSTEM (OPTIONAL)

Differently from the TTL vision system, the lateral camera system offers a wider visual field but it keeps all the features of the former.

In this case the program moves the axes automatically, positioning the camera right on axis with the marking area so that the operator only needs to concentrate on the application.

FOCUS ON THE FEATURES



CONTROL PANEL WITH DUAL SCREENS (OPTIONAL)

In the event specific software is required for installation on the PC, there is an optional dual screen that can be added to the system. An example might be when you need to manage a MES system or a measuring bench. It is possible to add a second screen in order to have two independent views of the screen.

BARCODE READER (OPTIONAL)

In order to simplify the machine programming, it is possible to use the reader to scan the production orders. LASIT software, using the key read by the scanner, can access a database and collect the variable fields as well as select the drawing that needs to be marked.





EXHAUST SYSTEM WITH A 3 STAGES INTEGRATED FILTER (OPTIONAL)

The exhaust system is fundamental for the operator's health and the cleanliness of the machine.

The pump with lateral channels, which has a die-cast aluminum structure, ensures a high air speed flow.

The 3-stage filter has both HEPA H14 and activated carbon elements which remove potential smells odors and micro-particles.

The whole system is integrated in the base of the machine in order to save space and avoid bulky equipment outside of the laser marking system.

The electronic control of the filters warns you in advance when they need to be replaced.

CASTERS (OPTIONAL)

For easy movement or relocation of the machine, it is possible to add optional casters. Once the 4 casters have been placed the machine is raised from the floor, which guarantees perfect stability.



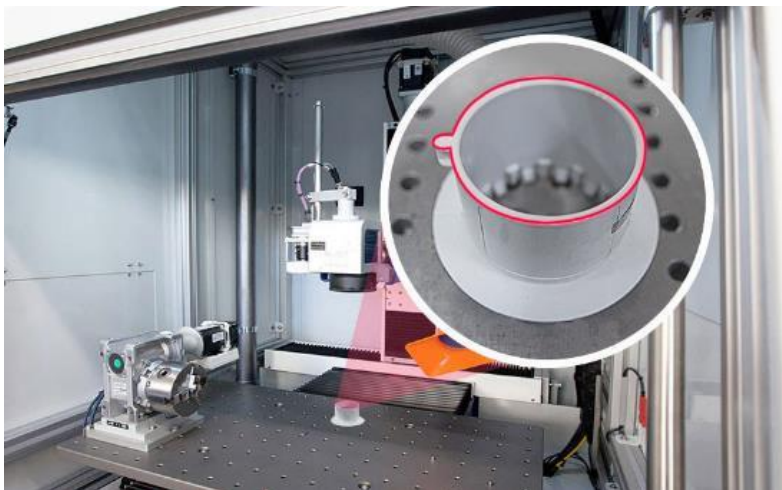
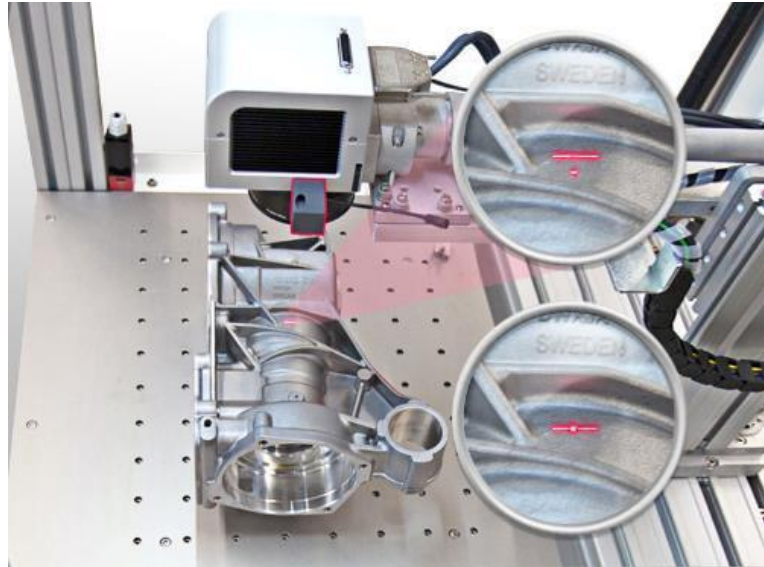
> FOCUS ON THE FEATURES

SMART FOCUS

The Smart Focus provides a fast and accurate focus by the mean of a guiding light.

By controlling the Z axis with the Joystick, you can instantly and precisely focus the laser by intersecting the red dot produced by the diode laser with the red line indicating the position of the scanning head.

The red lighted line is electronically produced and it is extremely useful also when you need to position the laser "out of focus" to obtain specific results.



SMART PREVIEW

LASIT exclusive Smart Preview systems allows you to project virtually any shape on the part to be marked.

The pattern outlined by the red light makes the centering of complex parts quick and easy for everyone.

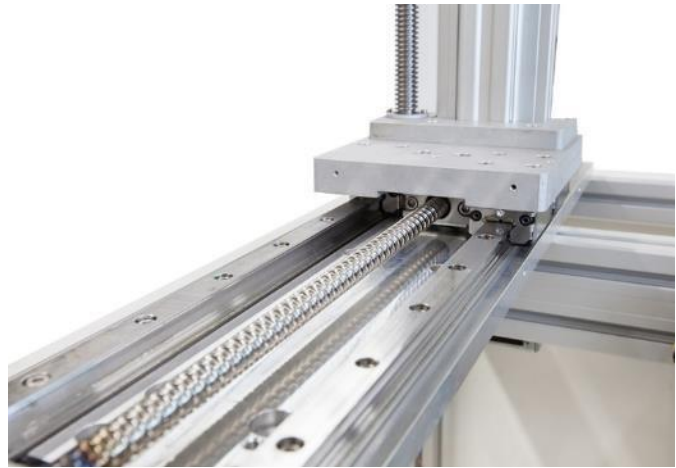
The pattern can be either imported from your 3D model (.DXF file) or designed directly in FlyCAD®.

HOW IT IS BUILT

HIGHEST QUALITY COMPONENTS

All the components of the TowerMark X are of the highest quality. The Bosch Rexroth guideways, the ball screws are high accuracy grade.

All of the screws are made of stainless steel.



MOTORS WITH ENCODER

All of the motors (XZ) as well as the W axis include an integrated encoder.

The encoder resolution is 2048 pulses per revolution

The advantage of the motor with the integrated encoder is that the position is precisely and accurately measured in real time.

The marking starts only when all the axes are in the correct position avoiding to damage the part due to incorrect positioning.



TECHNICAL DATA

1	Laser source	Ytterbium doped fiber laser
2	Power	20-30-50-100 W
3	Pulse Control	Fixed pulse (standard) or variable pulse MOPA (opt.)
4	Laser Pointer for Preview	With red light Class I (safe)
5	X axes travel	500mm
6	Z axes travel	450mm
7	Maximum marking area	600x100mm with FFL160 (ø140mm) 655x155mm with FFL254 (ø220mm) 685x185mm with FFL330 (ø290mm)
8	Maximum marking height	450mm with FFL160 340mm with FFL254 240mm with FFL330
9	Speed	X up to 450 mm/s Z up to 50 mm/s
10	Working table features	750x475x10mm Hard anodized aluminum with a 30µm thickness Step drilling matrix of 50x50mm ø8H7/M6
11	Maximum weight on the table	120Kg evenly distributed
12	Access door dimensions	See the layout
13	Color	RAL9010 pure white smooth
14	Power source	230Vca ±10% 50/60Hz <2000VA depending on configuration
15	Compressed air	4-6 bar
16	Operating temperature	10-35°C
17	Storage temperature	0-50°C
18	Machine dimensions	See the layout

Specifications subject to change without notice. Not responsible for misprints or typographical errors.