



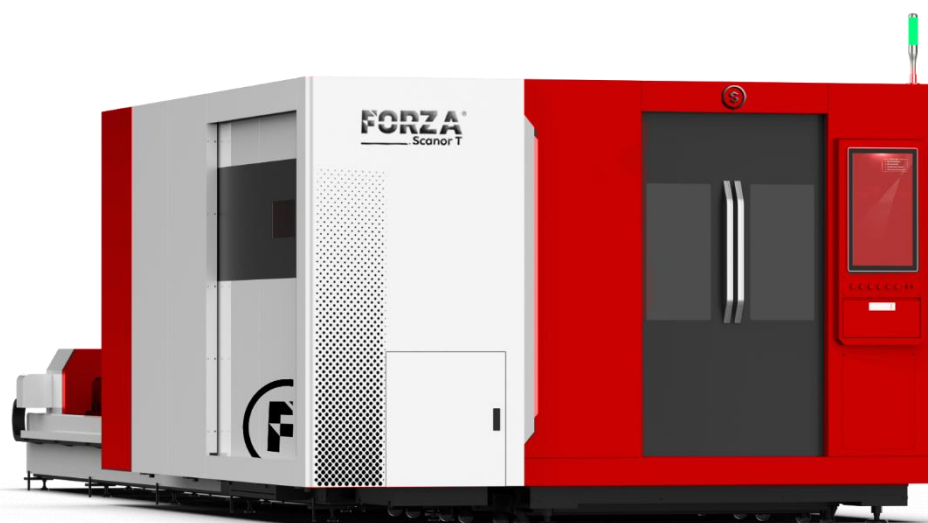
# **FORZA**

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Scanor T

V250708

***Datasheet***  
*Model ST1530P60*



# **FORZA**

Scanor T

Industrial CNC laser cutting machine for metal plates and tubes

**CUTTING / MARKING / PERFORATION**

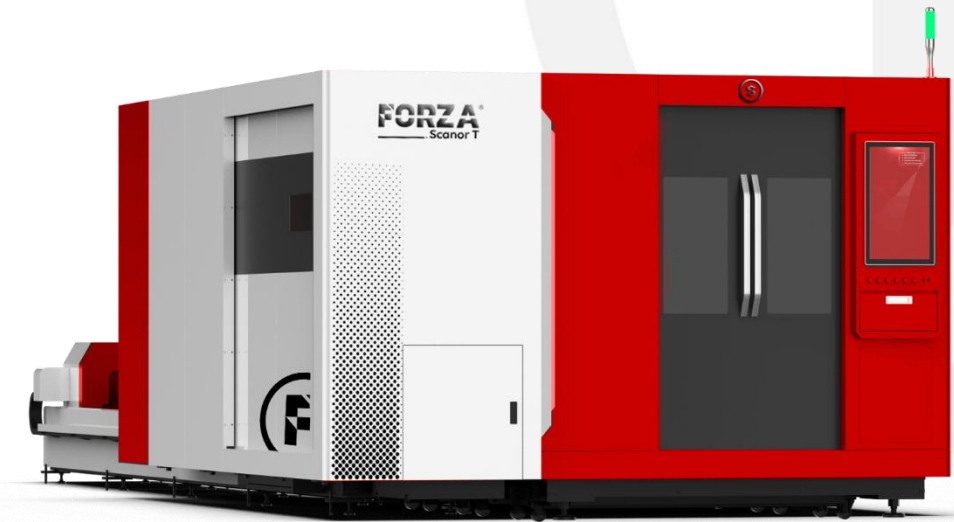
The FORZA SCANOR T is designed for 24/7 operation whit metal sheet and pipe production.

Its enclosed structure ensures operator safety from radiation, improves fume extraction, and includes a dual exchangeable work bed.

## Main Features

FEATURE	DETAIL
Application	Cutting metal plates and tubes
Total plate workspace	5ft x 10ft   1530 mm x 3050mm
Maximum tube length & diameter	L:20ft x D:8 21/32in   L:6000mm x D:220mm
Laser power rating	6000W
Nominal cutting thickness (ASTM A36) <sup>(1)</sup>	3/4in   19mm
Maximum cutting thickness (ASTM A36) <sup>(2)</sup>	1 in   25mm
Maximum acceleration	32.2ft/s <sup>2</sup>   1.0G
Maximum XY travel speed	7.1ft/s   130m/min
Cutting precision <sup>(3)</sup>	± 0.1mm

1. This is the maximum limit at which a burr-free and clean cut can be obtained. Up to this thickness, cutting can be performed continuously.
2. The maximum thickness is the greatest thickness that can be cut under certain parameter settings. It is not recommended to size the machine based on the maximum thickness. Working with thicknesses closer to the limit significantly restricts the cutting geometries that can be achieved, due to the high temperatures reached by the material.
3. Cutting precision is measured on a 0.027in stainless steel sheet, considering the machine's repeatability and accuracy. A precision of 0.0039in means that when cutting a 3.937in plate, the actual measurement may be 3.941in or 3.937in. If the material thickness increases, the error may become greater due to material properties and cut width.



## Special Features

### Smart Focus Technology



Automatic laser head adjustment for working on uneven surfaces. The head maintains a constant distance, even if the plate is warped.

### Fully Enclosed Cabinet



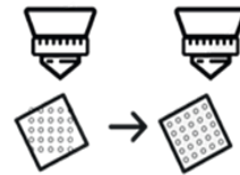
The enclosed cabinet is a fully sealed structure that protects both the operator and the work environment, primarily from the smoke generated during laser cutting.

### FORZA Play Software



User-friendly Spanish/English cutting software with anti-collision alarm system and maintenance notice.

### Find Edge System



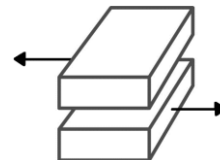
Automatically detects the edges to position the drawings along the contours and optimizes material usage, reducing material waste by up to 40%.

### Centering Technology



Refers to the process of precisely aligning an object or component at the center. This process is crucial for tube cutting, as it ensures the equipment's functionality and precision.

### Dual Exchangeable Bed



A dual exchangeable bed system that allows material loading or unloading on one bed while the other is inside the cutting enclosed cabinet.

## General Specifications

SPECIFICATION	DETAIL
Model	FORZA SCANOR T – STI530P60
Laser Type/Technology	Fiber Laser 1064nm $\pm$ 10nm
Fiber laser diameter	150 $\mu$ m
Nominal fiber laser power	6000W
Fiber laser power range	5 a 100% ( $\pm$ 0.5%)
Output power stability	$\pm$ 1.5W
Laser working frequency	$\leq$ 5000Hz
Laser source protection level	IP54
Laser source model	MFSC-6000W   MAX PHOTONICS
Working modes	CUTTING / MARKING / PERFORATION
Focusing system	SMARTFOCUS TECHNOLOGY <sup>(1)</sup>
Auxiliar gas type for cutting	O <sub>2</sub> , N <sub>2</sub> or Air
Proportional oxygen control	Analog control 145 psi (10 bar)   AIRTAC
Laser head model	OSPRI – LC80
Focal range	-15mm ~ +15mm
Maximum focusing speed	7.88in/s   200mm/s
Head protection system	Collision prevention and detection
Pre-loaded cutting profiles	Yes <sup>(2)</sup>
Laser cutting width	0.004in ~ 0.06in   0.1mm ~ 1.5mm <sup>(3)</sup>
Cutting precision	Thickness - dependent <sup>(4)</sup>

1. The focusing system incorporates an internal servo motor that moves the lens, along with a capacitive sensor that maintains the distance between the laser head and the plate during cutting.
2. Cutting parameters are available on the [library.forzalaser.com](http://library.forzalaser.com) platform, where customers can download them for free. A local backup is also stored on the machine for quick access.
3. The cutting width is directly proportional to the material thickness; as thickness increases, so does the cutting width. The type of assist gas also plays a role, with oxygen producing a wider cut line.
4. Cutting precision is 0.0039mm for thicknesses up to 0.027mm. As material thickness increases, precision may be affected due to the widening of the cut line, reaching up to 0.019mm on ½in plates.

Cutting angle	<2° <sup>(5)</sup>
XY movement repeatability	±0.05mm
XY movement accuracy	±0.02mm
Nominal working area	4.9ft x 9.8ft   1500mm x 3000mm
Total plate workspace per unit	5ft x 10ft   1530mm x 3050mm
Tube working length	1.6ft to 20ft   500mm a 6000mm
Tube working diameter	0.8in to 8.6in   20mm a 220mm
Maximum Z-axis travel	13in   330mm
Maximum cutting speed	1.64ft/s   30m/min
Maximum travel speed	7.1ft/s   130m/min
Maximum tube rotation speed	30rev/min
Maximum XY acceleration	32.2ft/s <sup>2</sup>   1.0G
XY motion system	Rack and pinion
Z motion system	Ball screw
Servo motors brand	INOVANCE
Lubrication system	Automatic by working path
Wireless control	Wi-Fi enabled remote control
Fume extraction system	Extraction by external motor
Maximum plate load capacity	1543lb   700kg <sup>(6)</sup>
Laser source power	18.5kW
Chiller power	8.5kW
Fume extractor power	3kW

5. The cut angle depends on the material thickness and the type of assist gas used. Thicker materials can result in greater cut angles, and oxygen may increase the cut angle.
6. The maximum weight must be distributed across the entire work bed. Although the structure can support full plates of thick material, the specified cutting thickness for this laser power must not be exceeded.

Motion & control system power	12kW		
Peak machine power	42kW		
Minimum power for electrical system design <sup>(7)</sup>	34.5kW		
Average energy consumption <sup>(8)</sup>	25.2kWh		
Operating voltage	220V/250V/380V/440V/480V 3ph 50Hz-60Hz		
Minimum line current	101A @220VAC 3ph		
	88.6A @250VAC 3ph		
	58.3A @380VAC 3ph		
	50.3A @440VAC 3ph		
	46.2A @480VAC 3ph		
Conductor wire gauge to the thermal-magnetic circuit breaker (MCCB) <sup>(9)</sup>	Up to 140°F   60°C (TW, UF)	Up to 194°F   90°C (THHW, THHN)	Voltage
	3 x 2AWG	3 x 3AWG	220VAC 3ph
	3 x 3AWG	3 x 4AWG	250VAC 3ph
	3 x 6AWG	3 x 6AWG	380VAC 3ph
	3 x 6AWG	3 x 8AWG	440VAC 3ph
	3 x 6AWG	3 x 8AWG	480VAC 3ph
Recommended MCCB and grounding conductor	MCCB	PE Conductor (Copper)	Voltage
	110A	6AWG	220VAC 3ph
	90A	8AWG	250VAC 3ph
	60A	10AWG	380VAC 3ph
	60A	10AWG	440VAC 3ph
	50A	10AWG	480VAC 3ph
Power cable length <sup>(10)</sup>	32.8ft   10m		

7. The minimum power sizing for electrical design is calculated based on typical power consumption of the laser source and chiller, along with half the power of the fume extractor and machine actuators.
8. Average power consumption is estimated at 60% of the measure peak power. Not all components operate simultaneously; the intermittent activation of systems such as the chiller, motors, and laser source results in lower actual consumption. To estimate hourly power consumption, use the average consumption.
9. The cable gauge sizing was done based on NEC 310-16 for maximum conductor temperatures of 140°F and 194°F, considering conduit installation. If installing cables in open air, a smaller gauge may be used upon consultation with FORZA Laser's technical department.
10. The maximum length of the power cable is 32.8ft (10m) to prevent voltage drops and ensure optimal system performance.

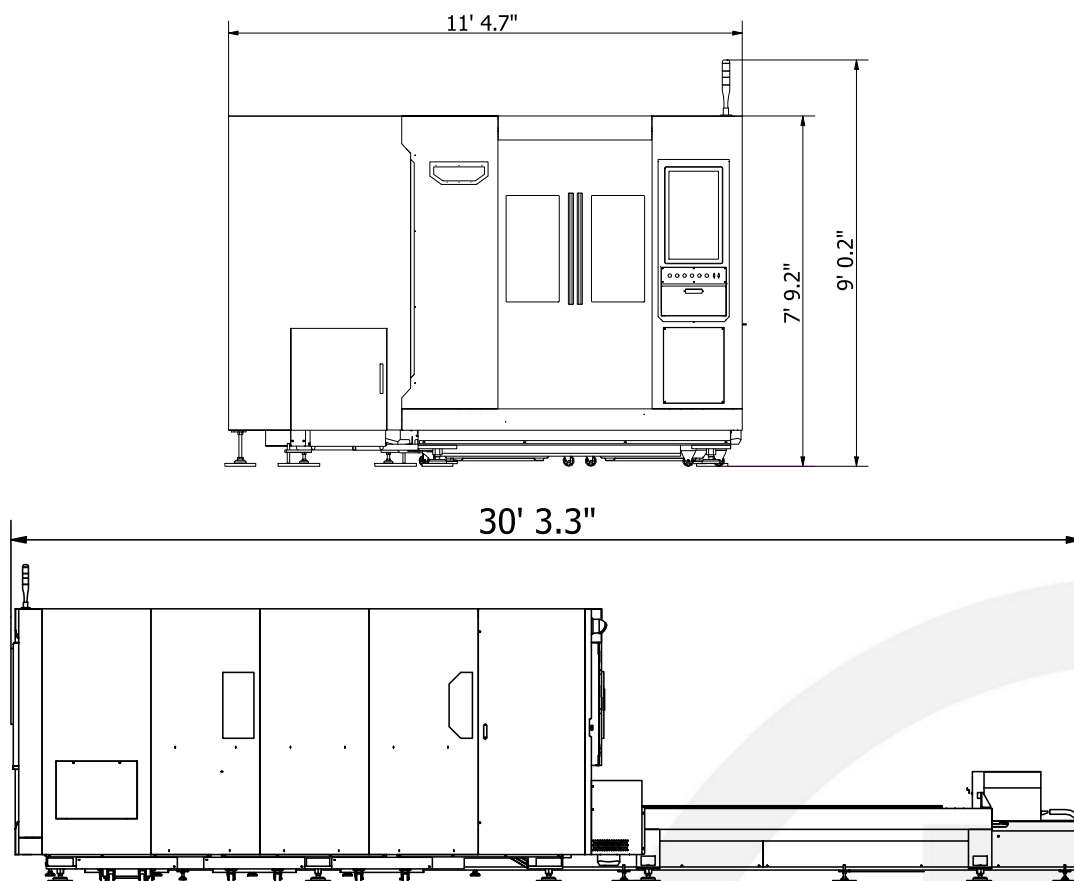
Pneumatic supply for actuators	87psi   6bar		
Communication Interface	RJ45, WIFI, USB 3.0		
Compatible design formats	2D: AI, DXF, PLT, LXD, G		
	3D: IGS, IGES, STP, STEP		
Software	FORZA Play – FORZA Play T		
Software language	Spanish and English		
PC control interface	By screen and by manual control		
Cooling method	Water-cooled		
Chiller tank capacity <sup>(11)</sup>	TFLW	CWFL	HL
	26.4gal   100L	18.5gal   70L	11.1gal   42L
Gas connection diameter	O <sub>2</sub> and N <sub>2</sub> 8mm ( <sup>5</sup> / <sub>16</sub> in) hose (Nylon)		
Maximum gas pressure at laser head	362.59psi   25bar		
Maximum Air/N <sub>2</sub> input pressure	435psi   30bar		
Maximum O <sub>2</sub> input pressure	130.5psi   9bar		
Recommended N <sub>2</sub> input pressure	≤232psi   ≤16bar		
Recommended O <sub>2</sub> input pressure	87psi   6bar <sup>(12)</sup>		
Machine weight	7.9ton   7175kg		
Machine shipping weight	8.2ton   7450kg		
Machine dimensions	11.4 x 30.3 x 9 ft   3471 x 9227 x 2748 mm		
Required floor resistance	92.45psi   6.5Kgf/cm <sup>2</sup>		
Relative humidity	< 85%		
Operating temperature	35.6 – 95 °F   2 - 35 °C		
Storage temperature	46.4 – 86 °F   8 - 30 °C		
Certifications	CE, RoHS		

11. The tank size depends on the cooler model equipped in the laser machine. At the time of installation, at least 1.1 gallons (4 liters) of additional distilled water beyond the tank capacity must be available to fill the water circuits between the chiller, the power supply, and the laser head.

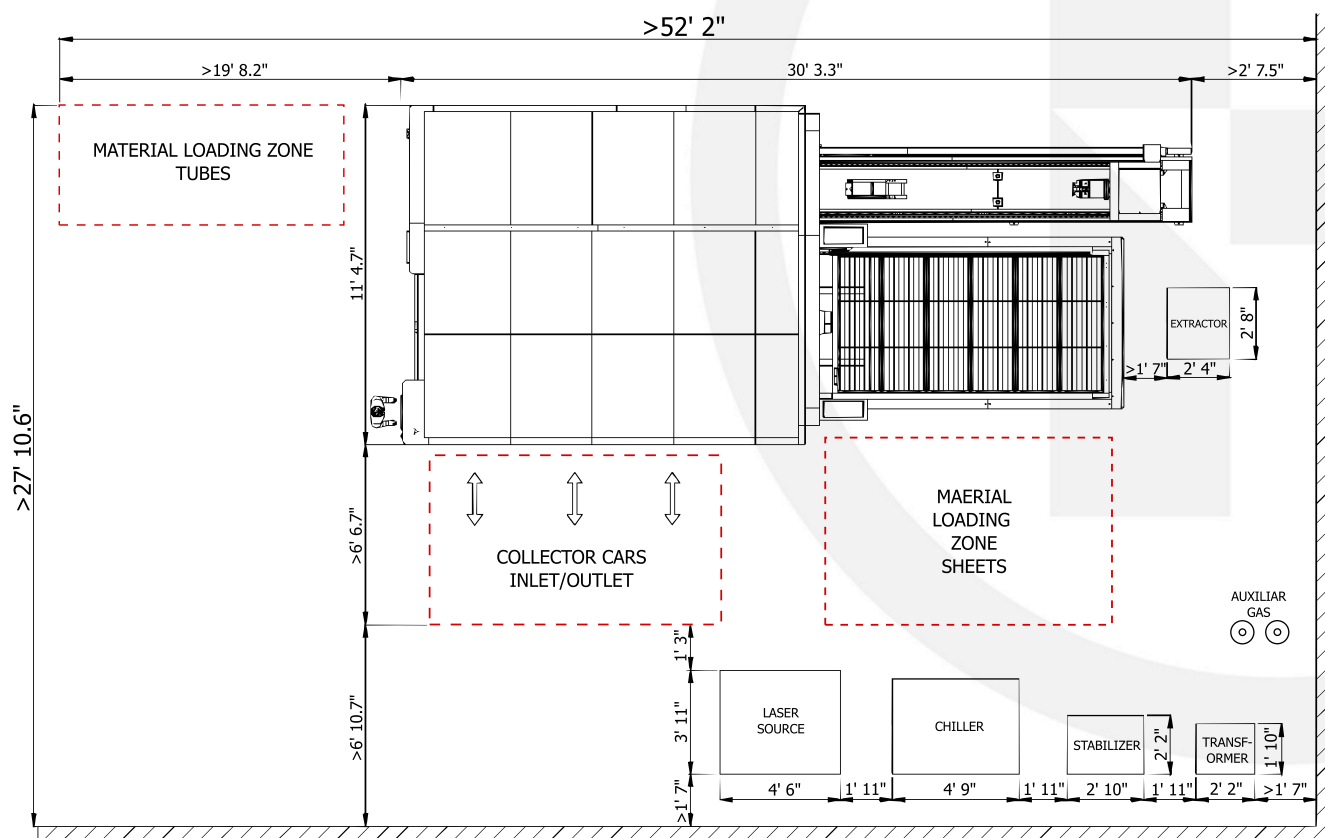
12. The specified pressure is measured at the tank pressure indicator output; from this pressure, the valves are calibrated.



## Machine Dimensions

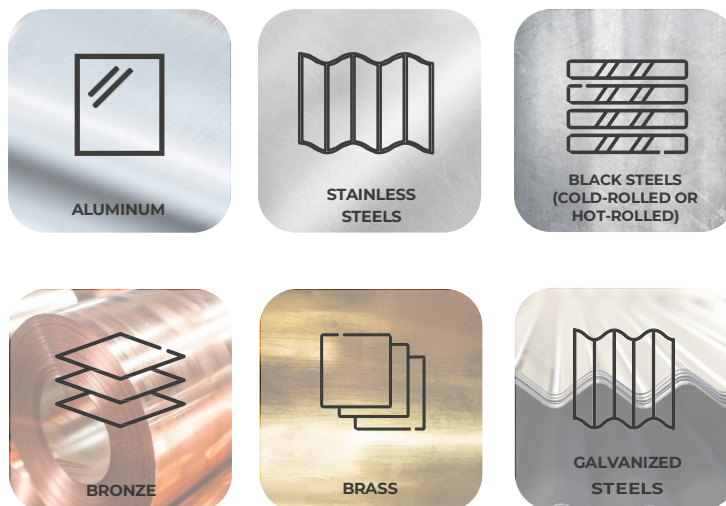


## Required Space

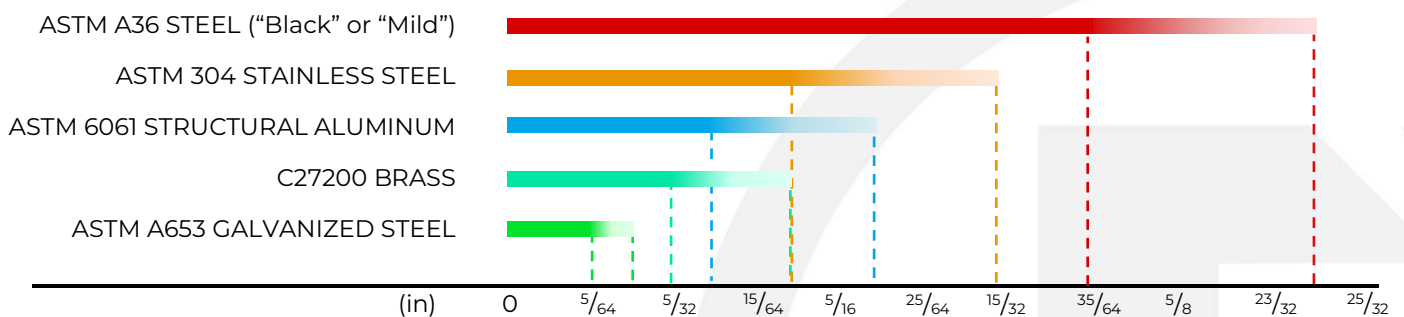


\* Peripheral dimensions may vary depending on the machine model.

## Applicable Materials














## Cutting Thicknesses by Material

















MATERIAL	IDEAL THICKNESS <sup>(1)</sup>			MAXIMUM THICKNESS <sup>(2)</sup>		
	mm	in	gauge	mm	in	gauge
ASTM A36 STEEL ("Black" or "Mild")	19	3/4	-	25	1	-
ASTM 304 STAINLESS STEEL	12	15/32	-	16	5/8	-
ASTM 6061 STRUCTURAL ALUMINUM	9	11/32	-	12	15/32	-
C27200 BRASS	7	9/32	2	10	3/8	-
ASTM A653 GALVANIZED STEEL	3	1/8	11	5	3/16	6

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## Packing List:

- ❑ 1 x FORZA Scanor T 6000W Machine 
- ❑ 1 x LC80 Head 
- ❑ 1 x Wireless remote control 
- ❑ 1 x Wireless keyboard and mouse 
- ❑ 1 x Laser safety glasses with case 
- ❑ 1 x Waste collection cart set 
- ❑ 25 x Machine leveling feet 
- ❑ 1 x Cable tray and drag chain assembly kit (4 pieces) 
- ❑ 49 x Support slats 
- ❑ 1 x Monitor screen 
- ❑ 1 x Industrial CPU 



### - TOOLBOX -

- ❑ 1 x Plastic toolbox 
- ❑ 1 x Scotch tape 
- ❑ 1 x Masking tape 
- ❑ 1 x Metric Allen key set 
- ❑ 1 x screwdriver set (4 pieces) 
- ❑ 1 x Door and switch key set 
- ❑ 1 x Adjustable wrench 
- ❑ 1 x Cotton swabs and cleaners 
- ❑ 1 x 6 mm (15/64in) bolts and anchors bag 
- ❑ 1 x Electrical terminal set 
- ❑ 1 x Service terminal block set 
- ❑ 100 x 3/8" expansion bolts 
- ❑ 30 x Screws + Fischer plugs 
- ❑ 2 x 10" extraction duct clamps 






### - LICENSES -

- ❑ 1 x FORZA Play Software License
- ❑ 1 x **FORZA Vectors** license – 1 year
- ❑ 1 x **FORZA Academy** full license – 1 year
- ❑ 1 x **Super 7 SUPPORT** license – 4 years

### - PERIPHERALS -

- ❑ 1 x 380V / 70 KVA Voltage Stabilizer 
- ❑ 1 x Automatic 6kW Chiller 
- ❑ 1 x MFSC Power Supply – 6000W Max Photonics 
- ❑ 1 x 3 kW Industrial fume extractor 
- ❑ 1 x 70 KVA Transformer [220V - 380V] @220v3ph 
- ❑ 1 x 70 KVA Transformer [250V - 380V] @250v3ph 
- ❑ 1 x 70 KVA Transformer [440V - 380V] @440v3ph 
- ❑ 1 x 70 KVA Transformer [250V - 380V] @480v3ph 

### - CONSUMABLES -

- ❑ 1 x Top protective lens 
- ❑ 9 x Bottom protective lenses 
- ❑ 20 x Cutting nozzles, multiple sizes 
- ❑ 1 x Ceramic base for capacitive sensor 
- ❑ 1 x 1 liter (0.26gal) ISO 68 oil 

### - POWER CABLES AND TRAYS -

- ❑ 1 x Gas extraction tube/hose, 4.8m (15.75ft) x 10" 
- ❑ 10m (32.81ft) x Metal tray 
- ❑ 2 x PU hoses for C-H cooling, 10mx8mm (32.81ftx5/16in) 
- ❑ 2 x PU hoses for C-F cooling, 10mx19mm (32.81ftx3/4in) 
- ❑ 1 x Voltage stabilizer for monitor 
- ❑ 5m (16.4ft) x Cable 3x2 AWG + 1x6AWG, B-T (T: Ring-Spade) @220v3ph 
- ❑ 5m (16.4ft) x Cable 3x3AWG + 1x8AWG, B-T (T: Ring-Spade) @250v3ph 
- ❑ 5m (16.4ft) x Cable 3x6AWG + 1x10AWG, B-E (T: Ring-Spade) @380v3ph 
- ❑ 5m (16.4ft) x Cable 3x6AWG + 1x10AWG, B-T (T: Ring-Spade) @440v3ph 
- ❑ 5m (16.4ft) x Cable 3x6AWG + 1x10AWG, B-T (T: Ring-Spade) @480v3ph 
- ❑ 2m (6.56ft) x Cable 4x6AWG + 1x10AWG, T-E (T: Ring-Ring) @220/250/440/480v3ph 
- ❑ 10m (32.81ft) x Cable 4x6AWG + 1x10AWG, E-M (T: Ring-Spade) 
- ❑ 15m (49.2ft) x Cable 4x12AWG, M-X (T: Ring-Spade) 

T: Transformer, B: MCCB, E: Stabilizer, M: Machine, F: Laser source, C: Chiller, H: Head, X: Extractor, G: Ground.

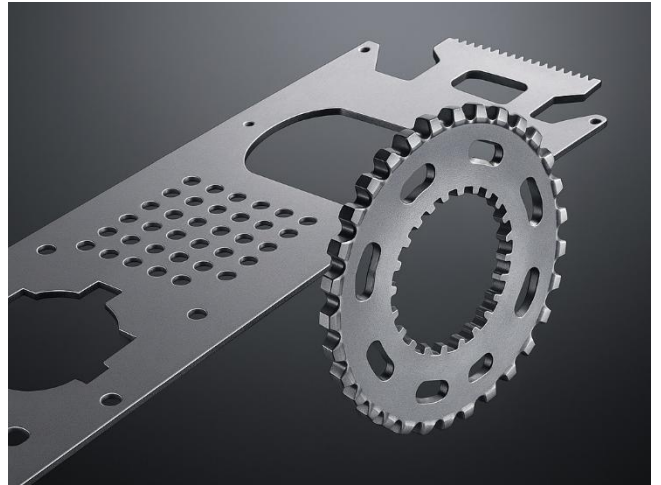
\* Reference cables are coated with TW-type insulation

Transportation symbols:  (package),  (inside the package),  (installed on the machine).

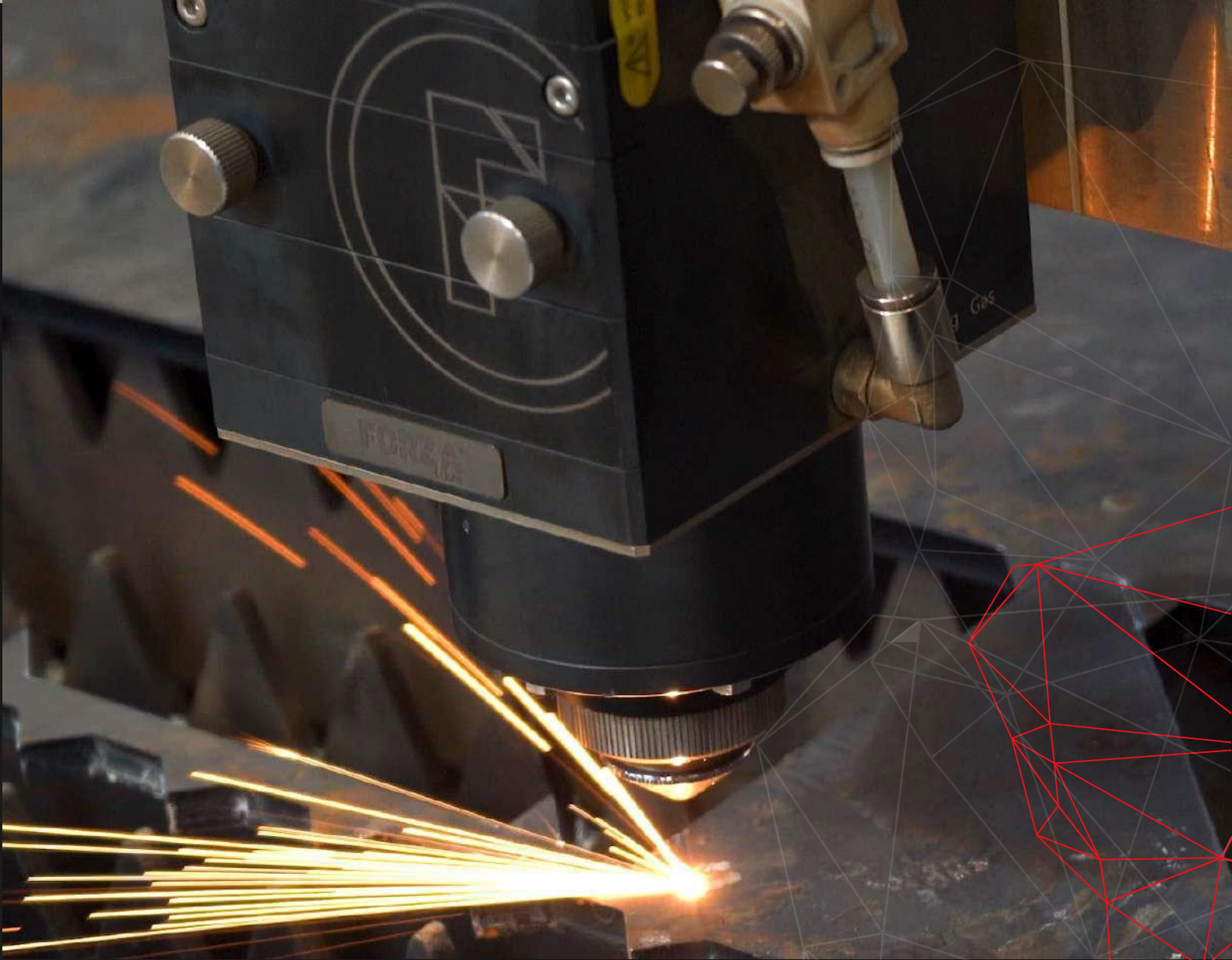
## Consumables:

IMAGE	ITEM	MODEL	DIMENSIONS	LIFETIME
	Cutting nozzle: single/double	xxxx	D:28mm M11x0.75 H:15mm	200 hours
	Bottom protective lens	CF-L37.0x7.0-8K	D:37mm T:7mm	200 hours
	Distilled water	xxxx	26.4gal   18.5gal   11.1gal 100L   70L   42L	2 months
	Ceramic base for capacitive sensor	CF-BDC28M11L12	D:28mm	1000 hours
			D:24.5mm	
			M11	
			H:12mm	
	ISOVG68 lubricating oil	xxxx	0.26gal 1L	31.09 miles 50 000 meters
	Support slats	xxxx	L:5.25ft T:5/64in L:1600mm T:2mm	186.4 miles 300 000 meters
	Blue grease for pinions	xxxx	Lithium grease	6.21 miles 10 000 meters
	Secondary Bottom Protective Lens	CF-L30.0x7.0-8K	D:37mm T:7mm	Not specified
	Top protective lens	CF-L21.5x2.0-8K	D:21.5mm T:2mm	Not specified

## Manufactured Parts:







At FORZA Laser, laser specialists, our team has everything you need to take your business to the next level.

Find us on our social media



[forzalaser.com](https://forzalaser.com)

**FORZA**<sup>®</sup>  
Laser