

→ **SpeedMarker 300**  
**Technical Datasheet**



→ **Compact high-speed desktop workstation**  
 Industrial laser marking on minimal footprint  
 Safe laser class 2 system



<b>Laser</b>					
Laser	Ytterbium pulsed fiber lasers, maintenance free				
Wavelength	1064 nm				
Beam quality	M <sup>2</sup> < 2				
Power stability	better ± 5%				
Cooling	air cooled				
Laser type	FL 10	FL 20	FL 30	FL 50	FL 20 MOPA
Max. average output power	10 W	20 W	30 W	50 W	20 W
Max. pulse energy	1 mJ	1 mJ	1 mJ	1 mJ	1 mJ
Pulse repetition rate [kHz]	2-200	2-200	2-200	2-200	1.6-1000
Adjustable pulse duration	x	x	x	x	✓
Pulse duration [ns]	100 ± 20	100 ± 20	100 ± 20	100 ± 20	4, 8, 14, 20, 30, 50, 100, 200
Integrated pilot laser	✓	✓	✓	✓	✓

<b>Galvo-System</b>			
Lens / Focal length	F-100	Standard: F-160	F-254
Marking area [mm x mm]	70 x 70	120 x 120	190 x 190
Focal diameter	~ 27 µm	~ 45 µm	~ 68 µm
Max. marking speed <i>(Option high-speed scan head)</i>	800 cps – 1 mm single line with F = 160 mm <i>(900 cps – 1 mm single line with F = 160 mm)</i>		
Max. positioning speed <i>(Option high-speed scan head)</i>	12.000 mm/s with F = 160 mm <i>(15.000 mm/s with F = 160 mm)</i>		



<b>Workstation</b>			
Interior dimensions (W x D)	350 x 400 mm <sup>2</sup>		
Dimension of opening (W x H)	350 x 383 mm <sup>2</sup>		
Door	manual		
Maximum part size (W x D)	350 x 400 mm <sup>2</sup>		
Maximum part height (Depending on lens) * 16mm with optional high-speed scanner	250 mm F-100	171 mm F-160	22 mm* F-254
Maximum load	25 kg		
Table	Aluminum t-slot table (Isel PT 25) 375 x 400 mm <sup>2</sup>		
Z-axis	Mechanical or software-controlled Z-axis		
Traveling distance Z-axis	250 mm		
Pass-through option (W x H)	200 x 165 mm <sup>2</sup>		
Color	RAL 3002, RAL 7016, RAL 7035		

<b>Control</b>	
Computer	Industrial PC as 19" rack unit, 3RU high, Windows <sup>®</sup> 7
Interfaces	USB, Ethernet, RS232,
Interfaces laser	Laser-interlock, marking-start (24 VDC), marking-stop (24 VDC), E-Stop, Error-Reset, Laser-Busy, optional digital I/O's (24 VDC),
Software	SpeedMark





Options / Accessories	
Optional lenses and galvo scanners	F-100, F-160, F-254 High-speed scan heads with lenses
Focus finder	Second pilot laser for precise and user friendly adjustment of working distance
SpeedMark Vision – Smart Adjust	Integrated camera system for positioning support: Camera image is shown in the operator GUI and permits a user friendly and very precise positioning of the marking directly onto the work piece. Different camera lenses with different image sizes and resolutions are available --> please refer to the <u>datasheet "SpeedMark Vision – Smart Adjust"</u> .
Software	DirectMark printer driver: Laser marking as easy as printing. Independent from software
Extended I/O interface	Additional in- and outputs, 24 VDC
Pass-through	Optional pass-through for marking of larger parts. Machine will become laser class 4; not retrofitable
Additional optional accessories	<ul style="list-style-type: none"> <li>• Software controlled Z-axis</li> <li>• Mini rack for computer and laser unit</li> <li>• Rotary unit with different chucks</li> <li>• Foot switch for efficient and user friendly control of the system</li> <li>• Exhaust systems</li> </ul>
Industrial PC – high performance	Optional and more performant version of industrial PC (CPU, HDD, RAM, graphics card) for graphical applications.

Dimensions / Installation / Laser Safety	
Dimensions (W x H x D)	Marking head: 120 x 138 x 528 mm <sup>3</sup> Laser rack unit: 483 x 140 x 686 mm <sup>3</sup> <i>(equals 3RU, 19" compatible)</i> PC: 483 x 140 x 410 mm <sup>3</sup> <i>(equals 3RU, 19" compatible)</i>
Footprint (W x D) <i>(with software controlled Z-axis)</i>	572 x 851 mm <sup>2</sup> <i>(445 x 851 mm<sup>2</sup>)</i>
Height (with open door)	653 mm <i>(938 mm)</i>
Weight	App. 48 kg (without PC, laser rack and marking head) PC: app. 11,5 kg, laser rack: app. 17 kg
Ambient conditions	Operating temperature range +5 to +35° C. Relative humidity max. 90 %; Non-condensing
Electrical requirements	115 - 230 VAC, 50/60 Hz, 1/N/PE
Power consumption	< 600 W <i>(incl. PC)</i>
System protection	Marking head: sealed against spray water <i>(IP 54)</i> Laser rack unit: dust protected <i>(IP20)</i>
Laser class	CDRH laser safety; laser class 2; CE certified



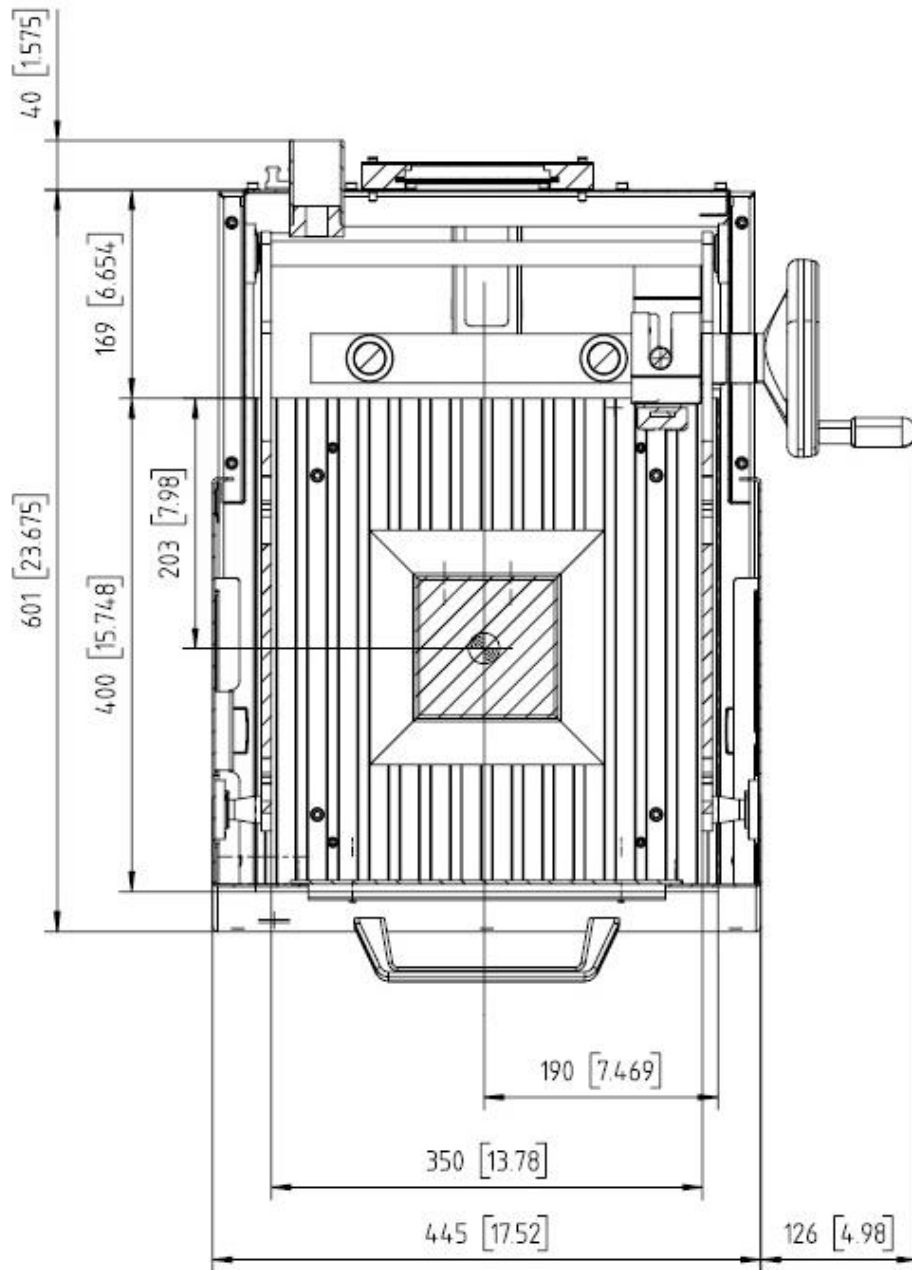


Figure 1: Working area top view



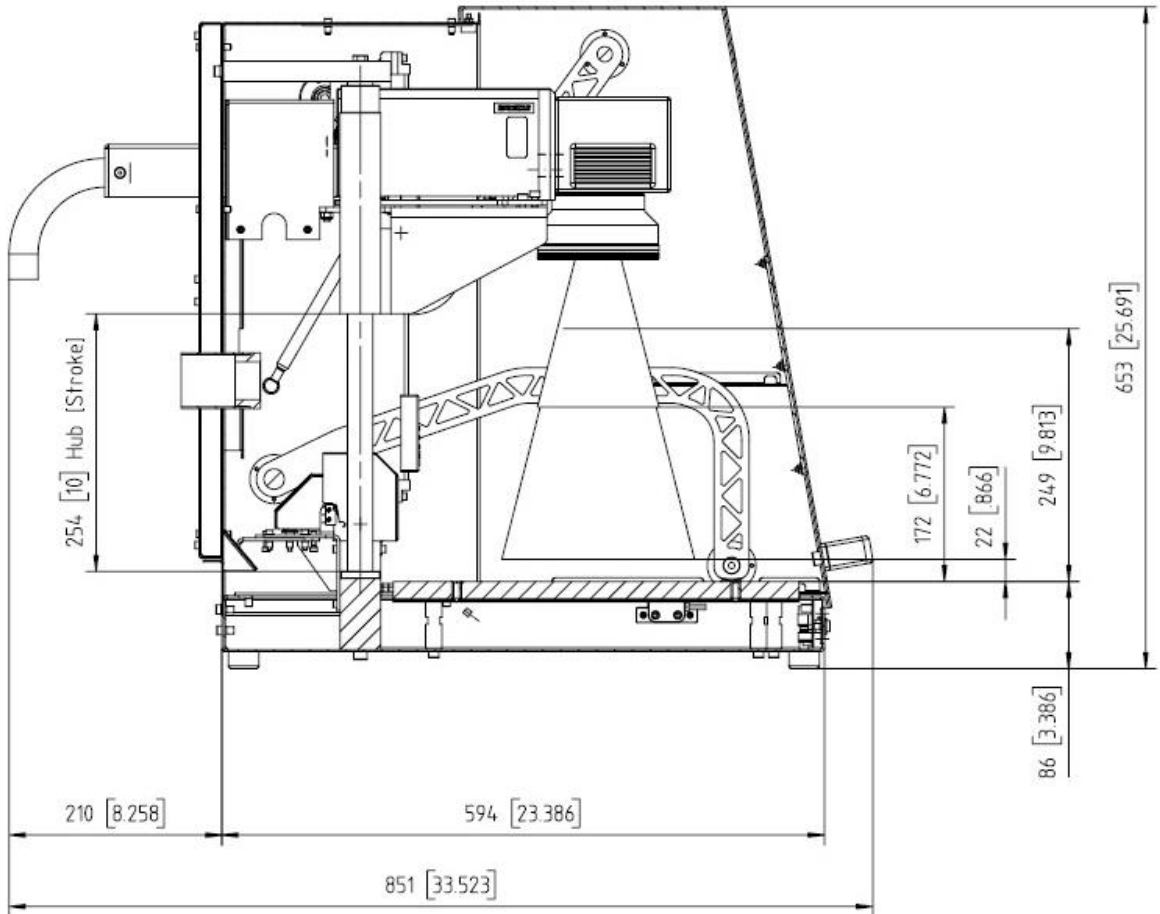


Figure 2: Door closed

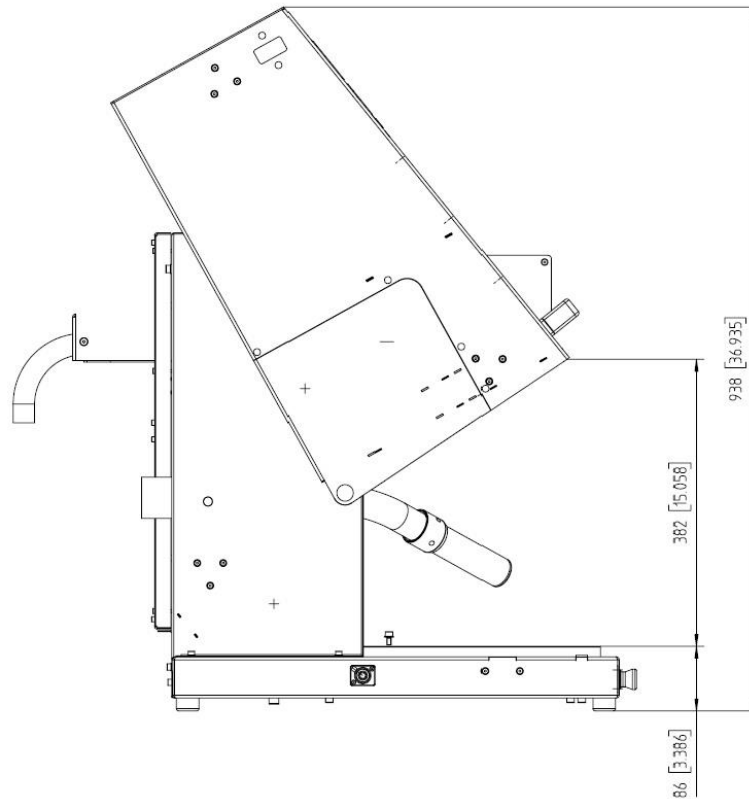


Figure 3: Door open

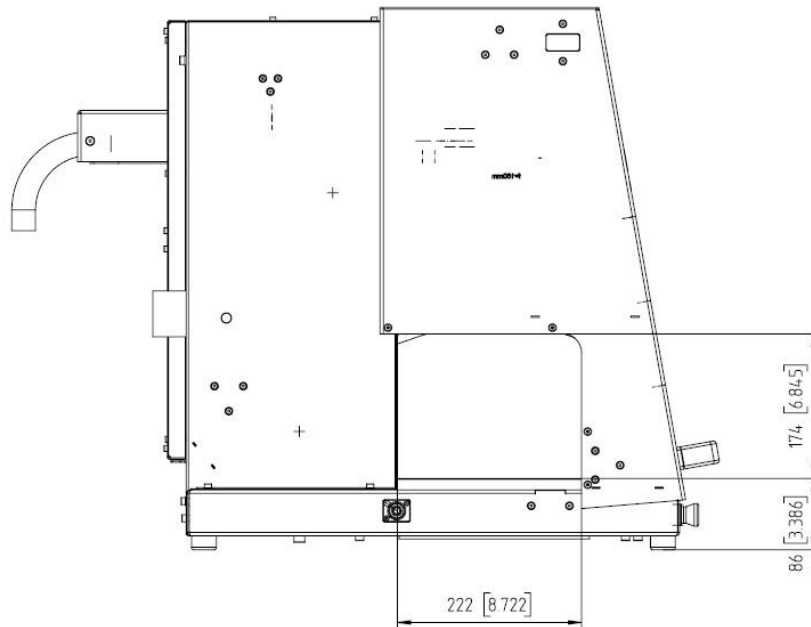


Figure 4: Pass-through option



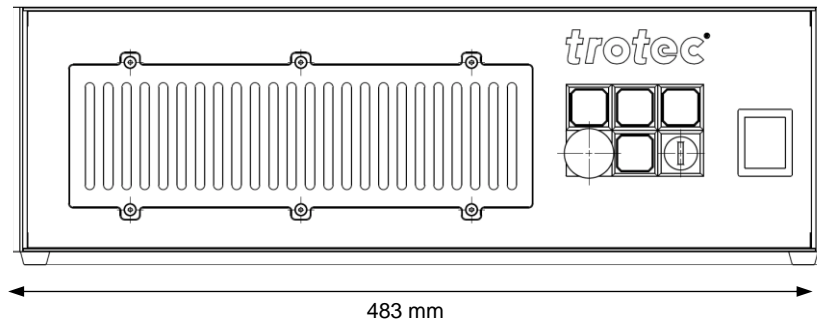


Figure 5: Laser unit

Laser unit:	482,6 x 140 x 686 mm <sup>3</sup> (W x H x D) (3RU, 19" compatible)
PC:	482,6 x 140 x 410 mm <sup>3</sup> (W x H x D) (3RU, 19" compatible)

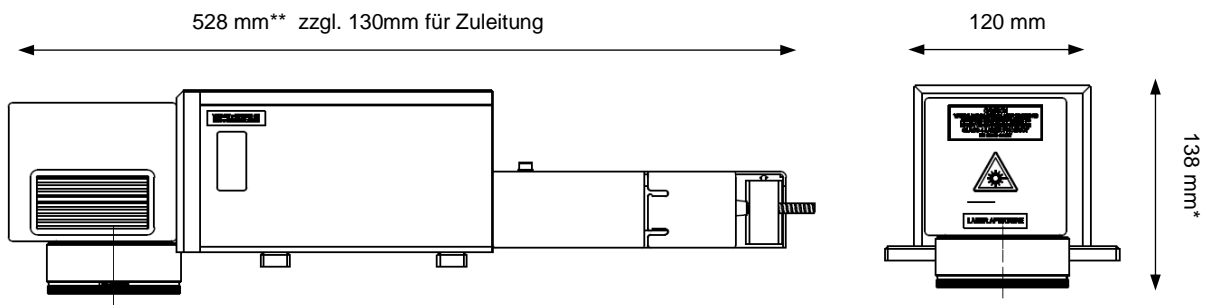


Figure 6: Marking head

\* mit F = 160 mm  
 \*\* 573mm (50 Watt)

Content subject to change without prior notice  
 Updated: October 2016

