

MTR²

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TECHNICAL DOCUMENTATION

FL1 Version: 1.0
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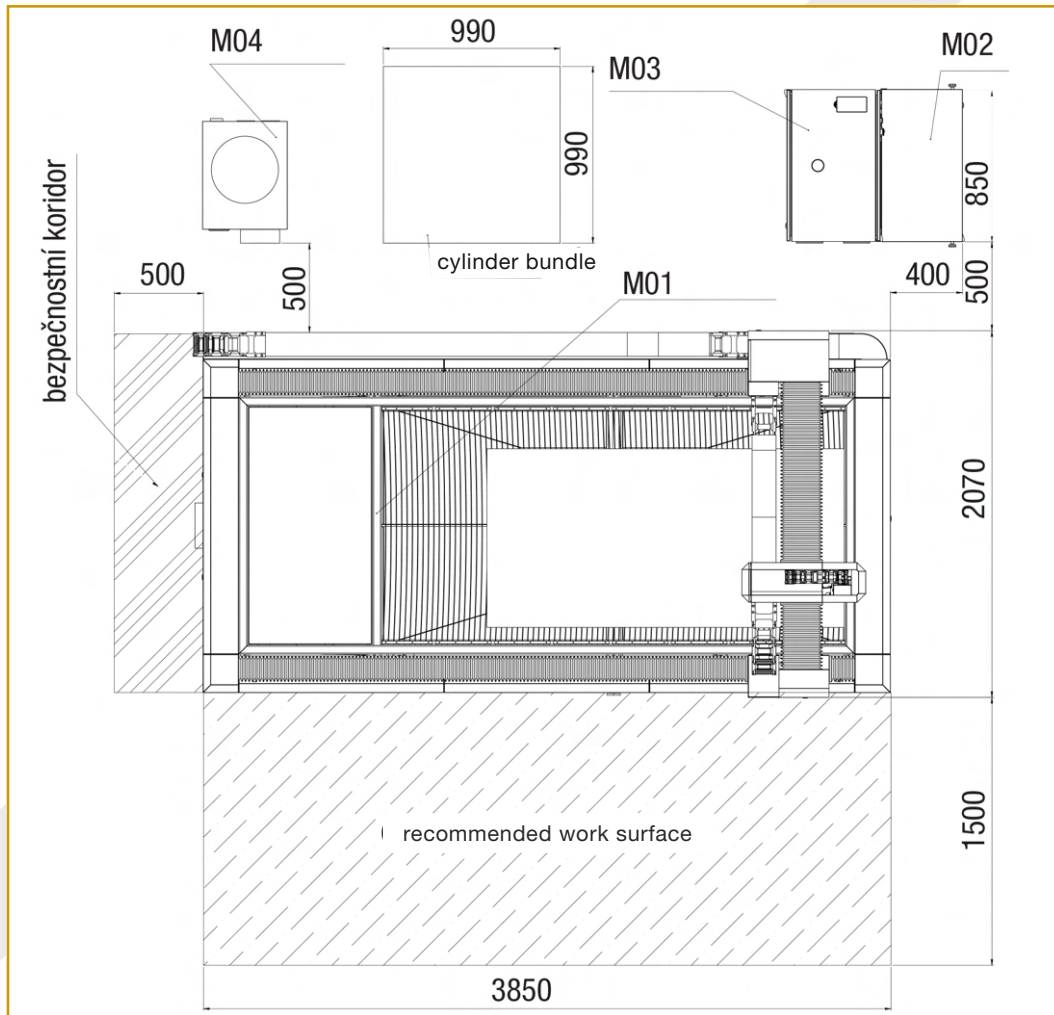




Machine type

MTR²-FL1

Machine dimensions - Module M01 - chassis	2070 x 3895 x 1851 mm
Assembly footprint with optimal layout	5060 x 4750 mm
Laser output power	1500 W
Max. power consumption	16 kW
Effective work surface	2500 x 1300 mm
Transmission of driving force	Racks and pinions
Driver	Actuators
Software	CypCut
Axial accuracy	+/-0.05 mm/m
Repeat accuracy	0.05 mm
Rated voltage/power supply with respect to transformer	3 x 230 V/400 V AC
Frequency	50 Hz



List of modules:

- M01 Mechanical module
- M02 Laser module
- M03 Electrical module
- M04 Cooling module

M01 Mechanical module - chassis

Includes a welded base frame - chassis and gantry - welded steel structures, an aluminium "trolley" for laser head movement, a cover and an auxiliary structure for positioning of the machine without additional equipment.

M02 Laser module - primarily contains the laser emitter and head

Consists of a housing in which the laser emitter itself is mounted, a connecting optical cable and an automatic laser cutting head. The head is never disconnected during replacement of the optical module at the client's premises and is therefore a permanent part of the module. During transportation of the module, the head is placed in a mounting bracket located in the laser module housing.

M03 Electrical module - contains fuses and the ČSN EN 60204-1 control system

Contains all the electrical wiring and electronic components necessary for machine operation. On the front side is the machine operator's workstation, equipped with an integrated industrial computer monitor, keyboard, mouse, remote control and MTR² touch panel which allows the machine to be switched on and off and displays operating parameters during work or setup.

M04 Cooling module

Provides cooling for the laser emitter and laser cutting head. 2 panels on the front display the temperature in each of the cooled circuits. On the rear side there are connections for the cooling circuits, filter grates and the cover of the MTR² system extension, which provides automatic control over the flow and temperature parameters in each circuit of the system.

Usage

The MTR² fiber cutting laser with a 2500 x 1300 mm work surface is equipped with a Raycus laser emitter which has an output of 1.5 kW. This guarantees a clean cutting edge for 0,5 - 5 mm stainless steel, 0,5 - 12 mm black steel, non-ferrous metals and aluminium in accordance with further specifications when connected to nitrogen and oxygen assist gases.

Work safety

The MTR² fiber cutting laser is classified as laser safety class 4. It can only be operated in a designated area and by trained personnel. The equipment is CE certified. It is forbidden to make any changes to the equipment.

Pricing of the MTR² services

Machine installation	2.000 EUR (with your participation) or 2.500 EUR (installed by MTR ² technicians only)
Fee	1,3 EUR = 1 point Minimum monthly subscription of 1.000 points. The deduction of points depends on the amount of work. Simply, the more the machine cuts, the fewer points are deducted. Unused points are carried over to the next month.
Machine insurance	75 EUR/month
Machine deinstallation	2.000 EUR - The fee is charged only if the machine is deinstalled in less than 9 months.

*Time is only counted when the laser is actively cutting. Transitions, material loading times, etc. are not counted.

Table of materials

Assist gas - Nitrogen, minimum purity: 4.8.

Material	Min. thickness [mm]	High quality cut [mm]	Quality cut [mm]	Usable cut [mm]	Will still cut [mm]
Stainless	0,5	0,5 - 3	3 - 4	5	6
Carbon steel	0,5	0,5 - 2	3	4	5 - 6
Aluminium	0,5	0,5 - 2	3	3,5	4

Assist gas - Oxygen

Material	Min. thickness [mm]	High quality cut [mm]	Quality cut [mm]	Usable cut [mm]	Will still cut [mm]
Stainless	Not suitable with oxygen				
Carbon steel	2	2 - 5	6 - 9	10	11 - 12
Aluminium	0,5	0,5 - 2	2,5	3	3,5