Automator
Marking Systems

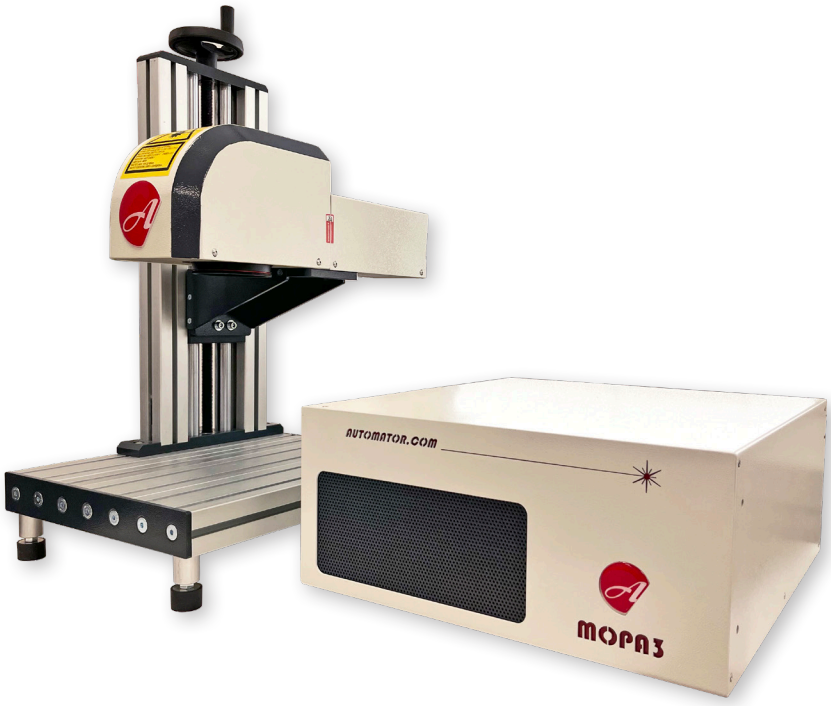
MOPA 3 100W

Laser Marking System

Software EuGENIUS™

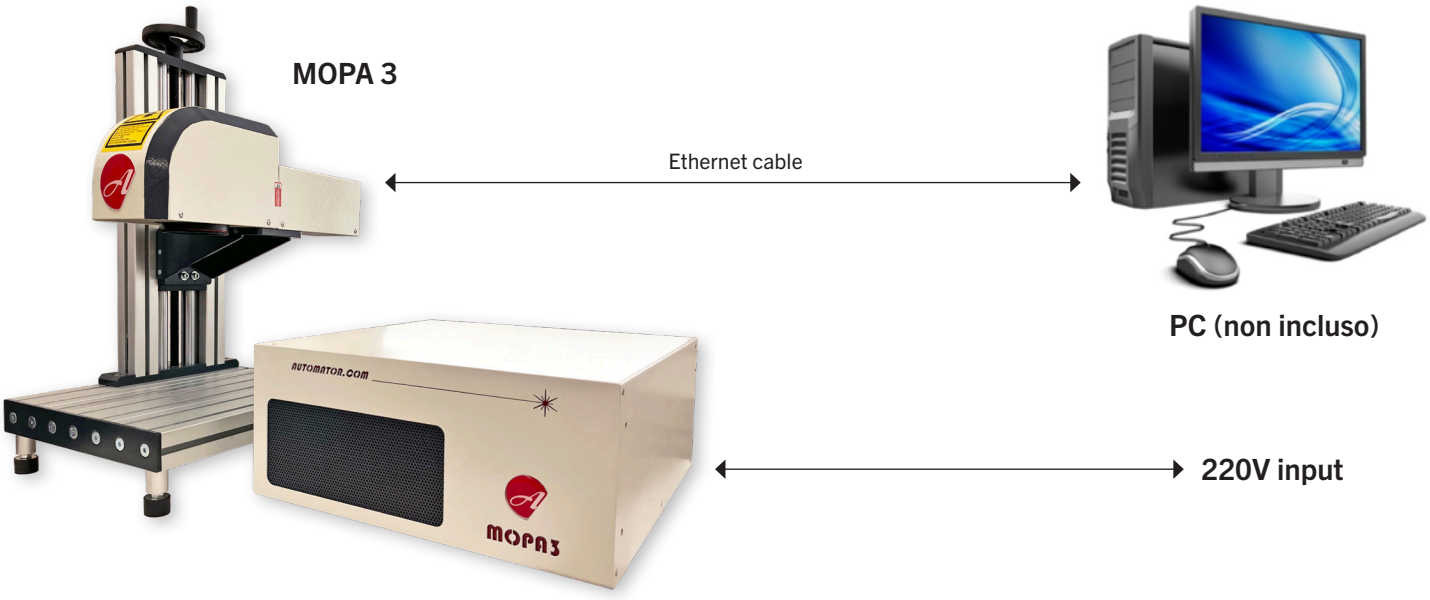
Safety Class **4**

MOPA 3 is the new high-power, high-precision laser marking system. The machine generates a laser beam from the source to the head via a flexible fibre cable.
The innovative main block and marking head are designed and optimised for marking in a heavy work environment where vibration, noise and dust are the order of the day.
Perfect for strong, contrasting and contrasty code marking in perfect and uniform, without roughness.



CONFIGURATION

The main concept of the MOPA 3 project is modular engineering, to combine the best components in the laser system with interchangeable parts and options, designed and manufactured by Automator.



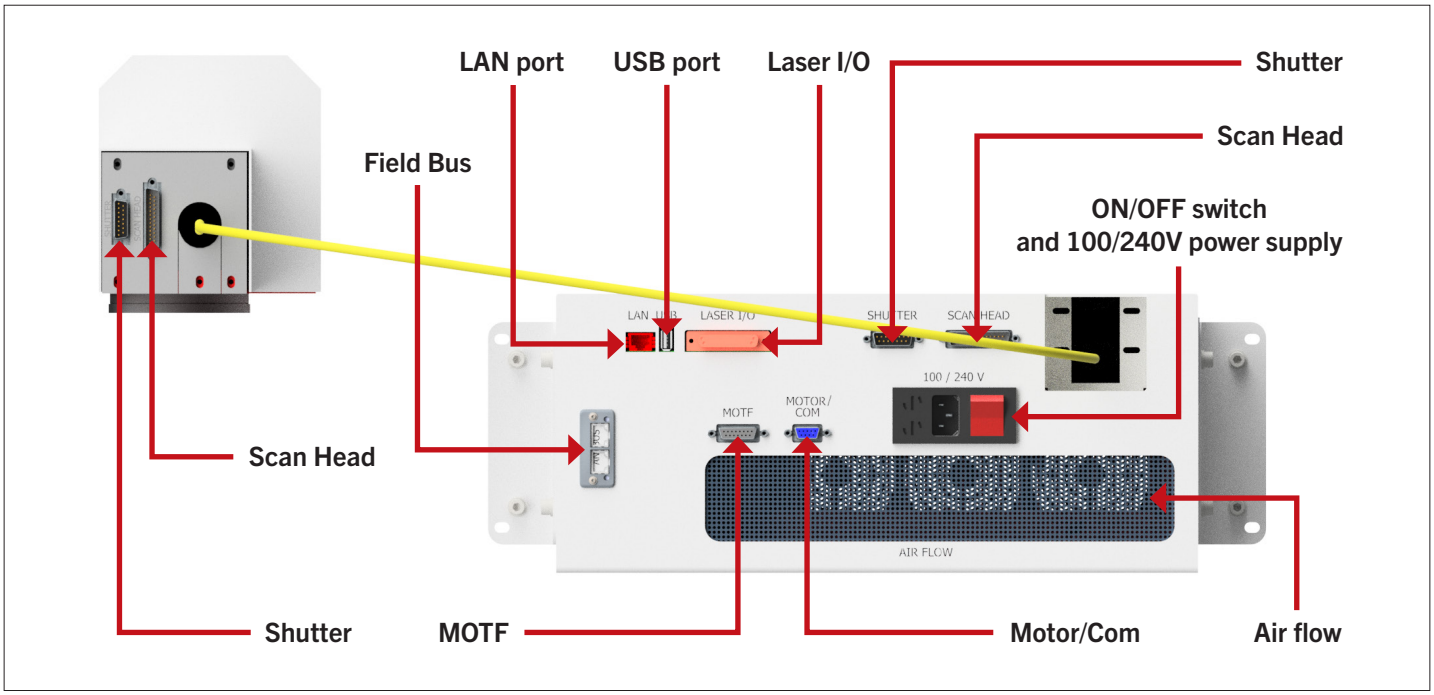
TECHNICAL DATA

Rack dimensions: LxPxA (mm - inches)	500x465x180 - 19,68x18,31x7,09
Head dimensions	445x 435x165 - 5,71x17,13x6,5
Head weight (kg - lb)	6 - 13,23
Total weight (kg - lb)	28 - 61,73
Source type	MOPA
Power range (W)	2 - 100
Wavelength (nm)	1064
Polarisation	Casual
Anti-glare protection	Yes
Power supply (Vac - Hz)	240 - 50-60
Beam quality (M2)	TEMOO
Pulse duration (ns)	6 - 200
Output power (%)	10 - 100
Power consumption (20°C) (W)	650
Working temperature (°C - °F)	0-40 - 32-104
Storage temperature (°C - °F)	-10+60 - 14-140
Humidity (%)	10-85 non-condensing
Cooling system	Air
2011/65/EC Directive - Restrictions on Hazardous Substances (RoHS)	In compliance

FUNCTIONAL SAFETY

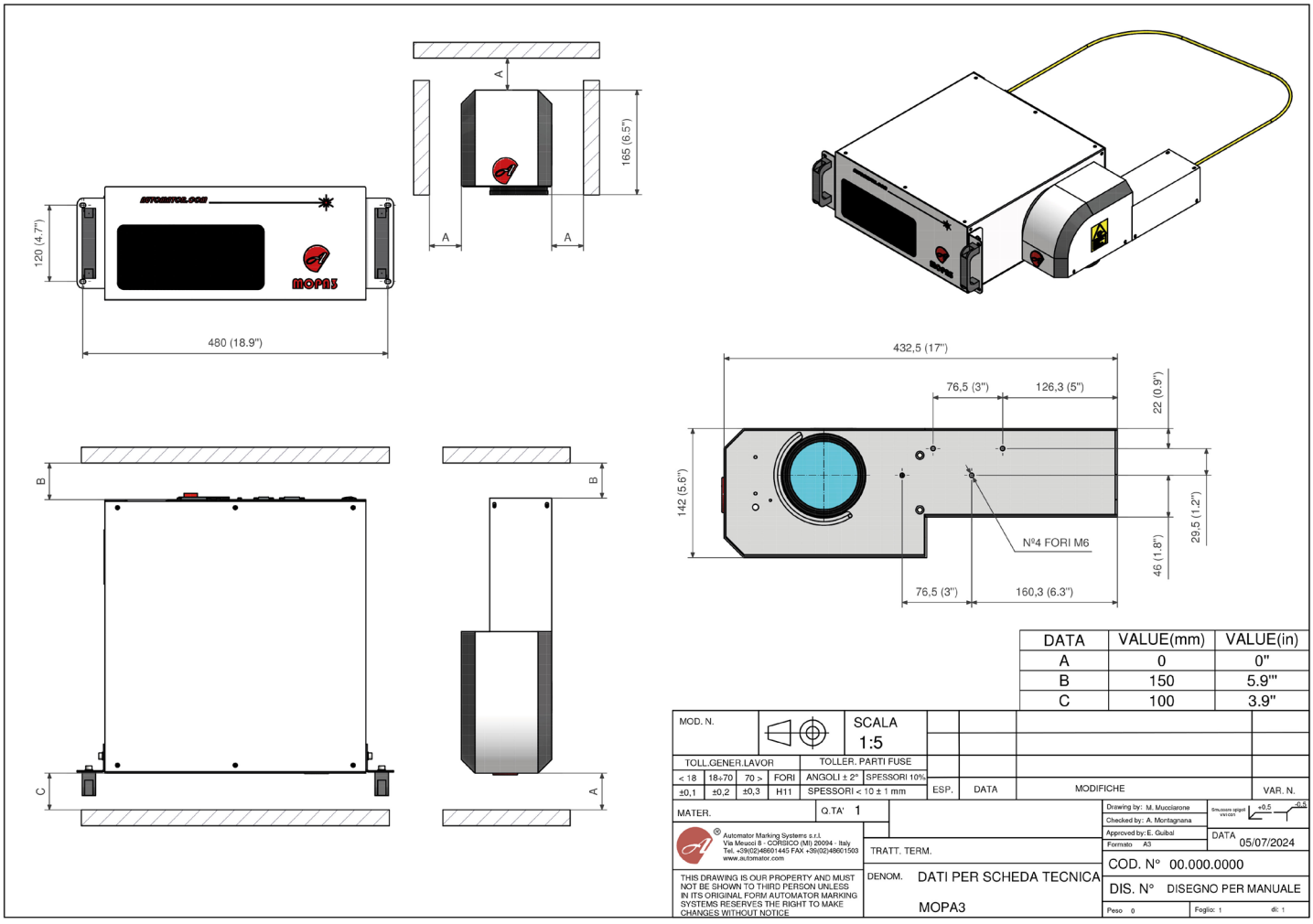
SCHMERSAL safety sensor type RSS260	(Ple) Category 4 EN 13849-1
Principle of action	RFID
PFH	$6{,}8x10^{-10}$/ h
PFD	$1{,}2x\ 10^{-4}$
SIL	for SIL 3 applications
Service life	20 years
The safety device is classified according to EN ISO 14119	Type 4

CONNESSIONI DEL SISTEMA



SCANNING HEAD - RED POINTER

The MOPA 3 laser system is equipped with an auxiliary visible red light at 632 nm (class III) with a power of approximately 2 mW. It is used as a pointer to preview the work area directly on the surface of the workpiece without marking.



DATA	VALUE(mm)	VALUE(in)
A	0	0"
B	150	5.9'"
C	100	3.9"

MOD. N. | SCALA 1:5 | TOLL.GENER.LAVOR | TOLLER. PARTI FUSE | < 18 | 18÷70 | 70 > | FORI | ANGOLI ± 2° | SPESSORI 10% | ±0,1 | ±0,2 | ±0,3 | H11 | SPESSORI < 10 ± 1 mm | ESP. | DATA | MODIFICHE | VAR. N. | MATER. | Q.TA' 1

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TRATT. TERM.

DENOM. DATI PER SCHEDA TECNICA MOPA3

Drawing by: M. Mucciarone | Checked by: A. Montagnana | Approved by: E. Guibal | DATA 05/07/2024 | Formato A3

COD. N° 00.000.0000

DIS. N° DISEGNO PER MANUALE

Peso 0 | Foglio: 1 di: 1

AVAILABLE LENSES AND FOCAL DISTANCES

Lenti	Flat-field focusing - Marking area	Focusing length
Standard F160 lens	110x110 mm • 4,33”x4,33”	198 mm • 7,8”
F100 lens	60x60 mm • 2,36”x2,36”	120 mm • 4,7”
F254 lens	155x155 mm • 7”x7”	302 mm • 11,9”
F330 lens	220x220 mm • 8,66”x8,66”	390 mm • 15,3”
F420 lens	300x300 mm • 12,59”x12,59”	520 mm • 20,5”

SHUTTER

The MOPA 3 marking head incorporates and uses a shutter: this electromechanical actuator guarantees shutter operation in milliseconds.
During marking, the shutter remains in the open position and closes again when the operation is complete, ensuring a secure locked condition.
Shutter movement can be controlled by the laser hardware/software or by 1/O signals. An integrated certified security sensor (RFID) detects the position of the shutter in the housing, providing critical information confirming the status of its position.

SOFTWARE EUGENIUS™

The EuGenius™ Software has been designed and developed by a highly specialised team at Automator, based on our know-how in long-term marking and requests from our customers. Versatile in application, EuGenius™ is easy to use, even by operators without specific technical training or CAD knowledge.

- Multilingual menus
- Datamatrix” barcode, 2D code, QR code, PDF code management
- Easy import of DXF vector drawings
- Easy import of BMP, JPEG, JPG, GIF raster graphics
- Full set of laser parameters such as laser speed or power
- Text, text arcs, text on curved lines
- Line, rectangle, polygon, circle and arc

- TTF Font ® (Windows properties)
- Graphics preview
- Texts with date, serial numbers, shift codes and year/month/day
- Markings with fill or outline only
- Template (object to be marked as background)
- Scaling, movement, rotation, group creation of each object on screen
- Quick test for easy identification of the most most correct setting parameters
- Automations & object tiling
- External axis controlled by software
- Shutter control
- Easy diagnosis for troubleshooting

EuGENIUS™ Laser Marking Software

MOPA 3 - PIN OUT - I/O SCHEME

Pin:		1/O 25 female pin
1	Input	Com. Inputs
2	Input	Laser enabling
3	Input	Marking start
4	Input	Program Selection (Standalone)
5	Input	USER 1
6	Input	USER 2
7	Input	USER 3
8	Input	USER 4 (SHUTTER)
9	Input	USER 5 (SHUTTER)
10		Nc
11		Nc
12		Nc
13	Safety	X1, X2 (Com.)
14		Com Exits
15	Output	System ON
16	Output	System ready (Standalone)
17	Output	Laser Enabled (Laser ON)
18	Output	Laser OK (System OK)
19	Output	Marking in progress
20	Output	USER OUT 1
21	Output	USER OUT 2
22	Output	USER OUT 3
23		Nc
24	Safety	Y1 (Security Channel 1)
25	Safety	Y2 (Security Channel 2)

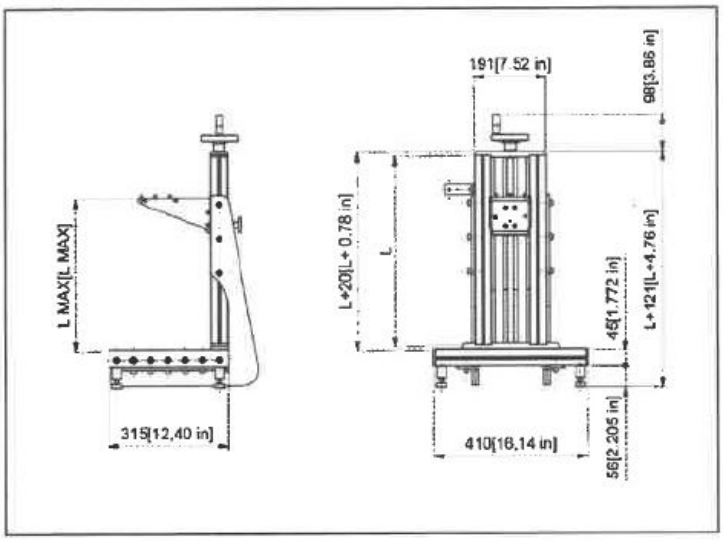
I/O handles opto-isolated signals that can be wired PNP or NPN OUTPUT: maximum current 35Vrms/50Vpk/100mApk impedance 2.5 Q.
INPUT: current 35Vrms/50Vpk/10mApk impedance 5 kQ.

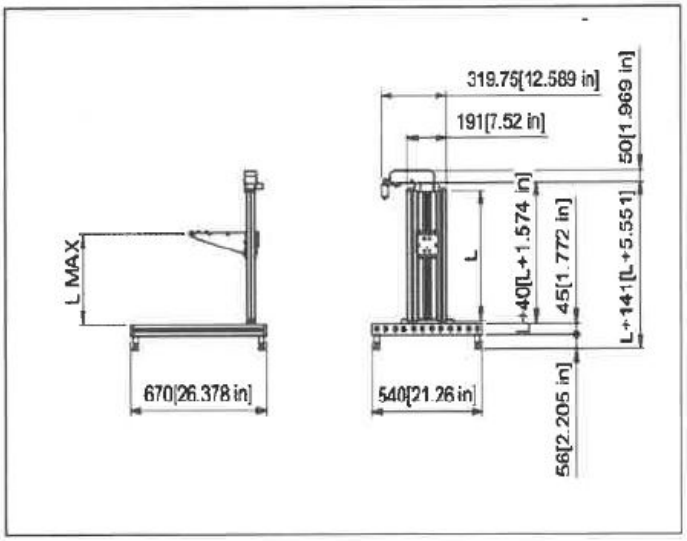
Pin:	1/O 25 female pin
1	(reserved)
2	RX2
3	TX2
4	(reserved)
5	0 vdc
6	(reserved)
7	A
8	B
9	+24 vdc

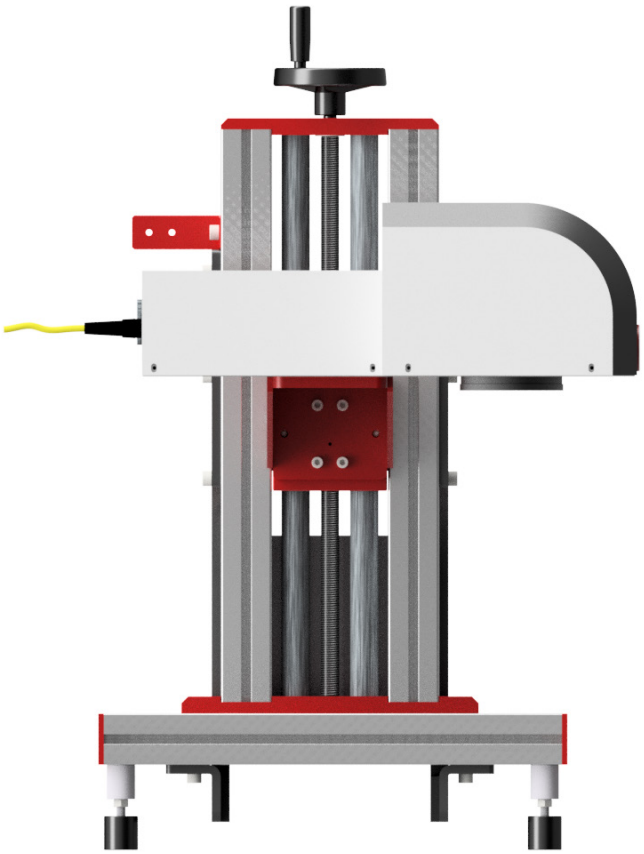
Pin:	1/O 25 female pin
1	+24 Vdc
2	0Vdc
3	A
4	B
5	Z
6	nc
7	nc
8	nc
9	+5 Vdc
10	/A
11	/B
12	/Z
13	nc
14	nc
15	nc

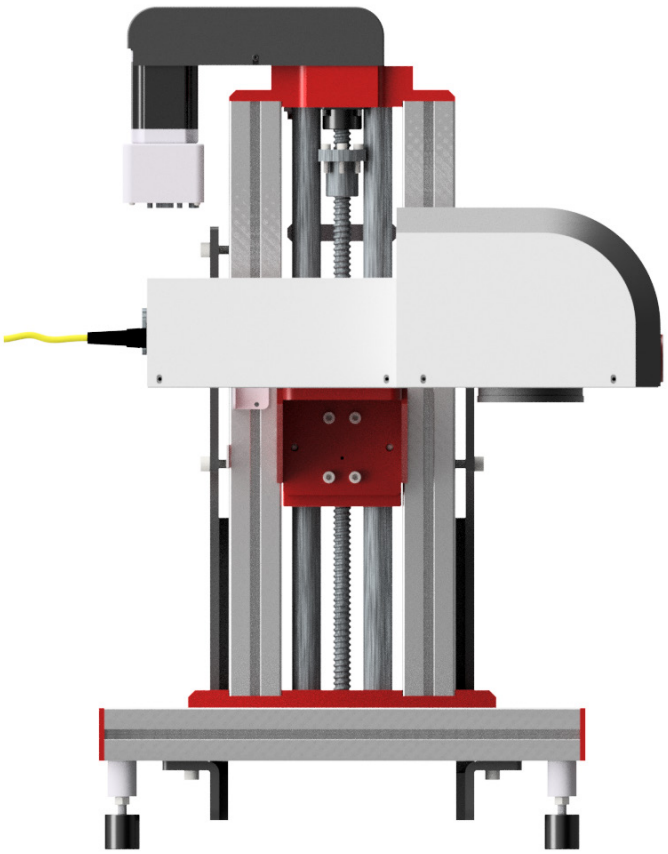
MOPA 3 - OTHER POSSIBLE CLASS 4 CONFIGURATIONS

Automator MOPA 3 is available in benchtop configuration (class 4), together with the standard or special Automator tool holder with Z-axis manual and electric up to 1200 mm height.









Examples of mounting on columns

MOPA 3 - CLASS 1 CONFIGURATIONS

Automator MOPA 3 is also available in different Safety Class 1 configurations, the laser housed in an Automator 'cabinet' with a wide range of loading areas, marking area and external automations.

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