INDUSTRIAL LASERS MEDICOM

MediCom
akciová společnost

Medicom Inc., Prague
Industrial Lasers division

For more than 25 years our company Medicom Inc. Prague has been devoted to development, production and distribution of laser systems for industrial and medical purposes.

Introduction of lasers and laser technologies has brought a new dimension into industrial production which corresponds with the ever-growing demands on increasing its quality and efficiency. Modern laser systems and technologies excel classical tools by combination of speed, accuracy, power and flexibility.

We offer a large scale of lasers in power range up to 400 W. Our main products are fiber, diode, Nd:YVO_4, Nd:YAG and CO_2 lasers designed mainly for:

- Laser Marking
- Industrial Marking
- Engraving
- Cutting
- Welding

Lasers are produced in various designs, starting from the most basic laser heads intended for further integration, universal commonly produced models, up to special customized automatic systems.

Content

		LASER PARAMETERS				
		Laser	Wavelength	Power	Marking field	Typical marking materials
LASER TYPES	LF-S	ytterbium fiber	1 064 nm	20, 30, 50, 100 W	100 x 100 to 280 x 280 mm	metals, plastics, etc.
	LV-S	Nd:YVO_4 diode pumped	1 064, 532, 355 nm	40, 20, 10, 5, 2 W	100 x 100 to 280 x 280 mm	metals, plastics, etc.
	LM-S	CO_2	10 600 nm	30, 60, 100 W	60 x 60 to 190 x 190 mm	wood, perspex, glass, etc.
	LD-S	Nd:YAG diode pumped	1 064 nm	50, 100 W	100 x 100 to 280 x 280 mm	metals, plastics, etc.
	DL200	diode laser	808, 980 nm	200 W	1 to 3 mm*	welding of plastics
	LF200	fiber laser	1 062 nm	200 W	1 to 3 mm*	welding of plastics

* spot size

LASER*fibre* LF–s

MARKING FIBER LASER

- Ytterbium fiber laser with power from 20 to 100 W
- Marking field from 100 x 100 mm to 280 x 280 mm
- Independent scanning head rotating in the axis of the laser
  Possibility of tilting the marking plane
- Compact laser size makes further integration easier
- Resistance against vibrations, dust and aerosol, maintenance-free operation
- Software – WMark, Windows environment
- Possibility of control by higher system – independent operation without LCD display and keyboard

LASER*yvo* LV–s

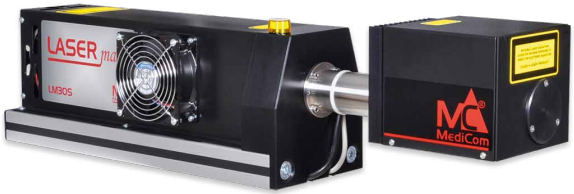
Nd:YVO_4 MARKING LASER

- Vanadate Nd:YVO_4 laser 1064 nm 20 and 40 W, 532 nm 5 W or 355 nm 2 W
- Marking field from 100 x 100 mm to 280 x 280 mm
- Independent scanning head rotating in the axis of the laser
  Possibility of tilting the marking plane
- Compact laser size makes further integration easier
- Resistance against vibrations, dust and aerosol,
  maintenance-free operation
- Software – WMark, Windows environment
- Possibility of control by higher system
  – independent operation without
  LCD display and keyboard

LASER*mark* LM–s

CO_2 MARKING LASER

- CO_2 laser with power from 30 to 200 W
- Marking field from 60 x 60 mm to 190 x 190 mm
- OEM independent laser head for further integration
- Versatile scanning head
- Lasers with the power up to 40W are air-cooled, higher powers are water-cooled
- Software – WMark, Windows environment
- Possibility of control by higher system – independent operation without LCD display and keyboard



LASER*diode*
LD–s

MARKING Nd:YAG LASER

- Laser with power from 20 to 120 W
- Marking field according application from 100 x 100 mm to 280 x 280 mm
- Independent scanning head rotating in the axis of the laser. Possibility of tilting the marking plane
- Compact size for easy further integration
- Enhanced resistance against vibrations, dust and aerosol, maintenance-free operation
- Software – WMark, Windows environment
- Possibility of control by higher system – independent operation without LCD display and keyboard

Welding laser DL200/LF200

DIODE/FIBER LASER FOR WELDING OF PLASTICS

- Diode/Fiber lasers with power from 30 to 400 W
- Compact process head - laser radiation is guided to the process head using optical fiber 100 – 400 µm
- Process optimization by appropriate wavelength selection from 780 to 980 nm
- Possibility of quasi-simultaneous welding with use of scanning head
- Diameter of focus spot is configurable and could have circle or elliptical form
- Process head equipped with laser power measurement device for operation in power regulation mode
- Contactless measurement of temperature in welding spot – temperature regulation mode
- Compact laser size makes further integration easier

Laser Station Type T

TABLE LASER MARKING STATION

- Laser sources fiber LF or vanadate LV
- Motorized linear vertical axis
- Marking field from 100 x 100 mm to 250 x 250 mm
- Usable dimensions for parts insertion 520 x 305 x 350 mm (w x h x d)
- Software – WMark, Windows environment
- Automatic cabin doors or manual rotary carousel

Laser Station Type C

COMPACT INDUSTRIAL LASER MARKING STATION WITH AUTOMATIC ROTARY CAROUSEL OR SLIDING TABLE

- Laser sources fiber LF, vanadate LV or CO_2 LM
- Motorized linear vertical axis
- Marking field from 100 x 100 mm to 250 x 250 mm
- Usable dimensions for parts insertion 600 x 200 x 290 mm (w x h x d)
- Software – WMark, Windows environment

Laser Station Type XL Door

INDUSTRIAL LASER MARKING STATION WITH MANUAL SLIDING DOORS FOR MARKING OF LARGE PARTS

- Laser sources fiber LF, vanadate LV or CO_2 LM
- Motorized linear vertical and horizontal axis Z and X
- Marking field from 100 x 100 mm to 280 x 280 mm
- Usable dimensions for parts insertion
  1000 x 500 x 550 mm (w x h x d)
- Software – WMark,
  Windows environment

Laser Station Type XL

INDUSTRIAL LASER MARKING STATION WITH AUTOMATIC ROTARY CAROUSEL OF DIAMETER 1000 MM

- Laser sources fiber LF, vanadate LV or CO_2 LM
- Motorized linear vertical and horizontal axis Z and Y
- Marking field from 100 x 100 mm to 280 x 280 mm
- Usable dimensions for parts insertion 1000 x 330 x 600 mm (w x h x d)
- Allows marking of large parts with a high productivity
- Software – WMark, Windows environment

Laser Station Type XXL

INDUSTRIAL LASER MARKING STATION WITH AUTOMATIC ROTARY CAROUSEL OF DIAMETER 1250 MM

- Laser sources fiber LF, vanadate LV or CO_2 LM
- Motorized linear vertical and horizontal axis Z and Y
- Marking field from 100 x 100 mm to 280 x 280 mm
- Usable dimensions for parts insertion 1250 x 230 x 600 mm (w x h x d)
- Allows marking of large parts with a high productivity
- Software – WMark, Windows environment

Laser Station Type MW1200

INDUSTRIAL LASER MARKING STATION MW1200 WITH AUTOMATIC DOORS AND SLIDING TABLE

- Laser sources fiber LF, vanadate LV or CO_2 LM
- Motorized linear vertical and horizontal axis Z and X
- Marking field from 100 x 100 mm to 280 x 280 mm
- Usable dimensions for parts insertion
  590 x 520 x 600 mm (w x h x d)
- Software – WMark, Windows environment
- Exchangeable fixtures with pneumatic parts fixation
  in exact position

Laser Station Type AWW

STATION FOR LASER WELDING OF PLASTIC

- Diode/Fiber lasers with power from 30 to 400 W
- Compact process head - laser radiation is guided to the process head using optical fiber 100 – 400 µm
- Process optimization by appropriate wavelength selection from 780 to 980 nm
- Programmable welding curve and weld profile
- Process head equipped with laser power measurement device for operation in power regulation mode
- Contactless measurement of temperature in welding spot – temperature regulation mode
- Diameter of focus spot is configurable and could have circular or elliptical form
- Linear, surface or circumferential welding (cylindrical parts)
- Possibility of quasi-simultaneous welding with use of scanning head – method of simultaneous welding over the entire weld curve

Automatic marking of pens

AUTOMATIC LASER MARKING MACHINE FOR PENS

- Station with fully automatic manipulation and pen rotation which allow laser marking from all sides of cylinder and also marking along the circumference of the cylinder
- Automatic pen tip and pen clip orientation
- Fully automatic marking mode with use of automatic feeder of pens
- Parts are loaded into the input tray and removed from the output tray after marking process
- Marking laser head is installed on the linear Z axis, local laser protect covering in the marking position
- Station productivity up to 515 pieces per hour without the need of an operator

Plastic Ear Tags Marking

AUTOMATIC STATION FOR MARKING PLASTIC EAR TAGS

- Special laser systems designed for automatic marking of ear tags for cattle
- System performs other operations such as quality testing, programming, verification or selection of defective parts
- Automatic packing of numbered rows according to user's specification – coupling 'male-female', palletization, etc.
- Programming and reading of electronic marks with chips RFID HDX or FDX type
- High productivity up to 3000 pieces per hour
- On-line data procession from SQL server

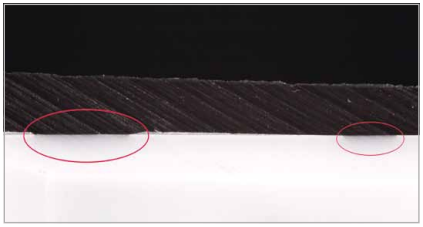
Every day the lasers produced by Medicom mark

more than 100 000 pcs of ear tags on 5 continents

Laser welding of plastics

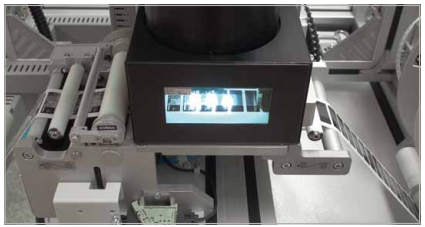
DIODE/FIBER LASERS

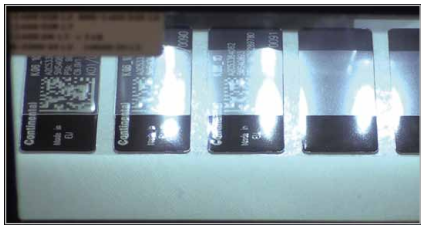
- Laser welding of plastics in the product assembly stage
- New non-releasable unit is formed
- High-strength joint which meets other criteria such as accuracy, hermetic tightness variable combined with open strength weld or local thermal stress without risk of damage to surrounding sensitive components
- The precondition for the use of laser technology is the right choice of the type of welded materials and their arrangement
- Transmission welding technology, where the parts to be welded are pressed together. The beam passes through the upper part and upon impact on the lower part the laser energy is absorbed and thus the contact point of both parts is heated up
- Welding in power regulation mode - measurement of laser power in the process head
- Welding in temperature regulation mode - contactless temperature measurement at the weld site



Marking of Foils and Stickers

- Compact special station for automatic marking of stickers, labels, holograms, foils, etc.
- Labels can be covered by a clear protective foil. (Laser marking through the foil)
- Variant design of the feeder:
  passing-through (uncoiling – marking – control – coiling)
  manual extraction of labels (uncoiling – marking – control – extraction)
- Positioning by means of label edge detection or scanning the synchronization mark from the foil surface.
- Auto destruction of labels in case the quality demands are not met





MLF – Plastic for engraving

- Two-layer plastics designed for laser and classical engraving
- Board sizes 1200 x 600 mm, 600 x 600 mm and 300 x 600 mm
- Wide range of colors

		Station design variants	Dimensions of the space for part insertion (w x h x d)	Carousel	Dimensions of the station (w x h x d)	Max. stroke of the vertical axis Z	Horizontal linear axis
TYPES OF STATIONS	Type T (LFxxT)	automatic door - plate for parts insertion	520 x 305 x 350 mm	N/A	590 x 650 x 660 mm	200 mm	N/A
		manual rotary carousel	520 x 200 x 390 mm	carousel diameter 500 mm	590 x 650 x 920 mm	200 mm	
	Type C (LFxxC)	automatic door / roller shutter - pull-out table	590 x 400 x 530 mm	N/A	760 x 1500 x 1180 mm	300 mm	N/A
		automatic rotary carousel	600 x 200*x 290 mm	carousel diameter 600 mm	760 x 1500 x 1430 mm	300 mm	
	Type XL (LFxxXL)	manual sliding door	1000 x 500**x 550 mm	N/A	1400 x 1870 x 1280 mm	300 mm	horizontal X axis, max. stroke 400 mm
		automatic rotary carousel	1000 x 330**x 600 mm	carousel diameter 1000 mm	1400 x 1860 x 1800 mm	300 mm	horizontal Y axis, max. stroke 400 mm
	Type XXL (LFxxXXL)	automatic rotary carousel	1250 x 230**x 600 mm	carousel diameter 1250 mm	1400 x 1800 x 1900 mm	300 mm	horizontal Y axis, max. stroke 400 mm
	Type MW1200 (LFxxMW)	automatic door - pull-out plate for parts insertion	through automatic door - 590 x 520**x 600 mm through big door - 1000 x 600**x 600 mm	N/A	1220 x 2100 x 860 mm	300 mm	horizontal X axis, max. stroke 400 mm
	Type AWW	automatic door - plate for parts insertion	through automatic door - 590 x 520**x 600 mm through big door - 1000 x 600**x 600 mm	rotary feed with diameter of 280 mm	1200 x 2010 x 980 mm	300 mm	horizontal X axis, max. stroke 300 mm

* According to bulkhead of the carousel, ** According to f-theta lens focal length

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