Laser Processing Head
**BeamMotion**
- BM110 --- 3KW Auto-Focusing Laser Cutting Head
- BM111 --- 3KW Auto-Focusing Laser Cutting Head
- BM114 --- 6KW Auto-Focusing Laser Cutting Head
- BM230 --- 4KW Wobble Welding Head

**BeamTool**
- BT210 --- 750W Laser Cutting Head
- BT220 --- 500W Micro Cutting Head
- BT230-CUT --- 1KW Laser Cutting Head
- BT230-WELD --- 2KW Laser Welding Head
- BT240-CUT --- 3KW Laser Cutting Head
- BT240-WELD --- 3KW Laser Welding Head
- BT243 --- 3KW Laser Cutting Head
- BT250 --- 6KW Laser Welding Head (also for diode laser)

**Applikation**
- AK190 --- 6KW Parabolic Laser Processing Head (welding)
- AK390 --- 20KW Parabolic Laser Processing Head (welding)

**ARM SERIES**
- Industry/ Medical Application

**CM SERIES**
- Collimation For Remote Welding And 3D Printing

**Solutions**
- EMS-D6060 Basic Type
  Laser Cutting Solution of Gantry Double - Drive Linear Motor
- EMS-G5030 Basic Type
  Laser Precision Cutting Solution of Gantry Single - Drive Linear Motor
BM110 SERIES
3KW Auto-Focusing Laser Cutting Head

BM110 series are auto focusing cutting head, which are released by Switzerland RAYTOOLS AG in 2016. BM110 comes with the external motor and the built-in drive unit through the linear driver and the focusing lens can automatically change the position in the range of 22mm. The user can set the focus continuously through the program to complete the rapid piercing of thick sheets or other different thickness and material sheets. The product can be equipped with D30 lens group to integrate the light beam. The heads have diversification interface settings that allow with a variety of fiber lasers. The optimization of optical design and the design of water-cooled allows laser heads stably and chronically to work at high power lasers.

**Features**
- Optimized optical configuration and smooth and efficient airflow design.
- Auto focus ranges +10~12mm, accuracy is 0.05mm.
- Can be equipped with the D30 lens group, the maximum fiber input power is 3KW.
- Maximum acceleration of focus lens drive 10m/s², maximum speed 10m/min.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Collimation and focusing lens can choose of single lens or lens group, which can achieve the best optical quality and the effect of cutting.
- With the optical interfaces of QBH, QD, QCS, LLK-D, etc., can be adapted with a variety of fiber lasers.

**Specifications**
- Power Rating----≤3KW
- Clear Aperture----28mm
- Cover Glass----φ27.9mm*4.1mm
- Auto focus range----+9~14mm
- Assist gas Pressure----≤25bar
- Weight----≤4.0kg

### Features

- **Focal length of collimation lens**
  - 100mm
- **Focal length of focusing lens**
  - 125mm
  - 150mm
  - 200mm
- **Fiber Interface**
  - QBH
  - LLK-B
  - QD
- **Diameter of nozzle tip**
  - +0.8mm
  - +1.0mm
  - +1.2mm
  - +1.5mm
  - +2.0mm
  - +2.5mm
  - +3.0mm
  - +3.5mm
  - +4.0mm
  - +4.5mm
  - +5.0mm
- **Nozzle Styles**
  - Single
  - Double
  - Custom

### Specifications

- Power Rating----≤3KW
- Clear Aperture----28mm
- Cover Glass----φ27.9mm*4.1mm
- Auto focus range----+9~14mm
- Assist gas Pressure----≤25bar
- Weight----≤4.0kg
BM111 series are auto focusing cutting head, which are released by Switzerland RAYTOOLS AG in 2017. The product has built-in motor drive unit through the linear driver and the focusing lens can automatically change the position in the range of 22mm. The user can set the focus continuously through the program to complete the rapid perpiercing of thick sheets or other different thickness and material sheets. The product can be equipped with D30 lens group to integrate the light beam. The optimization of optical design and the design of water-cooled allows laser heads stably and chronically to work at high power lasers.

**Features**
- Optimized optical configuration and smooth and efficient airflow design.
- Auto focus ranges +9 to -14mm, accuracy is 0.05mm.
- Can be equipped with the D30 lens group, the maximum fiber input power is 3KW.
- Maximum acceleration of focus lens drive 10m/s², maximum speed 10m/min.
- Adds an upper protective lens to the collimator, minimizing the risk of contamination of the collimator.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.

**Specifications**
- Power Rating ---- ≤3KW
- Clear Aperture ---- 28mm
- Collimating protective glass ---- φ24.9mm*1.5mm
- Focus protective glass ---- φ27.9mm*4.1mm
- Auto focus range ---- +10 to -12mm
- Assist gas Pressure ---- ≤30bar
- Weight ---- ~6.5kg
BM114 series are auto focusing cutting head, which are released by Switzerland RAYTOOLS AG in 2017. BM114 comes with the external motor and the built-in drive unit through the linear driver and the focusing lens can automatically change the position in the range of 25mm. The user can set the focus continuously through the program to complete the rapid piercing of thick sheets or other different thickness and material sheets. The product can be equipped with large clear aperture lens group to integrate the light beam. The heads have diversification interface settings that allow with a variety of fiber lasers. The optimization of optical design and the design of water-cooled allows laser heads stably and chronically to work at high power lasers.

**Features**
- Optimized optical configuration and smooth and efficient airflow design.
- Auto focus ranges +10~−15mm, accuracy is 0.05mm.
- Maximum acceleration of focus lens drive is 10m/s², maximum speed is 10m/min.
- Protective lens is added on the collimation lens, which can prevent the collimation lens to be hurt or damaged because of the falling dust.
- Drawer-type of lens mount, quick and easy access to every cover glass.
- Nozzle is added air-cooled design to protect nozzle and ceramic from damage by high temperature effectively.
- With crash protection which can prevent the laser head to be hurt by collision.
- With the optical interfaces of QBH, QD, etc., can be adapted with a variety of fiber lasers.

**Specifications**
- Power Rating——≤6KW
- Clear Aperture——35mm
- Upper Cover Glass——Ø38mm*1.5mm
- Lower Cover Glass——Ø37mm*7mm
- Auto focus range——10~−15mm
- Assist gas Pressure——≤30bar
- Weight——~5.6kg
The series of wobble welding head BM230 are released by Switzerland RAYTOOLS AG in 2016, which are suitable for medium power of fiber laser. The product is equipped with external servo motor, and the maximum operating frequency is up to 100HZ. BM230 is simple, flexible and easy to program control. It is easy to integrate into various laser applications. Through the fully-programmed of 2D motion control system, it can produce an array of spot welds and shaped seam welds. Compared with the galvanometer system, the operation is simpler and the cost is lower, which can provide more powerful and flexible beam steering for your laser processing system.

### Features
- Adapts to fiber lasers
- Process various shaped shapes
- Can be controlled by analog and digital I/O.
- Based on high performance EtherCAT.r is 4KW.
- Marking components.
- Sealed beam path keeps optics debris free.
- Engineered for the harsh factory floor environments.
- Optional various of focal length to remote weld easily.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Can be shape programming by G-code or I/O to realize various shapes.
- Collimation lens and focusing lens are with water-cooled design, and the maximum power is 4KW.
- Modular design makes BM230 work more efficiently. Optional different incident fiber input, coaxial, paraxial protection gas and CCD.

### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
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<tbody>
<tr>
<td>Power Rating</td>
<td>≤4KW</td>
</tr>
<tr>
<td>Clear Aperture</td>
<td>30mm</td>
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<td>Cover Glass</td>
<td>φ38.1mm*1.5mm</td>
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<tr>
<td>Scanning range</td>
<td>40mm</td>
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<tr>
<td>Assist gas press</td>
<td>≤30bar</td>
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<td>weight</td>
<td>~7.5kg</td>
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<tr>
<td>Lens speed</td>
<td>≤3000r/min</td>
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<tr>
<td>Diameter of Travel(X-Y)</td>
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<td>Digital I/O</td>
<td>0V, 24V</td>
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<tr>
<td>Analog I/O</td>
<td>10V~10V</td>
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<td>Focal length of collimation lens</td>
<td>135mm</td>
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<tr>
<td>Focal length of focusing lens</td>
<td>38.1mm*1.5mm</td>
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<td>Fiber Interface</td>
<td>QBH, LLK-B, QD</td>
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<tr>
<td>Water Pipe X2</td>
<td>80</td>
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<tr>
<td>Access Lens</td>
<td>φ38.1X1.5</td>
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<tr>
<td>Protect Gas</td>
<td>125, 105</td>
</tr>
<tr>
<td>4-Ø6.5 Ø11Ø5</td>
<td>125, 105</td>
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<tr>
<td>X/Y Adjust</td>
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<tr>
<td>Water Pipe X2</td>
<td>356</td>
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<tr>
<td>Protect Gas</td>
<td>356</td>
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<td>Protect Gas</td>
<td>238</td>
</tr>
</tbody>
</table>
The series of laser heads BT210 are released by Switzerland RAYTOOLS AG in 2016, which are suitable for small and medium power fiber lasers in industrial applications. The heads have diversification interface settings that allow with a variety of fiber lasers. The optimization of optical design, light weight, small volume and easy to use. If the BT210 is aligned with the height sensor, the cutting will be more efficient. BT210 is the first choice for laser cutting machine with 500W or less power.

Features

- Optimized optical configuration and smooth and efficient airflow design.
- Knob type of focus adjustment, meticulous and flexible, Adjustable range is 10mm (+-5mm).
- Drawer-type of lens mount, quick and easy access to the cover glass.
- The shortest focal length is 100mm, which makes the thin plates be cut more effectively.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.

Specifications

- Power Rating ≤750W
- Clear Aperture 25mm
- Cover Glass φ27.9mm*4.1mm
- Assist gas Pressure ≤20bar
- Weight 1.5kg
The series of laser heads BT220 are released by Switzerland RAYTOOLS AG in 2014, which are suitable for precision process of small parts. The laser head is specially designed and uses precision compound lens to eliminate spherical aberration. If BT220 work with high quality laser, the minimum width of incision can reach 8 um. BT220 can be widely used in the fields of ceramic processing, medical treatment and semiconductor processing.

**Features**
- The focusing lens group is composed of a plurality of precision lenses;
- Knob type of focus adjustment, meticulous and flexible.
- Adjustable range is 10mm, accuracy is 0.05mm.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Option with small diameter of nozzle tip, minimum is 0.3mm;
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.
- Optional 355nm and 532nm wavelength lenses.
- Optional CCD to monitor the cutting gap, and the fiber angle has a variety of configuration options.
- Optional introduction nozzle or height sensor (in addition to 50mm focal length).

**Specifications**
- **Power Rating** ----≤500W
- **Clear Aperture** ----25mm
- **Cover Glass** ----φ22.4mm*4.1mm (50mmFL); φ27.9mm*4.1mm (80mm/100mmFL)
- **Assist gas Pressure** ----≤20bar
- **Weight** ---- 1.5kg
The series of laser heads BT230 are released by Switzerland RAYTOOLS AG in 2014, which are suitable for small and medium power fiber lasers in industrial applications. The heads have diversification interface settings that allow with a variety of fiber lasers. The optimization of optical design and digital height sensor can make cutting more efficiently. Magnetic breakaway crash protection can be selected. When a collision occurs, the cutting head and the machine or the robot can be separated reliably, the signal will be output in time and the power supply will be cut off automatically.

**Features**
- Optimized optical configuration and smooth and efficient airflow design.
- Knob type of focus adjustment, meticulous and flexible, Adjustable range is 15mm, accuracy is 0.05mm.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Modular design, can be equipped with crash protection devices.
- Optional elongated nozzle link for 3D cutting.
- Optional with 2D/3D magnetic breakaway crash protection.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.

**Specifications**
- **Power Rating**: ≤1KW
- **Clear Aperture**: 25mm
- **Cover Glass**: φ27.9mm*4.1mm
- **Assist gas Pressure**: ≤20bar
- **Weight**: ~1.5kg
The series of laser heads BT230weld are released by Switzerland RAYTOOLS AG in 2014, which are ultra-compact, lightweight design and suitable for small and medium power fiber lasers in industrial welding applications. The center to the peripheral welding head is only 55mm. It is suitable for all fiber-delivered, solid-state laser systems to 2KW.

BT230weld has a simple, yet flexible design that allows RayTools to optimize the processing head to the end user’s requirements. Optics are protected against contamination by an easily accessible cover glass. Offered with either straight or right angle fiber inputs.

BT230weld delivers both user-friendly operation and reliable performance at an attractive price. Available focal length is up to 400mm, BT230weld has 15mm of manual focus adjustment. CCD viewing and an effective air knife to help extend the life of the cover glass.

Features
- Optimized optical configuration and smooth and efficient airflow design.
- Knob type of focus adjustment, meticulous and flexible. Adjustable range is 15mm, accuracy is 0.05mm.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Optional CCD which can realize the welding positioning and the monitoring of the welding seam.
- Modular design, can be equipped with anti-collision device or air knife, cutting and welding can be converted easily.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.
- Coaxial welding nozzle design, makes the welding process more convenient and flexible, and reduce the effects of welding fumes and spatter on the lens.

Specifications
Power Rating ——≤2 KW
Clear Aperture ——25mm
Cover Glass —— φ27.9mm*4.1mm
Assist gas Pressure ——≤20bar
Weight ——~1.5kg
The series of laser cutting heads BT240cut are released by Switzerland RAYTOOLS AG in 2014, which are suitable for medium and high power fiber lasers in industrial applications. The heads have diversification interface settings that allow with a variety of fiber lasers. The optimization of optical design and digital height sensor can make cutting more efficiently. The design of dual water-cooled allows laser heads stably and chronically to work at high power lasers.

**Features**
- Optimized optical configuration and smooth and efficient airflow design.
- Knob type of focus adjustment, meticulous and flexible, adjustable range is 20mm, accuracy is 0.05mm.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Collimation and focusing lens have water-cooled structure, which can withstand up to 3KW power.
- Collimation and focusing lens can choose of single lens or lens group, which can achieve the best optical quality and the effect of cutting.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.
- Modular design, can be equipped with crash protection devices or air knife, cutting and welding easily be converted.
- Selection elongated nozzle link unit can be used for three-dimensional cutting.

**Specifications**
- Power Rating -----≤3KW
- Clear Aperture -----24mm,28mm
- Cover Glass -----φ27.9mm*4.1mm
- Assist gas Pressure -----≤30bar
- Weight -----2.5kg

Optional EtherCAT EDS-88C0 (ECAT Height Sensor)
The series of laser heads BT240weld are released by Switzerland RAYTOOLS AG in 2014, which are compact, high power optical fiber welding head for all fiber-delivered, solid-state laser systems to 4KW.

BT240weld has a simple, yet flexible design that allows RayTools to optimize the processing head to the end user’s requirements. Optics are protected against contamination by an easily accessible cover glass. Offered with either straight or right angle fiber inputs. BT240weld delivers both user-friendly operation and reliable performance at an attractive price.

Available in focal lengths to 400mm, BT240weld features 20mm of manual focus adjustment. Optional camera viewing and an effective air knife to help extend the life of the cover glass.

**Features**

- Double water cooling design (collimation & focusing lens), which ensure the welding heads work long time efficiently and stably.
- Optimized optical configuration and smooth and efficient airflow design.
- Knob type of focus adjustment, meticulous and flexible. Adjustable range is 20mm.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.
- Optional CCD which can realize the welding positioning and the monitoring of the welding seam. And there is various angles to suitable the fiber lasers.
- The angle adjustment range of paraxial protective gas is 60°, and the gas path can be optimized as you want.

**Specifications**

- Power Rating ----≤4KW
- Clear Aperture ----≤25mm
- Cover Glass ----φ27.9mm*4.1mm
- Assist gas Pressure ----≤20bar
- Air knife ----effective air knife to help extend the life of the cover glass
- Weight ----3.0kg

<table>
<thead>
<tr>
<th>Focal length of</th>
<th>collimation lens</th>
</tr>
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<tbody>
<tr>
<td>60mm</td>
<td>75mm</td>
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</table>

<table>
<thead>
<tr>
<th>Focal length of</th>
<th>focusing lens</th>
</tr>
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<tbody>
<tr>
<td>150mm</td>
<td>200mm</td>
</tr>
</tbody>
</table>

- **Fiber Interface**
  - QBH
  - LLK-B
  - QD
- **Focus Adjust Lock**
- **X-Y Adjust**
- **Protective Cover & Focus Adjust Ring**
- **Access Lens**
- **Water Pipe**
- **Assist Gas**
- **CCD**
- **QBH Connector**
The series of laser cutting heads BT243 are released by Switzerland RAYTOOLS AG in 2017, which are suitable for medium and high power fiber lasers in industrial applications. Compared to the BT240 series, the BT243 has done a comprehensive optimization in the dust design and customer experience. The risk of contamination of the collimator is extremely high when the fiber is plugged in or out, and the BT243 series adds an upper protective lens to the collimator, minimizing the risk of contamination of the collimator. Meanwhile, the structure of the Cover Glass is also upgraded, and a dust-proof cover plate is added on the Cover Glass. Double protection design greatly improves the user's experience in replacing Cover Glasses, and the lens cannot be contaminated easily.

**Features**

- Optimized optical configuration and smooth and efficient airflow design.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.
- Manual dial focus adjustment, meticulous and flexible, adjustable range is 20mm, accuracy is 0.05mm;
- The design of dustproof is upgraded to double protection so that the lens is almost impossible to be contaminated.
- Collimation lens, focusing lens and nozzle are added water-cooled design.
- With crash protection which can prevent the laser head to be hurt by collision.

**Specifications**

- Power Rating ----≤3KW
- Clear Aperture ----≥26mm
- Upper Cover Glass ----≥24.9mm*1.5mm
- Lower Cover Glass ----≥27.9mm*4.1mm
- Assist gas Pressure ----≤25bar
- Weight ----≤3.5kg

Optional EtherCAT EDS-88C0 (ECAT Height Sensor)
The series of high power wide-wave length welding heads BT250 are released by Switzerland RAYTOOLS AG in 2016, which are suitable for diode and the fiber of large clear aperture. The power rating is up to 6KW. BT250 clear aperture length is up to 48mm. A variety of solid state lasers can be applied, as long as the maximum angle of divergence (NA value) is less than 0.22. The convenient, fast and replaceable protective mirror design makes the focusing lens non-polluting. In addition, vertical or horizontal incidence optical fiber can be selected. Available in focal lengths to 300mm. (If longer than 300, you can choose custom) BT250 features 20mm of manual focus adjustment. Optional coaxial nozzle, air knife, side-blow to help extend the life of the cover glass.

Features
- Double water cooling design (collimation & focusing lens), which ensure the welding heads work long time efficiently and stably.
- Optimized optical configuration and smooth and efficient airflow design.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.
- Optional with vertical incidence fiber or horizontal incidence fiber.
- The angle adjustment range of paraxial protective gas is 60°, which make the gas path be optimized.

Specifications
Power Rating ----≤6KW
N.A ----0.22
Wavelength ----900nm-1100nm
Clear Aperture ----48mm
Collimation ----100mm
Cover Glass ----φ50.8mm*2mm
Assist gas Pressure ----≤10bar
Air knife ----Coaxial nozzle, Air knife, Side-blow
Weight ----3.0kg
AK190 SERIES
6KW Parabolic Laser Processing Head (welding)

The series of medium and high power laser heads AK190 are released by Switzerland RAYTOOLS AG in 2014. The internal use of water-cooled aspheric mirrors. Different nozzles can be optioned, which make AK190 can be applied to laser welding, hardening, surface treatment, cladding and etc.

**Features**
- The direct water-cooled mirrors makes it long service life, the maximum power of up to 6KW.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Double water cooling design (collimation & focusing lens).
- The fiber interface and the body are all equipped with air path, and the internal pressure gas can be connected to prevent dust.
- Compact and modular design makes it flexible for different laser applications.
- Configured with different integrating lens can make various rectangular spots.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.

**Specifications**
- Power Rating ----≤6KW
- Clear Aperture ----34.5mm
- Purge Pressure ----≤2bar
- Assist gas Pressure ----≤10bar
- Cover glass ----Φ30mmX5mm
- Weight(Depend on configurations) ----~ 3.5kg
The series of high power laser heads AK390 are released by Switzerland RAYTOOLS AG in 2014. The internal use of water-cooled aspheric mirrors. Different nozzles can be optioned, which make AK390 can be applied to laser welding, hardening, surface treatment, cladding and etc.

**Features**
- The direct water-cooled mirrors makes it long service life, the maximum power of up to 20KW.
- Drawer-type of lens mount, quick and easy access to the cover glass.
- Double water cooling design (collimation & focusing lens).
- The fiber interface and the body are all equipped with air path, and the internal pressure gas can be connected to prevent dust.
- Compact and modular design makes it flexible for different laser applications.
- Configured with different integrating lens can make various rectangular spots.
- With a variety of optical interfaces, can be adapted with a variety of fiber lasers.

**Specifications**
- Power Rating ----≤20KW
- Clear Aperture ----φ49.5mm
- Purge Pressure ----≤2bar
- Assist gas Pressure ----≤10bar
- Cover Glass ----φ50mmX2mm
- Weight(Depend on configurations) ----～5.0kg

![Diagram of AK390 SERIES](image)
ARM series are released by Switzerland RAYTOOLS AG in 2016, which suitable for industry and medicine. Arms are used as flexible delivery system where preserving the mode quality is essential. Carefully engineered components provide the best combination of inertia, friction and rotation for precise hand-guided motions. For lasers that are hard to deliver in fiber, for example CO2 laser 10600nm and green laser 532nm and so on, so the industrial ARM200 is a good choice to deliver the laser. The industrial arm adopts the method of multi reflection joints, which makes the laser and laser processing head connected smoothly. In common, the laser head can be driven by industrial robot and CNC machine, which compose to 3D precision flexible laser machine. In some special applications, the hand-laser machine can be constructed with the laser head, such as hand welding, laser cleaning and hardening. For adapting the medical applications, ARM100 employs stainless steel ball bearings and connectors are used along with all-aluminum, anodize tubing and knuckle assemblies. Meanwhile, our mini hand-hold welding head can be configured to weld the small workpiece.

### Specifications

<table>
<thead>
<tr>
<th></th>
<th>ARM100</th>
<th>ARM200</th>
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</thead>
<tbody>
<tr>
<td>Laser wavelength</td>
<td>10.6μm, 532nm etc. (others can be custom)</td>
<td></td>
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<tr>
<td>Clear Aperture</td>
<td>15mm</td>
<td>35mm</td>
</tr>
<tr>
<td>Mirror</td>
<td>1.0”</td>
<td>2.0” (water-cooled)</td>
</tr>
<tr>
<td>Power rate</td>
<td>0-500W</td>
<td>0-6KW</td>
</tr>
<tr>
<td>Range of movement</td>
<td>7 mirrors 8 joints</td>
<td>6 mirrors 7 joints</td>
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<tr>
<td>Focal spot accuracy</td>
<td>±0.15mm (when used with a typical 5”focal length lens)</td>
<td>±0.06mm (when used with a typical 5”focal length lens)</td>
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<td>Arm length</td>
<td>&lt;2m</td>
<td>&lt;4m</td>
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<tr>
<td>Common color</td>
<td>Black, natural anodized</td>
<td>Black anodized</td>
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<tr>
<td>*other demanding can be custom</td>
<td>Medical cosmetology, hand hold welding, etc.</td>
<td>Laser cutting, welding, cleaning, etc.</td>
</tr>
</tbody>
</table>

### Industry Arm

#### Integrated Version

![Image of a hand-held ARMT100 with green light emitting from the laser processing head]

### Separated Version

![Image of a hand-held ARMT100 with green light emitting from the laser processing head]
The series of collimation module are released by Switzerland RAYTOOLS AG for fiber lasers. A variety of fiber interfaces, can be adapted with a variety of lasers to output parallel spot. CM series using high quality composite lens, which ensures the quality of the output spot beam. The Water cooling module can equipped, which ensure that a high power laser can work stably for a long time. With galvo, it can be widely used in 3D printing machine.

**Features**
- Compact and easy to install and integrate.
- Optional a variety of collimation focal length, and different diameter spot can be output.
- Use high quality composite lenses to ensure that the output beam without offset;
- Optional water-cooling module to apply to more than 500W;
- With alignment module, which can offset the output spot by 1mm;
- Various of fiber interface, and can be adapted to a variety lasers.

**Specifications**
- Power rating ----≤3KW
- Wavelength ----900~1100nm
- Lens material ----Fused silica
- Collimation type ----Doublet
- Fiber interface ----QBH, LLK-B, QD
- Collimation size ----60mm, 75mm, 100mm, 125mm, 150mm

**Collimation lens**
- Clear aperture ----28mm
- weight (Different configurations are different) ----~0.8kg
This solution is mainly for high-speed laser processing of thin plate. The machine is running stable with mature technology, high cutting efficiency and small area of about 1850*1400mm, which is suitable for small and medium-sized factories. Meanwhile, high-speed cutting increases efficiency by 20% when compared with traditional machine. The equipment host’s overall rigidity is good with high intensity. The pedestal is high-quality marble and the beam is extruded aluminum with good acceleration performance, which can effectively prevent structural deformation.

**Features:**

7×24h cutting, high efficiency, high quality, the material utilization is high and scalability is strong.

**Application Fields:**

Capable of cutting a variety of sheet metal, tubes, mainly suitable for the fast cutting of stainless steel, carbon steel, manganese steel, copper plate, aluminum plate, galvanized sheet, all kinds of alloy plate, rare metal material, etc..

**Application Industries:**

jewelry, glasses, lighting, kitchen appliances, mobile communications, digital products, electronic components, watches and clocks, computer accessories, instruments and meters, precision instruments, metal mold, auto parts, craft gift and other diversified industries.

### Main Configuration

<table>
<thead>
<tr>
<th>No.</th>
<th>Configuration</th>
<th>Specification</th>
<th>Brand</th>
<th>Remark</th>
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<tbody>
<tr>
<td>1</td>
<td>Linear Motor</td>
<td>ULMAC3, ULMC3</td>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Grid Scale</td>
<td>Resolution 0.5μm</td>
<td>Spain</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Driver</td>
<td>SCFD-4D52AEB2, SCFD-0062AEB2</td>
<td>AheadTechs</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Z-axis Screw Module</td>
<td>XL-80h-s100</td>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Laser Cutting Head</td>
<td>BT230</td>
<td>RayTools</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Precision Linear Guide Rail</td>
<td></td>
<td>HIWIN</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Marble</td>
<td>1800<em>1350</em>200</td>
<td>ShanDong</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Organ-type Dust Cover</td>
<td>Common</td>
<td>RayTools</td>
<td>Organ-type Dust Cover with High Strength</td>
</tr>
<tr>
<td>13</td>
<td>Machining Part</td>
<td>Common</td>
<td>RayTools</td>
<td>Aviation Aluminum</td>
</tr>
</tbody>
</table>

### Main Specifications

<table>
<thead>
<tr>
<th>Equipment Model</th>
<th>EMS-G6060</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processing Format</td>
<td>600*600(mm)</td>
</tr>
</tbody>
</table>

| X Axis | |
|--------|-----------------|---------------------------------|-----------------|
|        | Fast Moving Speed | 60m/min                        |                 |
|        | Effective Stroke  | 600nm                          |                 |
|        | Positioning Accuracy | ±0.01mm                  |                 |
|        | Repeat Positioning Accuracy | ±0.004mm             |                 |

| Y Axis | |
|--------|-----------------|---------------------------------|-----------------|
|        | Fast Moving Speed | 60m/min                        |                 |
|        | Effective Stroke  | 600nm                          |                 |
|        | Positioning Accuracy | ±0.01mm                  |                 |
|        | Repeat Positioning Accuracy | ±0.004mm             |                 |

### Requirements on Machine Working Environment

<table>
<thead>
<tr>
<th>Temp.</th>
<th>-10°C ~45°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Humidity</td>
<td>&lt;90% No Condensation</td>
</tr>
<tr>
<td>Surroundings</td>
<td>Ventilation, No Great Vibration</td>
</tr>
<tr>
<td>Voltage</td>
<td>3 x 380V±10% 220V±10%</td>
</tr>
<tr>
<td>Power Frequency</td>
<td>50Hz</td>
</tr>
</tbody>
</table>

*: Specifications subject to change without notice.