

## **Fiber Laser**

Technologies

HD-F / HD-FL

HD-FF

HD-F COMBI

HD-F BH

HD-FA

HD-FO



Easy to Use High Quality Consumption Faster Efficient Winning Ergonomic







As a total supplier for sheet metal manufacturing with almost 70 years of experience, Durma understands and recognizes the challenges, requiments and expectations of the industry. We strive to satisfy the ever higher demands of our customers by continuously improving our products and processes while researching and implementing the latest technologies

In our three production plants with a total of 150.000 m<sup>2</sup>, we dedicate 1,000 employees to delivering high quality manufacturing solutions at the best



# PRODUCTION IS MORE EFFECTIVE NOW

performance-to-price ratio in the market.

From the innovations developed at our Research & Development Center to the technical support given by our worldwide distributors, we all have one common mission: to be your preferred partner.

Durmazlar offers its machines to the world markets under the Durma brand.







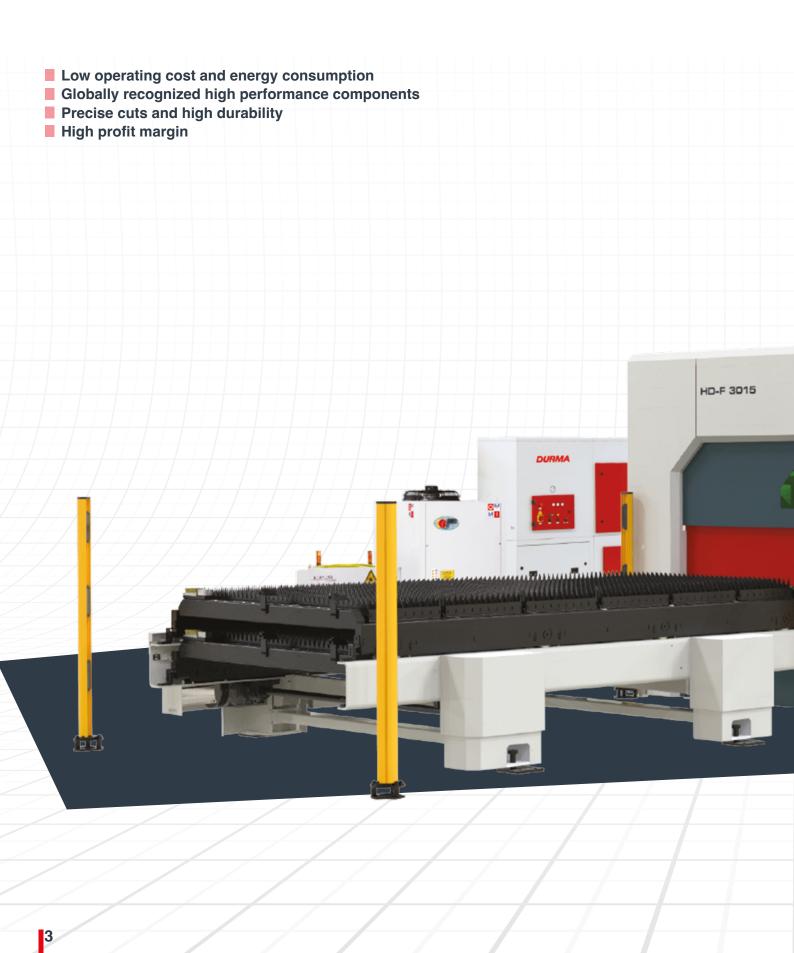
High technology, modern production lines



Top quality components



High quality machines designed in R&D Centre



#### **Fiber Lasers Provide Innovative Solutions**

- Perfect results on variety of material
- Efficient and precise cuts on thick and thin material
- Low investment and operating costs
- Modern and compact design
- Fast service with remote control



#### **Fiber Laser Technologies**

Fiber lasers outshine with its fast cutting and energy efficiency abilities when especially its compared to  $CO_2$  lasers. Easy use, maintenance and service has been achieved by the high technology of Fiber Lasers. Globally recognized efficient components used in *DURMA* Fiber Lasers add value to your company.

Rack & Pinion and Linear Motor Motion tecnologies allows us achieve 3G accelaration. We always strive to serve quality, performance and efficiency to our clients.

**DURMA** Fiber Laser is unrivaled with its rigid body structure, perfect filtration system, compact design, efficiency and user friendliness.

#### ■ Rack and Pinion Motion System (HD-F Series)

Axes motionis achieved by rack and pinion design. There are not any intermediate load transmitting elements between the motor and the pinion which otherwise could cause precision losses. High precision two-day, hardened helical racks with low clearance make it possible to achieved very high accelaration (synchronized 28 m/s²), speed (synchronized 170 m/min.) and accuracy (0,05 mm) values.





#### Linear Motor Motion System (HD-FL Series)

Moving axes are driven by high velocity and accelaration linear motors which are the latest deve lopment in linear technology. These motors make it possible to achieve very high accelaration (synchronized  $35~\text{m/s}^2$ ), speed (synchronized 280~m/min.) and accuracy (0,03 mm) values.





#### **Fiber Laser Power Source**

| Resonator                    | 4.0 kW  | 6.0 kW           | 10.0 kW   | 12.0 kW            | 15.0 kW             | 20.0 kW          | 30.0 kW         |
|------------------------------|---|------------------|---|--------------------|---------------------|------------------|-----------------|
| Product designation          | YLS-4000  | YLS-6000         | YLS-10000   | YLS-12000          | YLS-15000           | YLS-20000        | YLS-30000       |
| Available operation modes    |   |                  | CW, QCW, SM                                       |                    |                     |                  |                 |
| Polarization                 |   |                  | Random  |                    |                     |                  |                 |
| Available output power       | 400-4000 w  | 600-6000 w       | 1000-10000 w                                      | 1200-12000 w       | 1500-15000 w        | 2000-20000 w     | 3000-30000 w    |
| Emission wavelength          | 1070 -1080nm  |                  |   |                    |                     |                  |                 |
| Feed fiber diameter          |   | Available in s   | ingle mode, 50, 100,                              | 200, 300µm         |                     |                  |                 |
| Ancillary Options            |   |                  | ternal coupler, Interna<br>splitter, External 1x4 |                    |                     |                  |                 |
| Interface                    | Standard: LaserNet, Digital I/O, Analog Control Additional Options: DeviceNet or Profibus |                  |   |                    |                     |                  |                 |
| Material (Cutting Capacity)* | YLS 4000 (4k  | W) YLS 6000 (6k) | W) YLS 10000 (10k)                                | W) YLS 12000 (12kW | /) YLS 15000 (15kW) | YLS 20000 (20kW) | YLS 30000 (30kW |
| Mildsteel (s235jr)           | 20 (22) mm  | 25 mm            | 30 mm   | 30 mm              | 35 (40) mm          | 40 (50) mm       | 50 (60) mm      |
| Stainless Steel (1.4301)     | 10 (12) mm  | 15 (20) mm       | 25 (30) mm  | 25 (30) mm         | 35 (40) mm          | 40 (50) mm       | 50 (60) mm      |
| Aluminum (AIMa2)             | 10 (15)   | 20 (25)          | 25 (20)   | 20 (40)            | 25 (40)             | 40 (FO)          | 40 (50) 2020    |

| ( 0 1 )/                 |            | , ,        | , ,        | , ,        | , ,        | , ,        |            |
|--------------------------|------------|------------|------------|------------|------------|------------|------------|
| Mildsteel (s235jr)       | 20 (22) mm | 25 mm      | 30 mm      | 30 mm      | 35 (40) mm | 40 (50) mm | 50 (60) mm |
| Stainless Steel (1.4301) | 10 (12) mm | 15 (20) mm | 25 (30) mm | 25 (30) mm | 35 (40) mm | 40 (50) mm | 50 (60) mm |
| Aluminum (AIMg3)         | 12 (15) mm | 20 (25) mm | 25 (30) mm | 30 (40) mm | 35 (40) mm | 40 (50) mm | 40 (50) mm |
| Copper                   | 6 mm       | 10 mm      | 15 mm      |
| Brass                    | 10 mm      | 12 mm      | 20 mm      |
|                          |            |            |            |            |            |            |            |

#### \*Standard cutting parameters.

Factors such as rust, shell formation, paint, label, pitch shifts on the surface, rolling defects, rusts on the surface of the material, affect the black sheet cutting negatively. The top and bottom surfaces of the material to be cut must be clean. The cutting quality and cutting speeds of sandblasted sheets vary.

#### **Low Operating Costs**

- Low energy consumption
- Low cost per component
- Optimised focal distance for all thickness values
- Maintenance free operation
- Compact design, fast installation
- Rigid body structure, high durability

#### **Laser Cutting Head**

The ProCutter offers a complete solution for the laser-based fusion cutting of thin and medium material thickness in the wavelenght range around 1µm. In flame cutting, greater material thicknesses can also be processed while maintaining high standards of quality. The potential of the cutting head is optimally converted into productivity, especially in the case of flatbed and pipe cutting machines, where innovative technologies are combined with proven concepts, providing the best possible performance, range of flexibility and degree of reliability.

The combination of proven technology and optimized design enables processing with up to 40 kW laser power in the nead-infraded range - and gives you reduced installation space and weight at the same time. A robust and dustproof housing ensures a long service life and allows external linear drive accelarations up to 4.5 genabling an efficient cutting operation. High-quality optics and the highest standards of quality in manufacturing and assembly ensure optimum laser beam guidance and shaping with high focal position stability, even at high laser power.

#### Efficient

- Lightweight and slim design created for fast acceleration and cutting speed
- Motorized focus position adjustment for automatic machine setup and piercing work
- Drift-free, fast-reacting distance measurement
- Permament protective window monitoring
- Values displated via bluetooth

#### Flexible

- Selectable optical configuration, optimized for the range of applications
- Straight and angled design versions adapted to the machine concept
- · Zoom lens for automatically adjusting the focus diameter
- Motorized or manual focal position adjustment

#### User Friendly & Safe

- Completely dustproof beam path with protective windows
- LED operating status display
- Display of operating parameters via Bluetooth® and interface for machine control
- · Pressure monitoring in the nozzle area (gas cutting) and in the head
- Monitoring of the piercing process and detection of cutting breaks with CutMonitor

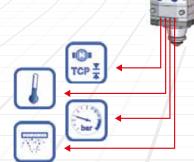








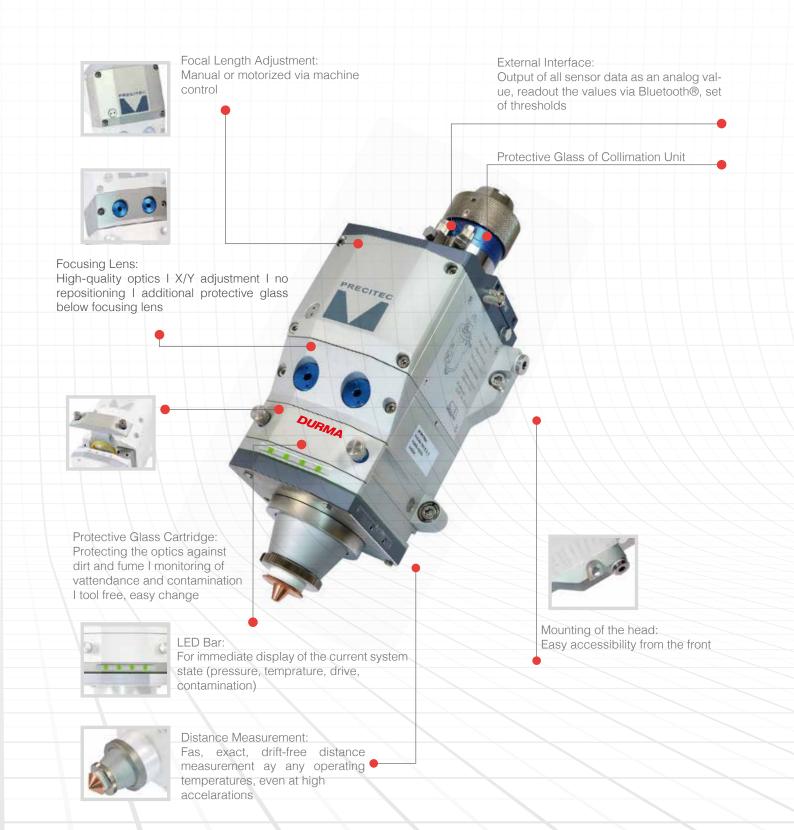




App for iOS and Android gadgets

Dynamic laser cutting machines require smart cutting heads for its operations. ProCutter offers a fully-integrated sensor system that monitors the cutting process and provides the relevant information to the user.

The ProCutter ensures that each component can be re-manufactured at a high standard of quality.



#### Higher Acceleration on Z-Axis

Lighter and strongly rigid bridge does not allow it to vibrate at high speed and obtain high accurate cutting geometry.

Equipped with world's favorite head "Precitec". During the construction of the bridge all kind of deformations analyzed and prevented.





#### Shuttle Table

Servo controlled shuttle table system applied to HD-F 3015 (Standard) and HD-F 4020 (Option) series machines reduces the changeover times by 40%. For 3015 series it drops down to 19 sec. and for 4020 series, to 29 sec.

The shuttle table is fully automatic and maintenance-free on all machines. Hydraulic oil is not used and changing the table is fast, soft and has low energy cost.

Table change time is 40 seconds in HD-F 4020 series. and 45 seconds in the HD-F 6020 series. Back and forth movement of all tables are performed with servo motors.







#### Multi Chambers High Efficient Suction System

With the multi chambers high efficient system offers the ability to make an equal amount of suction during the cutting operation of the whole machine cutting area.





#### Easy Access Side Door

There is standart side door to access the back part of the cutting sheet and correct the cutting parts positions during the operation. This side door also used by the service team of the laser machine when the maintenance will be done.





#### Scrap Conveyor

The optional lateral automatic scrap conveyors allow the removal of scrap pieces from the working area without the need to interrupt the cutting process. The sideways operation of the short conveyors allow for easy maintenance and trouble-free running.





#### Bevel Head ± 45 °

Bevel Head for vertical and bevel cuts from 0  $^{\circ}$  to 45  $^{\circ}$ . Optimal results provided through the combination of 5 axis interpolation and software . Positive and negative bevel angles in one part.





#### Control Panel

The controller has a Durma operator interface and a complete cutting database for all standard cutting applications. The database includes the cutting parameters for standard materials (steel, stainless steel, aluminum) for common thickness ranges. Based on these reference values the operator can easily improve the cutting quality for different types of materials.

- Sinumerik 840 D SL
- IFP1900 19" Touch Screen
- IPC427 E Intel İ5-6442EQ
- 8GB SD Ram DDR3WIN10/SSD 240 GB
- Ethernetx3
- USBx4
- PCI x1
- CF Card
- DPP

#### Durma Cloud

Actual state of machine can be traced,

Operator can leave machine when program is too long Cutted parts can be reported,

Retrospective or periodic reports can be created,

Cost calculations can be done,

Consumption calculations can be done,

Running duration, standby duration, productivity calculations can be done,

Error messages and error reasons can be inspected







#### CAD/CAM Software Lantek - Metalix

- Advanced optimisation: tools optimisation
- Fast tool way collision protection. Toolway optimisation to prevent damage from possible deformed material
- Writings supported by your operating system can be applied directly on the material to be cut
- Cutting direction, clockwise or opposite is supported
- Advanced corner applications provide perfect corners and soft cutting.
- Fillets, cooling, slowing down, circulation
- Shared Cuttings: This function is especially useful for thick plates and reduces the need of marking holes during cutting
- Automatic entry point
- Fully automatic cutting
- Z-Axis control



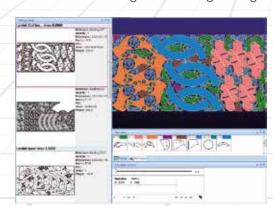








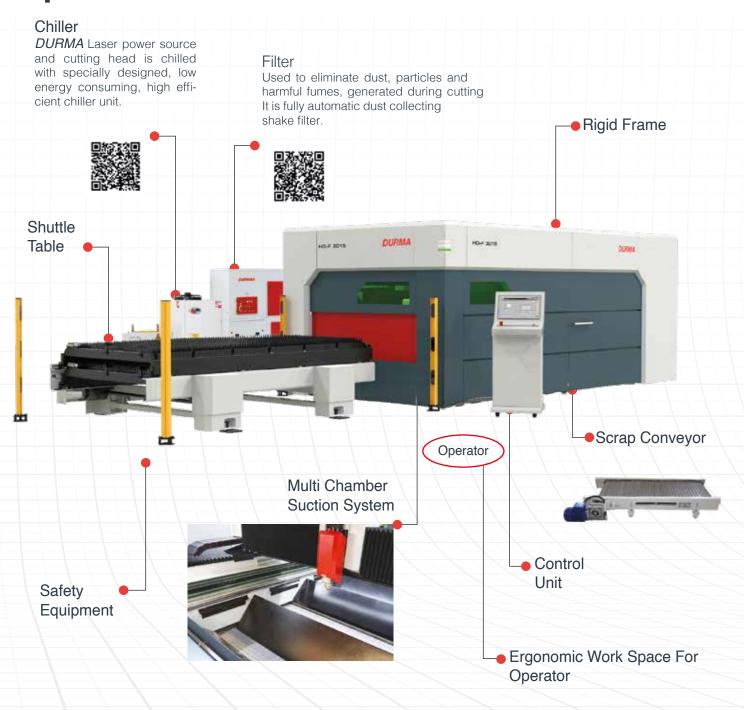
Metalix MT software





Metalix

## **Experience the Difference of DURMA HD-FL**

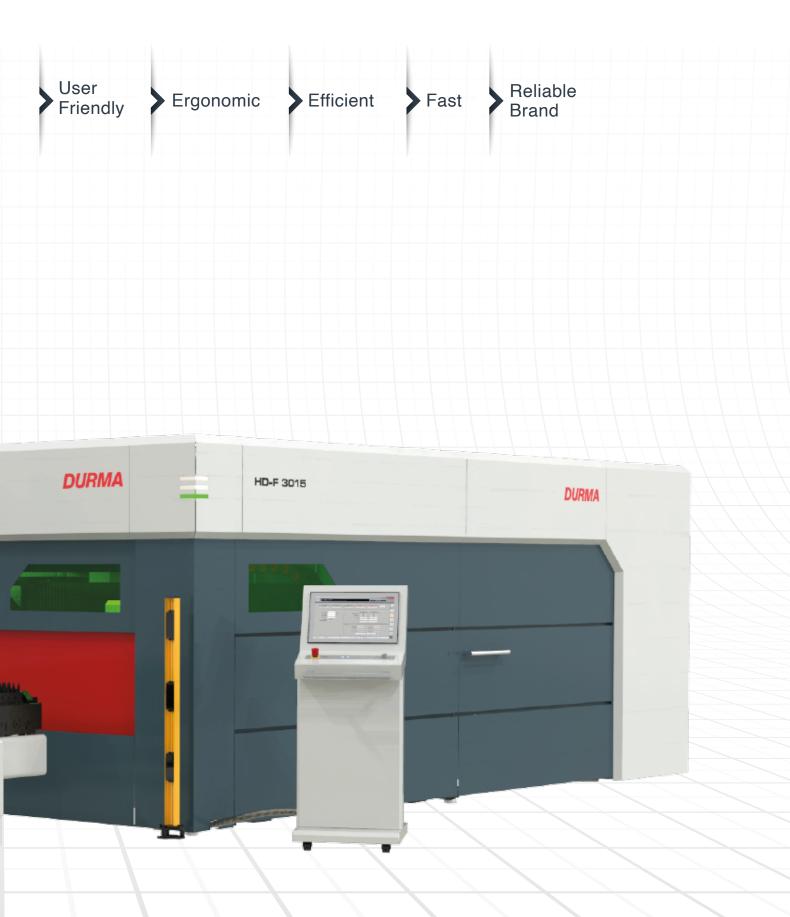


#### HD-F / HD-FL FIBER LASER

|                   | 3015        | 4020        | 6020        | 8020        | 12020        |       |
|-------------------|-------------|-------------|-------------|-------------|--------------|-------|
| X Axis            | 3060        | 4100        | 6150        | 8200        | 12200        | mm    |
| Y Axis            | 1530        | 2100        | 2100        | 2100        | 2100         | mm    |
| Z Axis            | 160         | 185         | 185         | 185         | 185          | mm    |
| Max. Sheet Size   | 3048 x 1524 | 4064 x 2032 | 6096 x 2032 | 8128 x 2032 | 12192 x 2032 | mm    |
| Max. Sheet Weight | 315         | 315         | 315         | 315         | 315          | kg/m² |
|                   |             | 0 D: : UD E |             |             |              |       |

|                     | Rack & Pinion HD-F | Lineer System HD-FL |                  |
|---------------------|--------------------|---------------------|------------------|
| X Axis              | 120                | 160                 | m/min.           |
| Y Axis              | 120                | 160                 | m/min.           |
| Synchronous         | 170                | 226                 | m/min.           |
| Acceleration        | 28                 | 35                  | m/s <sup>2</sup> |
| Positional Accuracy | ±0,05              | ±0,03               | mm               |
| Repeatability       | ±0,05              | ±0,03               | mm               |





#### **HD-FF** FIBER LASER

|                       | HD-FF 3015    |                   |
|-----------------------|---------------|-------------------|
| X Axis                | 3100          | mm                |
| Y Axis                | 1530          | mm                |
| Z Axis                | 140           | mm                |
| Max. Sheet Size       | 3048 x 1524   | mm                |
| Max. Sheet Weight     | 315           | Kg/m <sup>2</sup> |
|                       | Rack & Pinion |                   |
| X Axis Speed          | 90            | m/min.            |
| Y Axis Speed          | 90            | m/min.            |
| Speed (Synch.)        | 127           | m/min.            |
| Acceleration (Synch.) | 14            | m/s <sup>2</sup>  |
| Positioning Tolerance | ±0,05         | mm                |
| Repeatability         | ±0,05         | mm                |
| Table Change Time     | 19            | sec               |
|                       |               |                   |

| Material Cutting Thickness (mm)* |         |         |         |         |  |
|----------------------------------|---------|---------|---------|---------|--|
| Material                         | 2 kW    | 3 kW    | 4 kW    | 6 kW    |  |
| Mild Steel (s235jr)              | 12 (16) | 16 (20) | 20 (22) | 25      |  |
| Stainless Steel (1.4301)         | 6 (8)   | 8 (10)  | 10 (12) | 15 (20) |  |
| Aluminium (AIMg3)                | 6 (8)   | 8 (10)  | 12 (15) | 20 (25) |  |
| Copper                           | 3       | 5       | 6       | 10      |  |
| Brass                            | 5       | 8       | 10      | 12      |  |

<sup>\*</sup>Values in parentheses can be cut with little burr with of these resonators power.

Factors such as rust, shell formation, paint, label, pitch shifts on the surface, rolling defects, rusts on the surface of the material, affect the black sheet cutting negatively. The top and bottom surfaces of the material to be cut must be clean. The cutting quality and cutting speeds of sandblasted sheets vary.



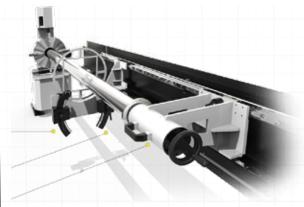
#### Why HD-FF FIBER LASER?

- Best price and performance
- Cutting power up to 6 kW
- Fast & reliable
- High sensitivity
- Easy to use
- High quality
- Low operating cost



## HD-F / HD-FL BH 2D Pipe and Profile Cutting







| Tube – Profile Cutting Technical Features |          |   |  |  |  |
|---|----------|---|--|--|--|
| Cutting length                            | mm       | 3000 mm ( Chuck 6000 mm through,<Ø 130mm )        |  |  |  |
| Maximum tube loading                      | Kg       | 120   |  |  |  |
| Laser power supply                        |          | 2-10 kW   |  |  |  |
| Working diameter                          | min./max | Ø30 / Ø400  |  |  |  |
| Max. tube thickness                       | mm       | Up to 12 mm depending on material and laser power |  |  |  |
| Square profile cutting                    | max.     | 250 x 250   |  |  |  |
| Max. positioning speed X / Y              | m/min.   | 100   |  |  |  |
| Cutting accuracy                          | mm       | +/- 0,5 / 1000                                    |  |  |  |
| Materials                                 |          | Mildsteel / Stainless / Aluminum / Copper / Brass |  |  |  |

#### HD-F COMBI 2D Cutting & Pipe and Profile Cutting



| Pipe - Profile Cutting Technical Data (HD-F | 3015 & HD-F 4020 & HD-F 6020) |      |
|---|-------------------------------|------|
| Max. Pipe Diameter                          | 170                           | mm   |
| Max. Square Profile Dimension               | 120 x 120                     | mm   |
| Max. Rectangle Profile Dimension            | 150 x 100                     | mm   |
| Min. Pipe Diameter                          | 20 (12 Opt.)                  | mm   |
| Max. Material Length                        | 6500                          | mm   |
| Max. Material Length for Auto Unloading*    | 4500                          | mm   |
| Max. Material Length for Manual Unloading** | 6000                          | mm   |
| Max. Material Weight                        | 37,5                          | kg/m |
| Max. Total Material Weight                  | 210                           | kg   |
| Cutting Tolerance***                        | ±0.2                          | mm   |

<sup>\* 6500</sup> mm for HD-F 6020

<sup>\*\* 6500</sup> mm for HD-F 6020

<sup>\*\*\*</sup> The maximum cutting precision on the part depends on the type of profile and the production method.

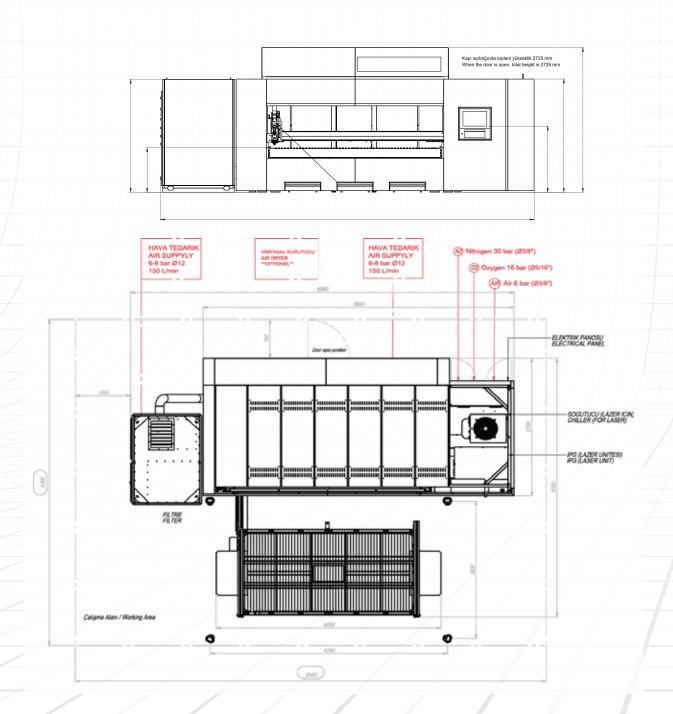
#### **HD-FO** FIBER LASER





## SPECIFICALLY DESIGNED ACCORDING TO LAYOUT

- User Friendly
- Low Running Costs
- Quick Opening Front Door
- Easy Access To Cutting Area Compact Bridge
- Design
- Fast Packing & Delivery



#### **HD-FO** FIBER LASER

|   | HD-FO Technical Data            |                |                |                  |                |
|---|---------------------------------|----------------|----------------|------------------|----------------|
|   | Cutting axes                    |                |                |                  |                |
|   | X Axes                          | 304            | 8              | m/min.           |                |
|   | Y Axes                          | 153            | 0              | m/m              | in.            |
|   | Z Axes                          | 125            | 5              | m/m              | in.            |
|   | Max. Sheet Dimensions           | 3.048 x        | 1.524          | mn               | n              |
|   | Max. Sheet Weight               | 575            | 5              | Kg               |                |
|   | Dynamics                        |                |                |                  |                |
|   | Max. Speed X Axis               | 90             |                | m/m              | in.            |
|   | Max. Speed Y Axis               | 90             |                | m/m              | in.            |
|   | Max. Speed Z Axis               | 30             |                | m/m              | in.            |
|   | Max. Synchronized Speed (X-Y)   | 127            | 7              | m/min.           |                |
|   | Max. Synchronized Acceleration  | 14             |                | m/s <sup>2</sup> |                |
|   | Positioning Tolerance           | ±0,0           | 5              | mm               |                |
|   | Repeatability                   | ±0,0           | 5              | mm               |                |
|   | Control Unit                    |                |                |                  |                |
|   | CNC                             |                | BOSCH F        | REXROTH          |                |
|   | Screen                          |                | 19" Touc       | h Screen         |                |
|   | Laser Cutting Head              |                |                |                  |                |
| ĺ | Туре                            |                | DURA           | ИΑ               |                |
|   | Focal Distance (mm)             |                | 150            | )                |                |
|   | Focal Type                      |                | Auto           | 0                |                |
|   | Material Cutting Thickness (mm) |                |                |                  |                |
| ĺ | Material                        | YLR 1000 (1kW) | YLS 2000 (2kW) | YLR 3000 (3kW)   | YLS 4000 (4kW) |
|   | Mild Steel (s235jr)             | 8              | 12             | 16               | 20             |
|   | Stainless Steel (1.4301)        | 4              | 6              | 8                | 10             |
|   | Aluminium (AIMg3)               | 4              | 6              | 8                | 12             |
|   | Copper                          | 2              | 3              | 5                | 6              |
|   | Brass                           | 4              | 6              | 8                | 10             |
|   |                                 |                |                |                  |                |

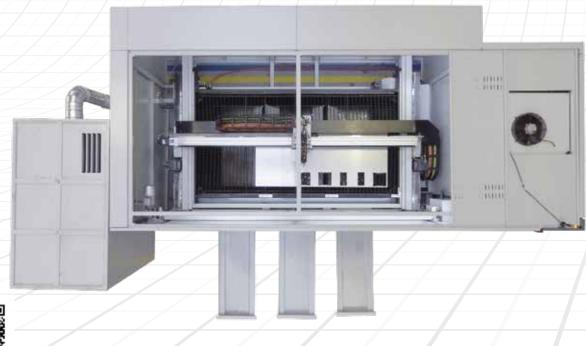
#### MANUAL CUTTING TABLE

The machine is designed especially for the customers who has layout problems. Sheet loading and unloading is extremely easy in cases where no shuttle table is needed.



#### COMPACT, MODERN AND ERGONOMIC LAY-OUT

Helping of the compact layout of the machine, sheet loading, cutting and unloading operations are performed by using less space and less operations.





#### **■ PNEUMATIC SHUTTLE TABLE (OPTION)**

As standard there is a manual cutting table. Optionally, with your 1 or 2 KW power source order, you can get a pneumatic shuttle table.



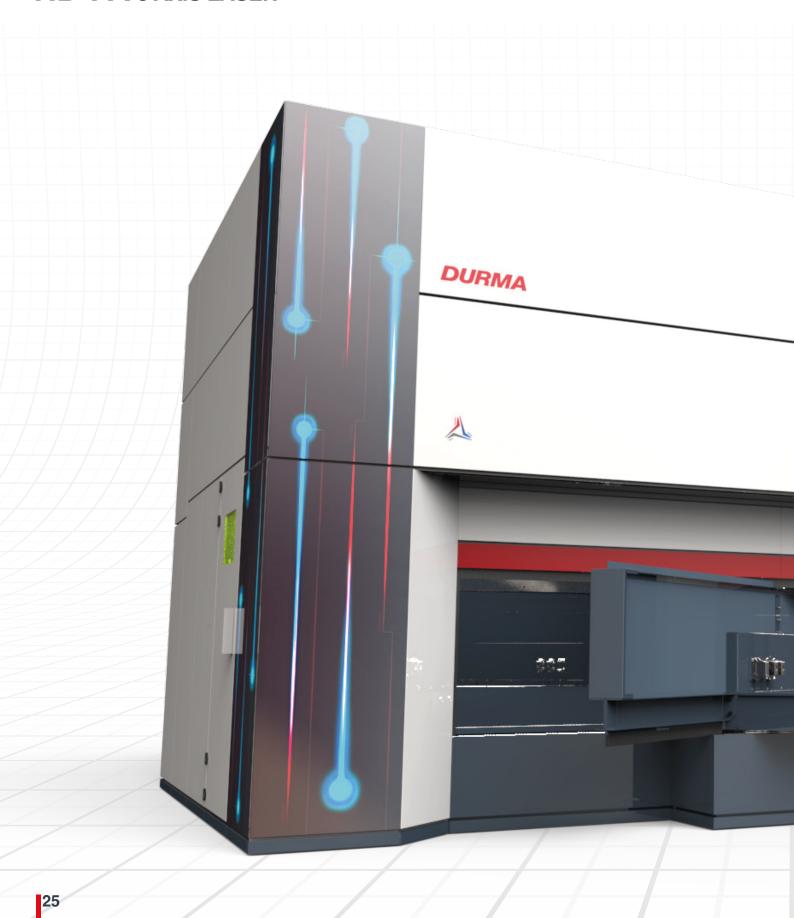
#### EASY ACCES TO CUTTING AREA WITH BACK DOOR

Rear door for use when cutting is required. This rear door is also used during machine maintenance





#### **HD-FA** 5 AXIS LASER

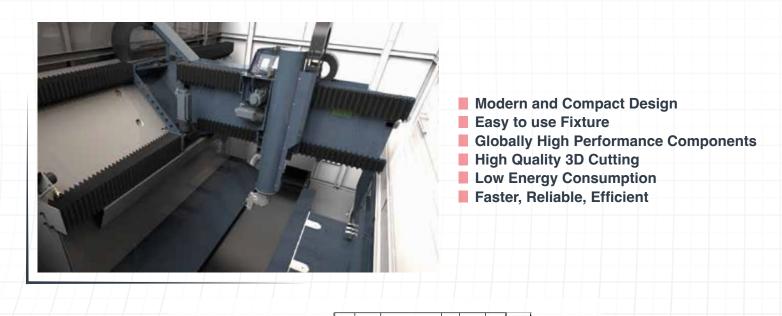


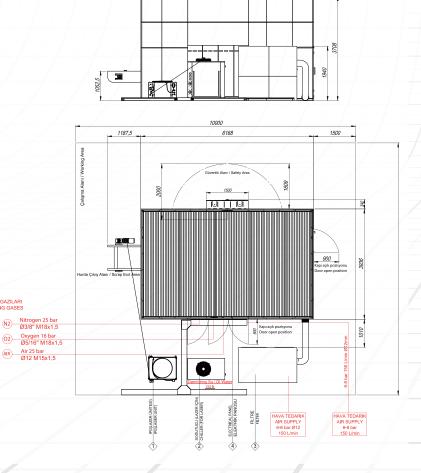


KESİM GAZILARI CUTTING GASES

#### THE 5 AXIS FIBER LASER SYSTEM FOR **AUTOMOTIVE AND AEROSPACE INDUSTRY**

DURMA 5 axis fiber laser system will be your best partner for automotive and any other high-sense and 3D complex part production. +%25 increased processing space due to same concept machines. For gratify cutting performance, strong machine frame and rotary table provide best quality.





| HD-FA TECHNICAL SPECIFICAT    | IONS             |                    |      |  |
|-------------------------------|------------------|--------------------|------|--|
| X axis stroke                 | 3.000 mm         |                    |      |  |
| Y axis stroke                 | 1.500 mm         |                    |      |  |
| Z axis stroke                 | 650 mm           |                    |      |  |
| B axis                        | ±135°            |                    |      |  |
| Caxis                         | ±360°xn          |                    |      |  |
| Max. Synchronous Speed        | 173 m/min.       | 173 m/min.         |      |  |
| Max. Synchronous Acceleration | 1,73 G           |                    |      |  |
| Positional Accuracy           | ±0.08 mm         |                    |      |  |
| Repeatability                 | ±0.08 mm         |                    |      |  |
| MACHINE SIZES                 |                  |                    |      |  |
| Machine Size                  | 6168 mm x 3936   | mm h= 3700 mm      |      |  |
| Working Area                  | 9.000 mm x 10.00 | 00 mm (Secure area | a)   |  |
| Rotary Table's Door Length    | 4.000 mm         |                    |      |  |
| Machine Weight                | 16.000 kg        | 16.000 kg          |      |  |
| CUTTING THICKNESS mm          |                  |                    |      |  |
| Power                         | 2 kW             | 3 kW               | 4 kW |  |
| Mild Steel (mm)               | 12               | 16                 | 20   |  |
| Stainless (mm)                | 6                | 8                  | 10   |  |
| Aluminum (AIMg3) (mm)         | 6                | 8                  | 12   |  |
| Brass (mm)                    | 6                | 8                  | 10   |  |
| Copper (mm)                   | 3                | 5                  | 6    |  |
| CUTTING HEAD                  |                  |                    |      |  |
| Туре                          | 3D               |                    |      |  |
| Focus                         | Automatic        |                    |      |  |
| CONTROL UNIT                  |                  |                    |      |  |
| CNC                           | SIEMENS SINUME   | RIK 840D SL        |      |  |
| Screen                        | 19" Touch panel  |                    |      |  |
| FILTER                        |                  |                    |      |  |
| Capacity                      | 2.500 m³/h - 4   | kW                 |      |  |
| CHILLER                       |                  |                    |      |  |
| Chiller for 2 kW              | IPG LG 71        |                    |      |  |
| Chiller for 3 kW              | IPG LG 170       |                    |      |  |
| Chiller for 4 kW              | IPG LG 171       |                    |      |  |
|                               |                  |                    |      |  |

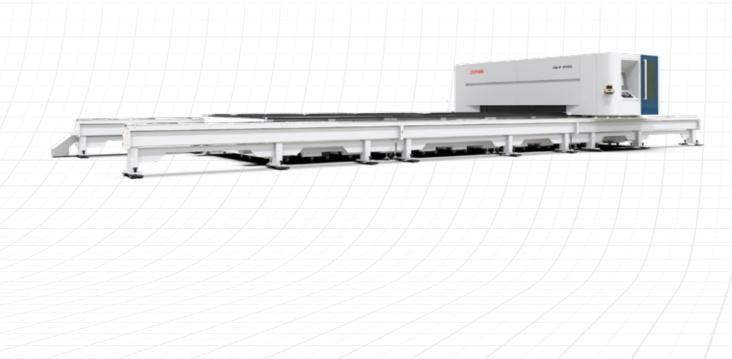






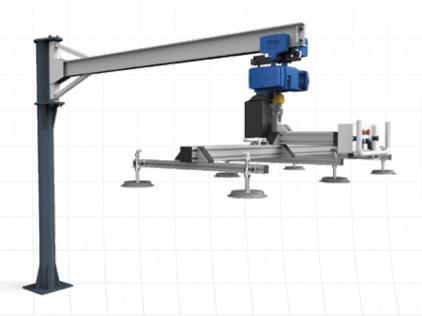
#### **HD-F 20030**

| HD-F 20030 Technical Data    |                     |  |  |  |  |
|------------------------------|---------------------|--|--|--|--|
| X Axis                       | 20100 mm            |  |  |  |  |
| Y Axis                       | 3070 mm             |  |  |  |  |
| Z Axis                       | 165 mm              |  |  |  |  |
| Max. sheet size              | 20090 x 3048 mm     |  |  |  |  |
| X Axis max. speed            | 60 m/min.           |  |  |  |  |
| Y Axis max. speed            | 60 m/min.           |  |  |  |  |
| Z Axis max. speed            | 30 m/min.           |  |  |  |  |
| X-Y Axes synch. speed        | 85 m/min.           |  |  |  |  |
| X-Y Axes synch. accelaration | 14 m/s <sup>2</sup> |  |  |  |  |
| Positioning tolerance        | 0.05 mm             |  |  |  |  |



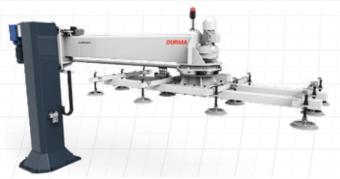
## **Automatic Loading – Unloading Units Solutions For Your Job**

- Manual loading-unloading systems
- Semi automatic loading-unloading systems
- Automaticloading-unloading systems



| M-LOADER 3015 / 4020  | M-LOADER 3015 / 4020        |                |  |  |  |  |
|-----------------------|-----------------------------|----------------|--|--|--|--|
| Technical Data        | 3015                        | 4020           |  |  |  |  |
| Sheet Length (Max.)   | 500 - 3000 mm               | 500 - 4000 mm  |  |  |  |  |
| Sheet Width (Max.)    | 500 - 1500 mm               | 500 - 2000 mm  |  |  |  |  |
| Sheet Thickness       | 10 mm                       | 6 mm           |  |  |  |  |
| Max. Loading Capacity | 360 kg                      | 450 kg         |  |  |  |  |
| Vacuum Pad Qty.       | 6 sec.                      | 8 sec.         |  |  |  |  |
| Rotation angle (Max.) | 260°                        | 260°           |  |  |  |  |
| CONSUMPTION VALUES    |                             |                |  |  |  |  |
| Electricity           | 0.5 kW                      | 0.5 kW         |  |  |  |  |
| Compressed Air        | 3 m <sup>2</sup> /h - 7 bar | 3 m²/h - 7 bar |  |  |  |  |

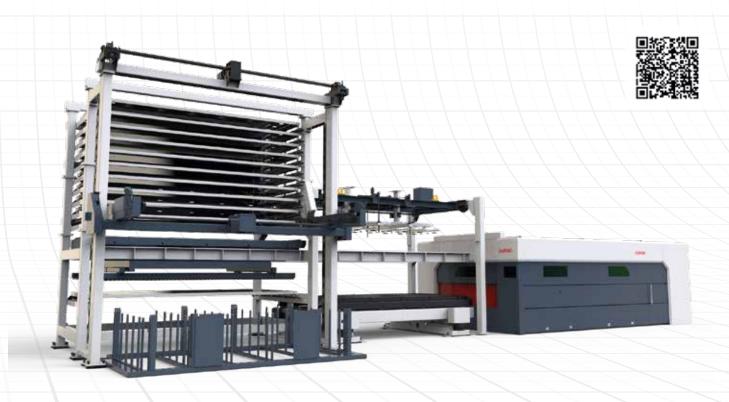
| D-LOADER 3015 / 4020  |   |   |  |  |  |
|-----------------------|---|---|--|--|--|
| Technical Data        | 3015                                    | 4020                                    |  |  |  |
| Sheet Length (Max.)   | 500 - 3000 mm                           | 500 - 4000 mm                           |  |  |  |
| Sheet Width (Max.)    | 500 - 1500 mm                           | 500 - 2000 mm                           |  |  |  |
| Sheet Thickness       | 0,5 - 25 mm                             | 0,5 - 25 mm                             |  |  |  |
| Max. Loading Capacity | 900 kg                                  | 1600 kg                                 |  |  |  |
| Vacuum Pad Qty.       | 12 pcs.                                 | 18 pcs.                                 |  |  |  |
| Total Cycle Time      | 60 - 75 sec.(depends on loading height) | 65 - 85 sec.(depends on loading height) |  |  |  |
| Working Area          | 4200 x 4100 mm h=2260 mm                | 5500 x 5400 mm h=2720 mm                |  |  |  |
| Rotation angle (Max.) | 90°                                     | 90°                                     |  |  |  |
| Electricity           | 3 kW                                    | 4 kW                                    |  |  |  |
| Compressed Air        | 6 m²/h7 bar                             | 10 m <sup>2</sup> /h7 bar               |  |  |  |



| DURMA RAPID SERVER 3015 / 4020     |                                 |   |   |  |  |
|------------------------------------|---------------------------------|---|---|--|--|
| Technical Specifications           | 3015                            | 4020  | 6020  |  |  |
| Min. Sheet Size                    | 800 - 800 mm                    | 1000 - 1000 mm                              | 1000 - 1000 mm                                    |  |  |
| Length                             | 1000, 1500, 2000, 2500, 3000 mm | 1000, 1500, 2000, 2500, 3000, 3500, 4000 mm | 1000, 1500, 2000, 2500, 3000, 3500, 4000, 5000 mm |  |  |
| Width                              | 1000, 1250, 1500 mm             | 1000, 1250, 1500, 2000 mm                   | 1000, 1250, 1500, 2000 mm                         |  |  |
| Thickness                          | 0,5 - 25 mm                     | 0,5 - 25 mm                                 | 0,5 - 25 mm                                       |  |  |
| Max. Sheet Size                    | 3050 x 1525 mm                  | 4064 x 2032 mm                              | 6096 x 2032 mm                                    |  |  |
| Max. Loadable Sheet Loading Weight | 5000 kg                         | 6000 kg                                     | 9000 kg   |  |  |
| Max. Sheet Loading Height          | 250 mm                          | 250 mm                                      | 250 mm  |  |  |
| Cycle Time                         | 50 sec                          | 70 sec                                      | 90 sec  |  |  |
| Workspace                          | 6950 x 5200 mm h=3400 mm        | 8000 x 18500 mm h=3850 mm                   | 8000 x 24750 mm h=3850 mm                         |  |  |
| Dual Sheet Sensor                  | yes                             | yes   | yes   |  |  |
| Sheet Separation System            | yes                             | yes   | yes   |  |  |



| DURMA RAPID TOWER 3015 / 4020 / 6020                             |                                 |  |  |  |  |
|--|---------------------------------|--|--|--|--|
| Technical Specifications   | 3015                            | 4020                                       | 6020   |  |  |
| Min. Sheet Size  | 800 - 800 mm                    | 1000 - 1000 mm                             | 1000 - 1000 mm                                   |  |  |
| Length   | 1000, 1500, 2000, 2500, 3000 mm | 1000, 1500, 2000, 2500, 3000,3500, 4000 mm | 1000, 1500, 2000, 2500, 3000,3500, 4000, 6000 mn |  |  |
| Width  | 1000, 1250, 1500 mm             | 1000, 1250, 1500, 2000 mm                  | 1000, 1250, 1500, 2000 mm                        |  |  |
| Thickness  | 0,5 - 25 mm                     | 0,5 - 25 mm                                | 0,5 - 25 mm                                      |  |  |
| Max. Sheet Size  | 3050 x 1525 mm                  | 4064 x 2032 mm                             | 6096 x 2032 mm                                   |  |  |
| Max. Sheet Metal Loading Weight That Can Be Loaded On The Pallet | 3000 kg                         | 4000 kg                                    | 5000 kg  |  |  |
| Pallet Numbers   | 10                              | 10   | 10   |  |  |
| Total Loadable Sheet Weight                                      | 30000 kg                        | 40000 kg                                   | 50000 kg   |  |  |
| Max. Sheet Loading Height  | 85 mm                           | 85 mm                                      | 85 mm  |  |  |
| Cycle Time   | 50 sec                          | 60 sec                                     | 90 sec   |  |  |
| Workspace  | 6950 x 5200 mm h=3400 mm        | 8000 x 18500 mm h=3850 mm                  | 8000 x 24750 mm h=3850 mm                        |  |  |
| Dual Sheet Sensor  | yes                             | yes  | yes  |  |  |
| Sheet Separation System  | yes                             | yes  | yes  |  |  |
| Electric Power   | 23 kW                           | 38 kW                                      | 40 kW  |  |  |
| Compressed Air   | 1400 lt/min 7 bar               | 1400 lt/min 7 bar                          | 1400 lt/min 7 bar                                |  |  |



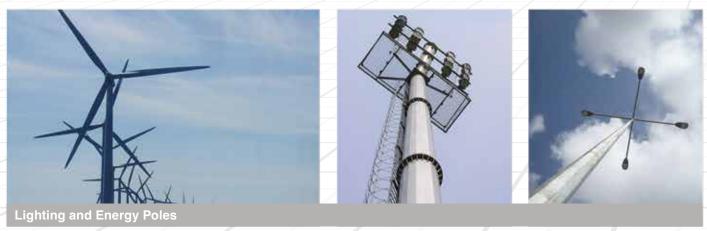
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**Industrial Machines** 







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