

Laser Cutting Machine

Series

HD-F
HD-FN
HD-FO
HD-FA



Easy
to Use

High Quality
Cutting

Low Energy
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, requirements 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 m² we dedicate 1,000 employees to delivering high quality manufacturing solutions at the best performance to price ratio in the market.



PRODUCTION IS MORE EFFECTIVE NOW

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 it's machines to the world markets under the Durma brand.



1

High technology,
modern production
lines



2

Top quality
components



3

High quality
machines designed
in R&D Centre

FIBER LASER

- Low operating cost and energy consumption
- Globally recognized high performance components
- Precise cuts and high durability
- High profit margin



*Production is **More Effective Now.***

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

Fiber Laser Technologies

Fiber lasers outshine with its fast cutting and energy efficiency abilities when especially its compared to CO2 lasers. Easy use, maintenance and service have been achieved by the high technology of Fiber Lasers. Globally recognized efficient components used in DURMA Fiber Lasers add value to your company.

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

■ Rack and Pinion Motion System

Axes motion is 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 helical racks with low clearance make it possible to achieve very high acceleration (synchronized 28 m/s²), speed (synchronized 170 m/min.) and accuracy (± 0.03 mm) values.



Fiber Laser Source

Material (Cutting Capacity)*	3 kW	4 kW	6 kW	12 kW	20 kW	30 kW
Mildsteel (S235)	16 (20) mm	20 (22) mm	25 mm	30 mm	40 (50) mm	50 (60) mm
Stainless Steel (304)	8 (10) mm	10 (12) mm	15 (20) mm	25 (30) mm	40 (50) mm	50 (60) mm
Aluminium (5083)	8 (10) mm	12 (15) mm	20 (25) mm	30 (40) mm	40 (50) mm	40 (50) mm
Copper (CU)	5 mm	6 mm	10 mm	15 mm	15 mm	15 mm
Brass (CUZN39 PB3)	8 mm	10 mm	12 mm	20 mm	20 mm	20 mm

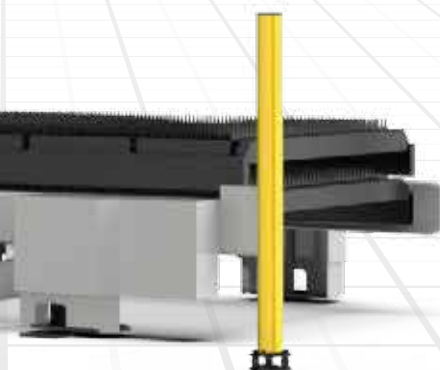
*These are standard cutting parameters.

The values shown in parentheses indicate the thicknesses that can be cut with minimal burr formation using resonators of the specified power. Cutting quality may vary depending on the geometry of the part being cut and the cutting speed. When cutting mild steel, factors such as rust, scale formation, paint, labels, surface height variations, rolling defects, grooves, and other surface imperfections may negatively affect the cutting process. Both the top and bottom surfaces of the material should be clean before cutting.

For shot-blasted steel sheets, cutting quality and cutting speeds may differ from the standard values.

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



FIBER LASER

Laser Cutting Head

The laser beam generated in the resonator is transmitted to the cutting head via the fiber cable. The cutting head focuses the beam received from the fiber cable onto the processing surface. The type of material to be cut, its thickness, and the quality of the cut are related to the structure of the optical system. With a single type of cutting head, it offers a complete solution by cutting all thicknesses within its capacity, depending on the laser power. It performs cutting at high-quality standards even in the most challenging cuts and thicker materials.

The valuable optics such as lenses and collimators inside the high-pressure resistant automatic cutting head are protected from particles generated during the cutting process by a low-cost protective glass. The solid and dustproof body ensures a long service life.

■ Efficient

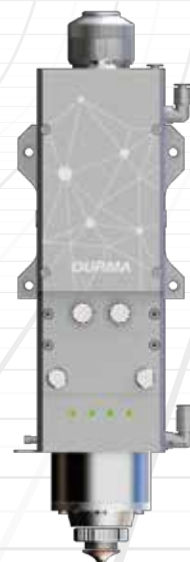
- Motorized automatic focus position adjustment for faster piercing, piercing thick plates, and cutting materials of different thicknesses.
- Precise distance measurement and quick response.
- Status monitoring with LED indicators.

■ Flexible

- Single focus lens for cutting both thin and thick materials
- Design compatible with high Z-axis dynamics
- Automatic focus position adjustment
- Efficient cutting gas flow

■ User Friendly & Safe

- Thanks to the protective glasses, a dustproof beam path
- LED status indicators
- Collision protection with ceramic part



■ Filter

It provides a healthy work environment by absorbing smoke, dust and small particles generated during cutting. The filter output can be delivered directly to the factory atmosphere. Businesses remain clean, healthy workspaces are provided for operators. The vibrating dust collection filter is fully automatic. It starts automatically when cutting starts. It is a compact unit with filter cartridges, integrated fan motor assembly and jet-pulse cleaning system. The dirt status of the filter can be easily seen on the panel. Cartridges make the blasting process automatically according to its dirt status.



■ Chiller

It is a device that provides cooling for the resonator and the optics in the cutting head. It features a water-based cooling system. Thanks to the dual-chamber system, cooling water at different temperatures is delivered to the optics and the laser power supply according to their needs.



■ Higher Acceleration on Z-Axis

In modern laser cutting processes, the vertical (Z-axis) movement capability of the cutting head is one of the most critical factors determining overall processing quality and productivity. Our belt-driven Z-axis architecture has been developed as an advanced alternative to conventional ball screw systems, which are limited by high mechanical inertia and friction. It combines high dynamic performance with superior operational efficiency.

Technical Advantages and Dynamic Performance

- Low Inertia and High Acceleration
- Vibration Damping and Acoustic Comfort
- Lubrication-Free Operation
- Precise Positioning and Fast Dynamic Response



FIBER LASER

■ Shuttle Table

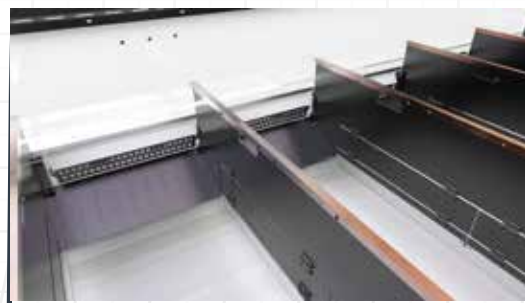
Servo controlled shuttle table system applied to HD-F 3015 (Standard) and HD-F 4020 (Option) series machines reduces the changeover times by 40%.

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.



■ 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.



■ Scrap Conveyor

The scrap collection system on the 3015 model is designed as two separate compartments running along the cutting table. In the standard configuration, these compartments are equipped with scrap collection drawers. As an optional feature, the drawers can be replaced with two integrated conveyor systems, one installed in each compartment.

This system enables scrap parts to be removed from the working area as quickly as possible without interrupting the cutting process. In addition, the conveyor system running along the entire length of the 3015 machine is equipped with jam detection and reverse-operation functions, helping to prevent potential part blockages and ensuring continuous operation.



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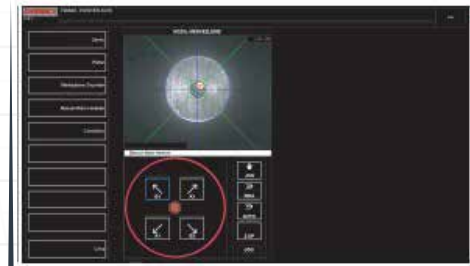
■ Automatic Nozzle Changer (Option)

Automatic nozzle change feature consists of 25 stations. Before starting cutting, the cutting head replaces the existing nozzle with the one that is suitable for cutting, cleans and calibrates and starts cutting. It also monitors nozzle life.



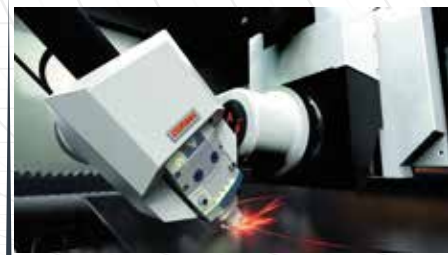
■ Durma Auto Nozzle Centering (Option)

Durma Auto Nozzle Centering is the process of bringing the laser beam to the nozzle center in order to obtain smooth and quality cuts. For this purpose, a camera is placed on the machine. With this camera, the real time position of the laser beam is detected. If the beam is not on the nozzle center then it is automatically adjusted to the center with the 'Durma Auto Nozzle Centering' application.



■ Bevel Head $\pm 45^\circ$ (Option)

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



■ D-MIX GAS (O2-N2) (Option)

Cutting mildsteel metal is typically done using high-power lasers with a mix gas. This process is performed using a gas mixture consisting of nitrogen and oxygen.

Using a mix gas offers several advantages

- Better cutting results
- Reduction of burrs by 40-70% in medium and thicker mildsteel



FIBER LASER

Control Panel

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



Durma Cloud

Durma Cloud ensures that machines are accessible and inspectable. It stores machine data and allows for its reuse. Advantages include preventive maintenance, calculation of operating vs. downtime and efficiency, real-time status of your machine, remote monitoring without having to visit the machine, generating reports on cut parts, obtaining historical reports by date range, and reviewing error messages and causes. An additional optional feature is cloud file transfer, allowing users to send nested cutting files directly to the machine via the internet. The operator only needs to select the program and press start.



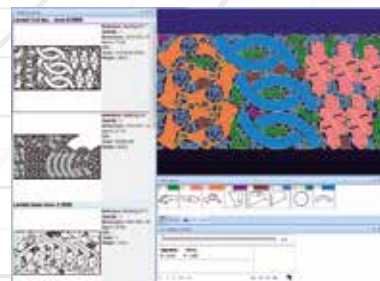
CAD/CAM Software

D-WISE / LANTEK

These are CAD/CAM software specifically designed to automate CNC programming for sheet metal laser cutting machines. They create the most efficient nestings for sheet processing and prepare cutting programs.

- Advanced optimizations
- Fastest cutting and idle motion path calculations to protect the cutting head ceramic parts and prevent sheet deformation
- Real font styles: Fonts supported by the operating system can be directly applied to the material being cut.
- Cutting direction can be clockwise or counterclockwise.
- Advanced corner applications provide perfect corners and high-quality cuts.
- Common Cutting: This feature is especially useful for thick plates and reduces the need for piercing during cutting.

D.WISE



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■ Durma Cloud

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■ Durma Cloud + File Transfer

An additional optional feature is cloud file transfer, allowing users to send nested cutting files directly to the machine via the internet. The operator only needs to select the program and press start.

■ D-Mobile

Integrated with the Durma Cloud Web application, D-Mobile is a mobile application that you can instantly monitor the data from your machines via mobile phone with its user-friendly interface and comprehensive features.

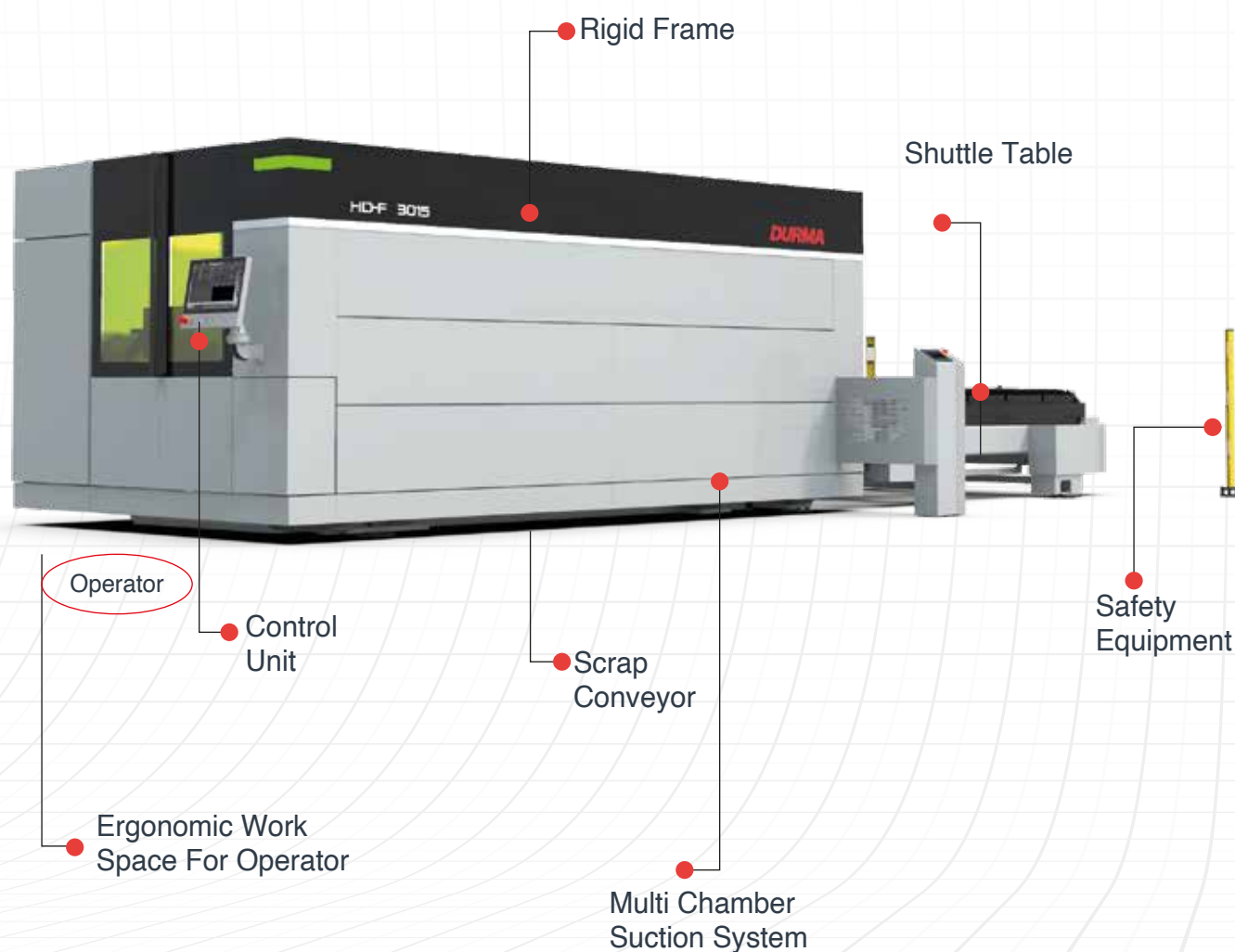


■ Stay informed with instant notifications

Don't miss significant events in the production process. You can instantly intervene in your machine thanks to the notifications such as "last piece in cut", "machine stopped" and "feedrate is running at a value lower than 100%" that you can receive instantly via the D-Mobile application on your smart devices.

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Experience the Difference with Dynamic DURMA Lasers



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HD-F VI



	3015 VI	4020 VI	6020 VI	6025 VI	
X Axis	3100	4100	6100	6100	mm
Y Axis	1525	2100	2100	2570	mm
Z Axis	160	165	165	165	mm
Max. Sheet Size	3048 x 1524	4064 x 2032	6096 x 2032	6096 x 2540	mm
Max. Sheet Weight (Single Table)	480	480	480	480	kg/m ²
		HD-F 3015			
Max. Speed X Axis		120			m/min.
Max. Speed Y Axis		120			m/min.
Max.Synchronized Speed (X-Y)		170			m/min.
Max. Synchronized Acceleration (X-Y)		28			m/s ²
Positioning Accuracy		±0,03			mm
Repeatability		±0,03			mm

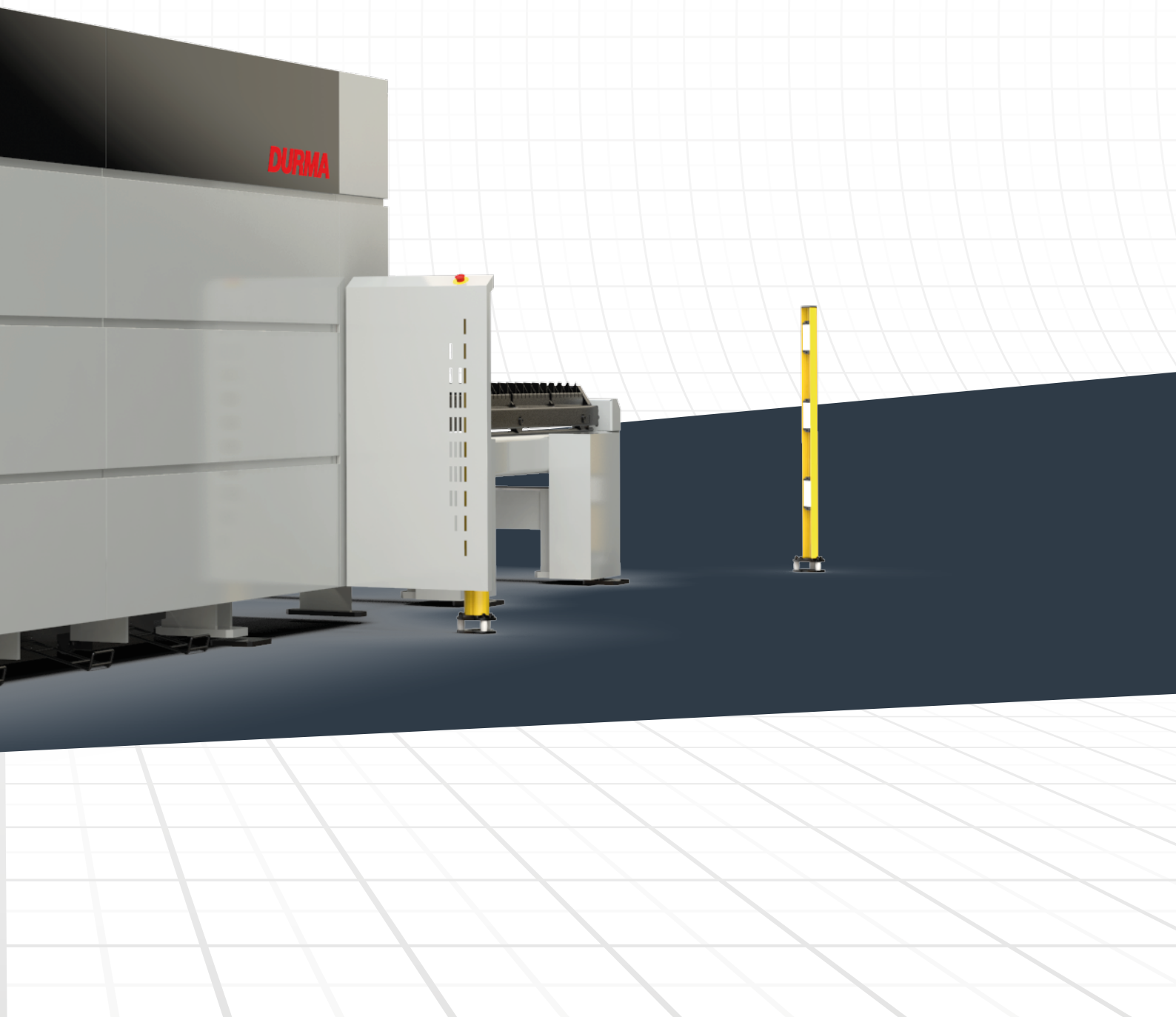
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HD-FN

Price & Performance Advantage in Laser Cutting



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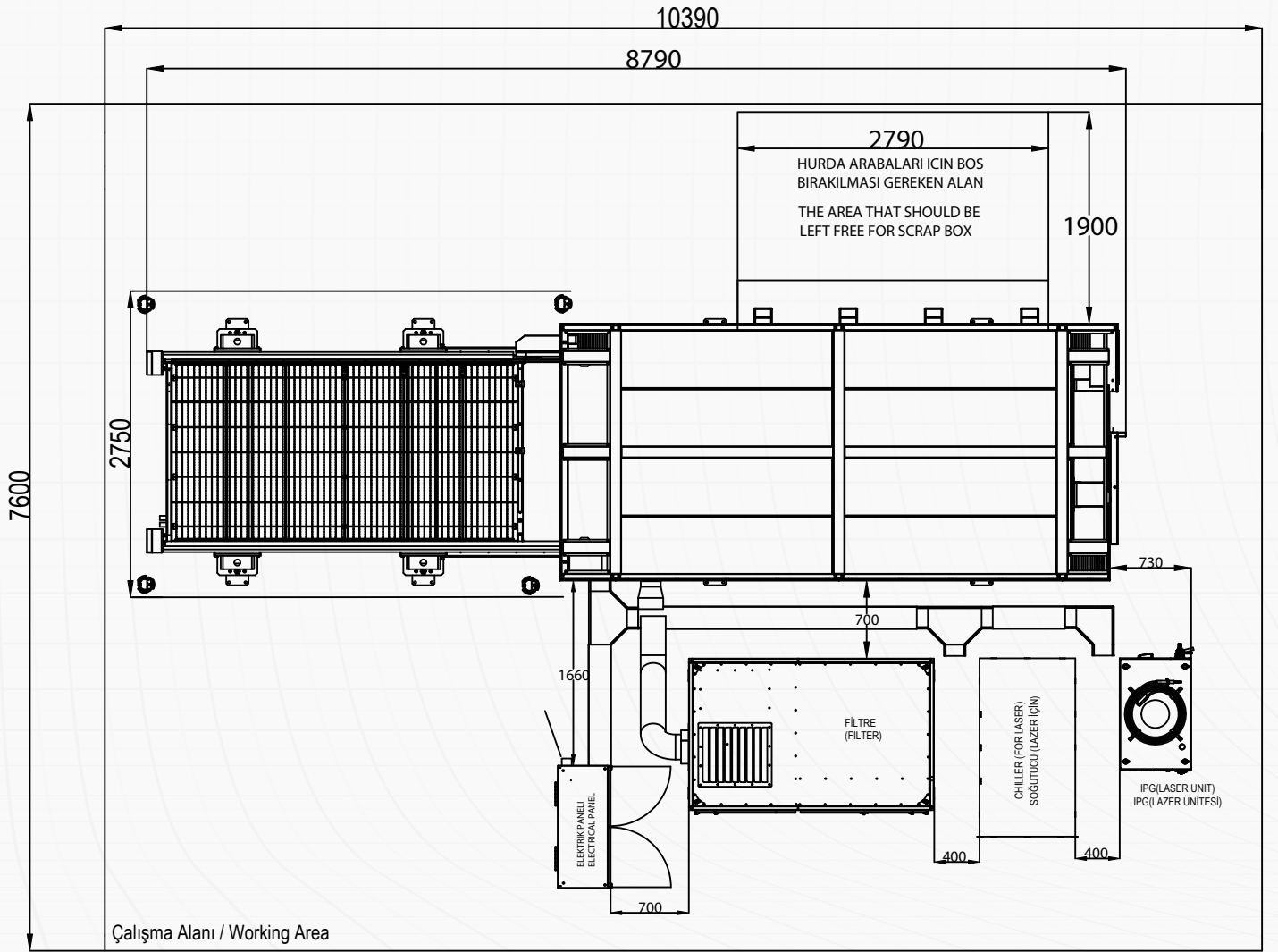
FIBER LASER

- **Effective Price and Performance**
- **Suitable for Increasing Competition**
- **Laser power up to 20 kW**
- **High Sensitivity**
- **Easy to Use and User Friendly**
- **Easy to Programmable**
- **Low Operating Cost**

	3015	4020	6020	
X Axis	3100	4100	6100	mm
Y Axis	1525	2070	2070	mm
Z Axis	125 (270)	125 (270)	125 (270)	mm
Max. Sheet Size	3048 x 1524	4064 x 2032	6096 x 2032	mm
Max. Sheet Weight (Single Table)	240 (3...12kW) 400 (15-20kW)	240 (3...12kW) 400 (15-20kW)	240 (3...12kW) 400 (15-20kW)	kg/m ²
		HD-FN 3015		
Max. Speed X Axis	100		m/min.	
Max. Speed Y Axis	100		m/min.	
Max.Synchronized Speed (X-Y)	141		m/min.	
Max. Synchronized Acceleration (X-Y)	14		m/s ²	
Positioning Accuracy	±0,05		mm	
Repeatability	±0,05		mm	

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HD-FN 3015



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HD-FO FIBER LASER



*Production is **More Effective Now.***

➤ User
Friendly

➤ Ergonomic

➤ Efficient

➤ Fast

➤ Reliable
Brand



SPECIFICALLY DESIGNED ACCORDING TO LAYOUT

-



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HD-FO FIBER LASER

HD-FO Technical Specifications

X Axis	1530	mm
Y Axis	3060	mm
Z Axis	140	mm
Max. Sheet Size	3.048 x 1.524	mm
"Max. Sheet Weight (For Each Table)"	730	kg

Dynamic

Max. Speed X Axis	90	m/min.
Max. Speed Y Axis	90	m/min.
Max. Speed Z Axis	30	m/min.
Max.Synchronized Speed (X-Y)	127	m/min.
Max. Synchronized Acceleration (X-Y)	14	m/s ²
Positioning Accuracy	±0,05	mm
Repeatability	±0,05	mm

FIBER LASER

■ MANUAL CUTTING TABLE

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



■ COMPACT, MODERN AND ERGONOMIC LAYOUT

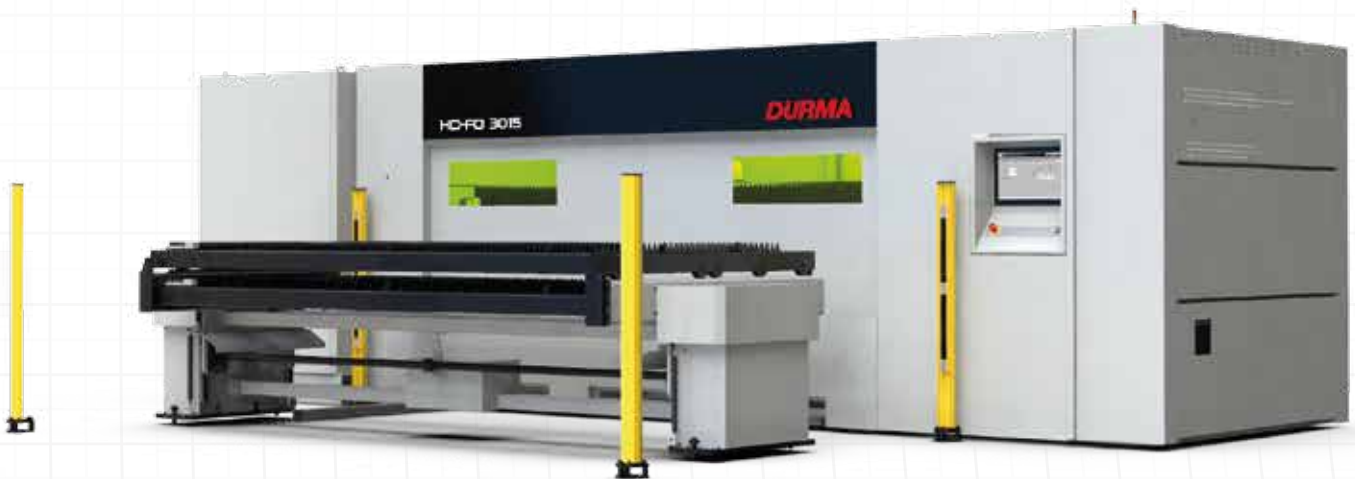
Helping of the compact layout of the machine, sheet loading, cutting and unloading operations are performed by using less space and less operations.



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■ **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.



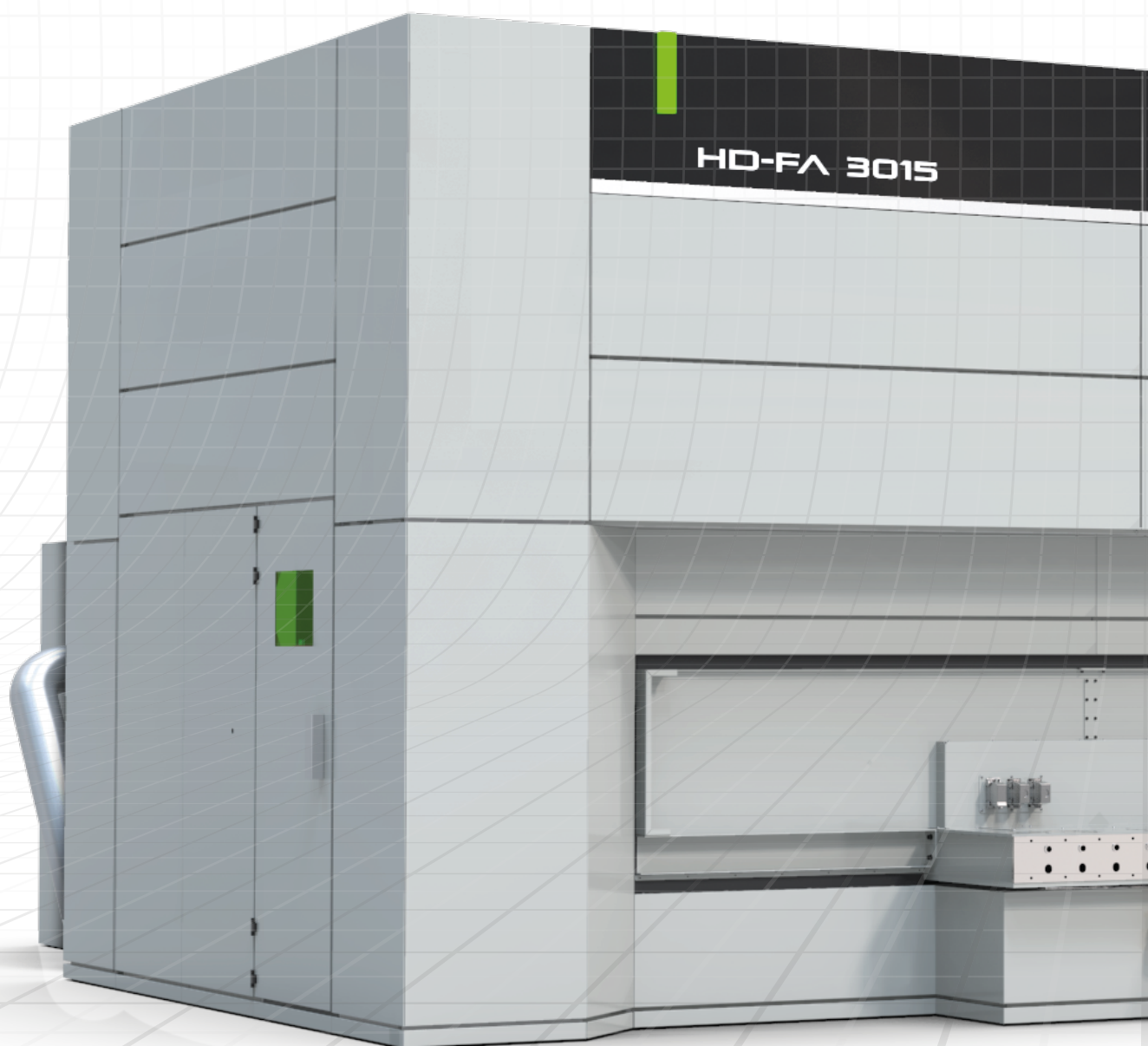
■ **EASY ACCESS TO CUTTING AREA WITH BACK DOOR**

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



FIBER LASER

HD-FA 5 AXIS LASER



Production is *More Effective Now.*

➤ User
Friendly

➤ Ergonomic

➤ Efficient

➤ Fast

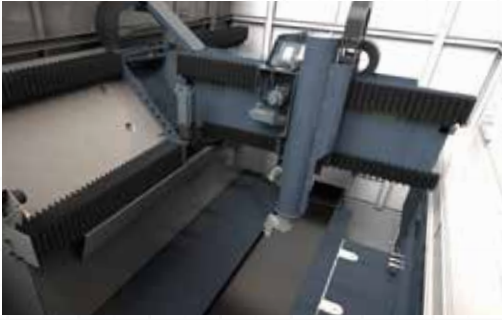
➤ Reliable
Brand



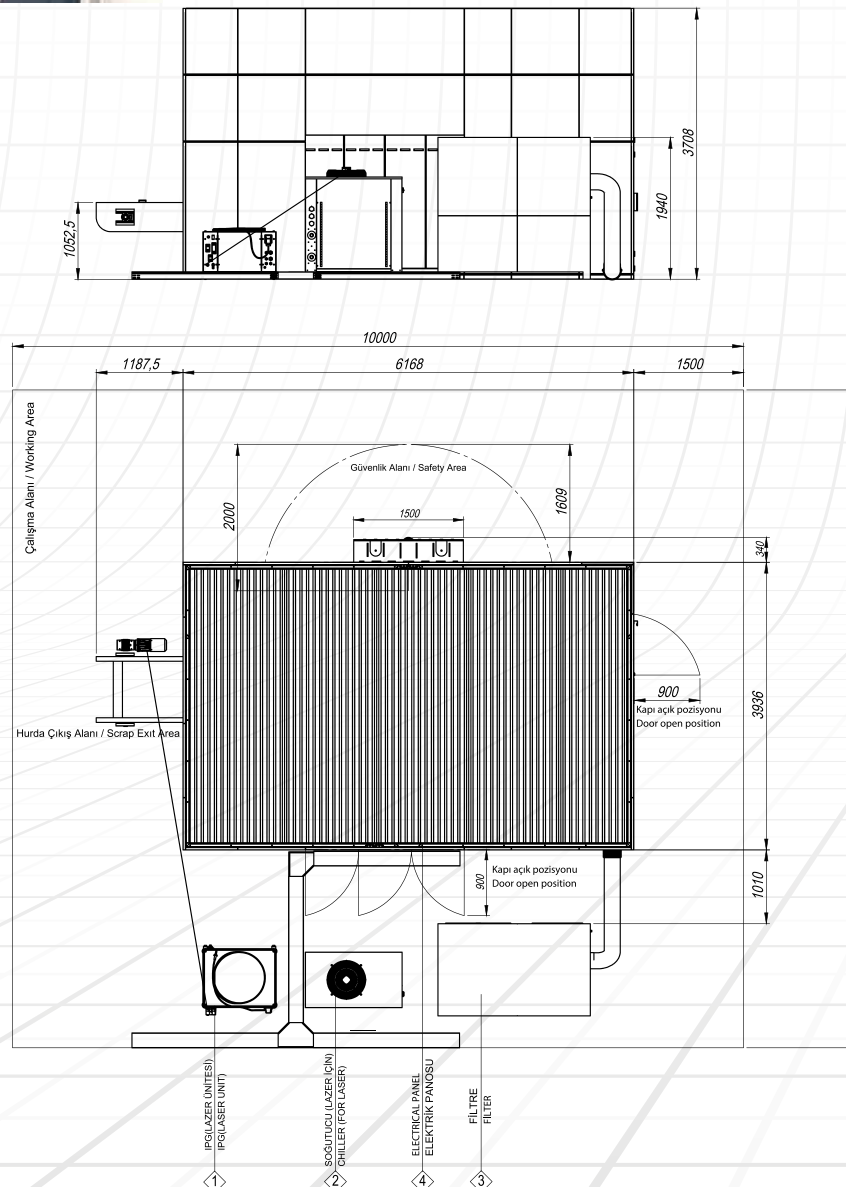
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THE 5 AXIS FIBER LASER SYSTEM

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.



- Modern and Compact Design
- Easy to use Fixture
- Globally High Performance Components
- High Quality 3D Cutting
- Low Energy Consumption
- Faster, Reliable, Efficient



HD-FA Technical Specifications

X Axis Stroke	3000	mm
Y Axis Stroke	1500	mm
Z Axis Stroke	650	mm
B Axis	±135	°
C Axis	±360	°xn
Max. Synchronous Speed	173	m/min.
Max. Synchronous Acceleration	17,3	m/s ²
Positional Accuracy	±0,08	mm
Repeatability	±0,08	mm

Machine Dimensions

Machine Size	6168 x 3936 h=3700	mm
Working Area	9000 x 10000 (Secure Area)	mm
Rotary Table's Door Length	4000	mm
Machine Weight	16000	kg

Cutting Thickness

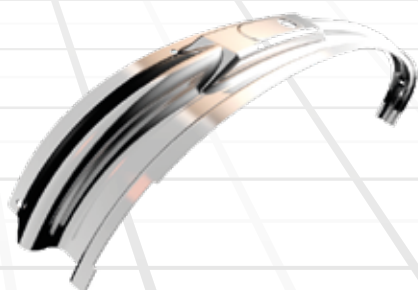
Material (Cutting Capacity)*	3 kW	4 kW
Mildsteel (S235)	16 mm	20 mm
Stainless Steel (304)	8 mm	10 mm
Aluminium (5083)	8 mm	12 mm
Copper (CU)	8 mm	10 mm
Brass (CUZN39 PB3)	5 mm	6 mm

Cutting Head

Type	3D
Focus	Automatic

*Standard cutting parameters.

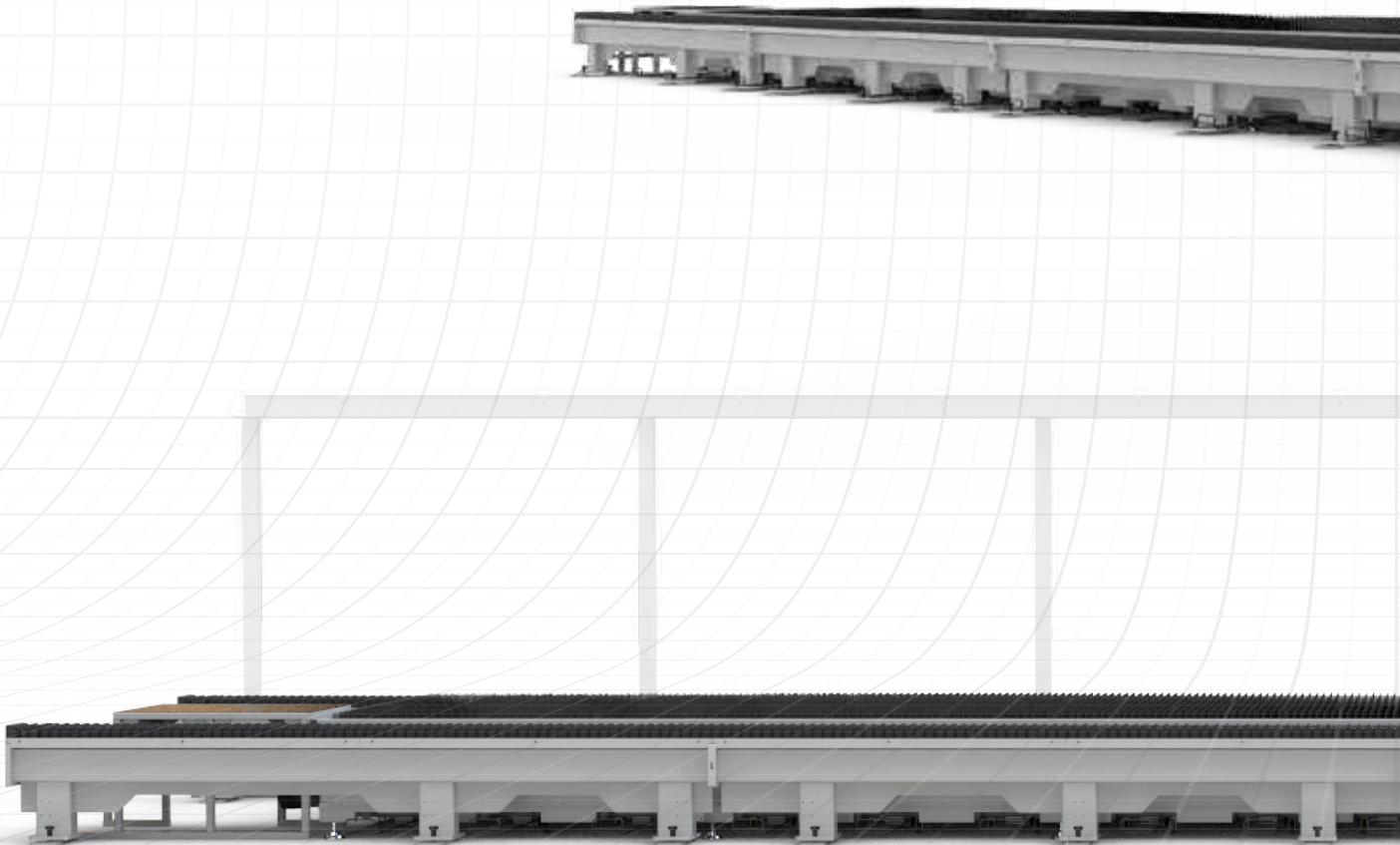
Factors such as rust, shell formation, paint, label, pitch shifts on the surface, rolling defects, rusts on the surface of the material, affect the black sheet cutting negatively. The top and bottom surfaces of the material to be cut must be clean. The cutting quality and cutting speeds of sandblasted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



FIBER LASER

SPECIAL APPLICATIONS

Turkey's Biggest and Fastest Laser



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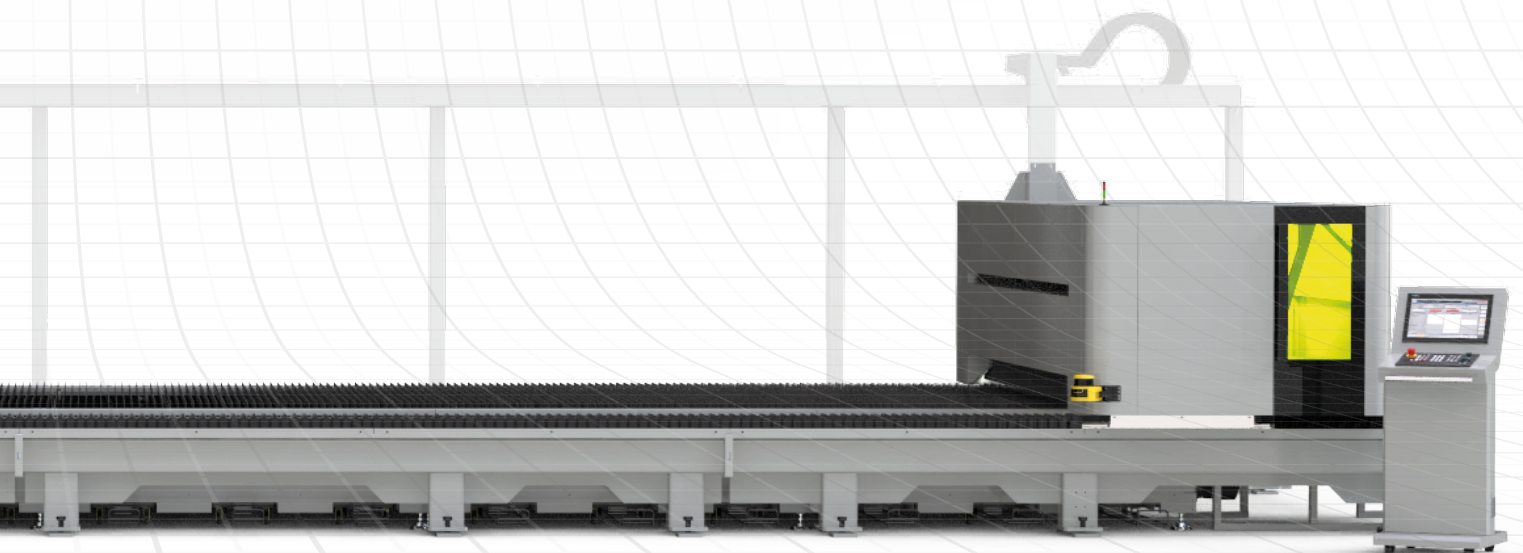
HD-F 20030

Cutting Length 20.000 mm

Cutting Width 3.000 mm

Power 20 kW

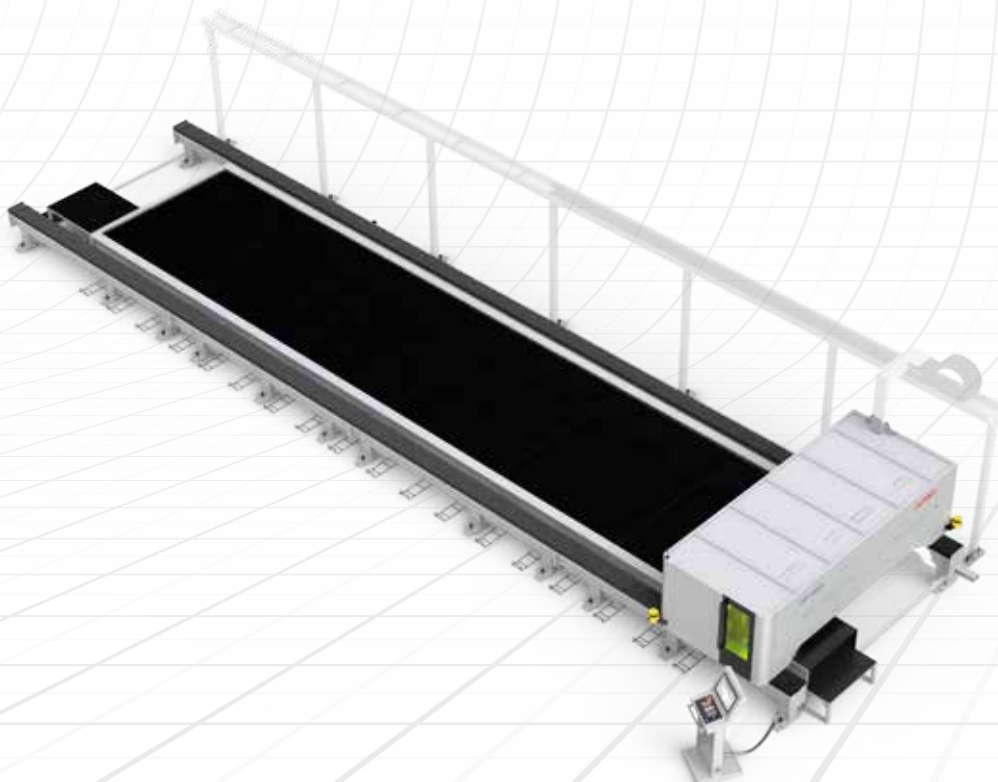
Bevel +/- 45° Cutting Option



FIBER LASER

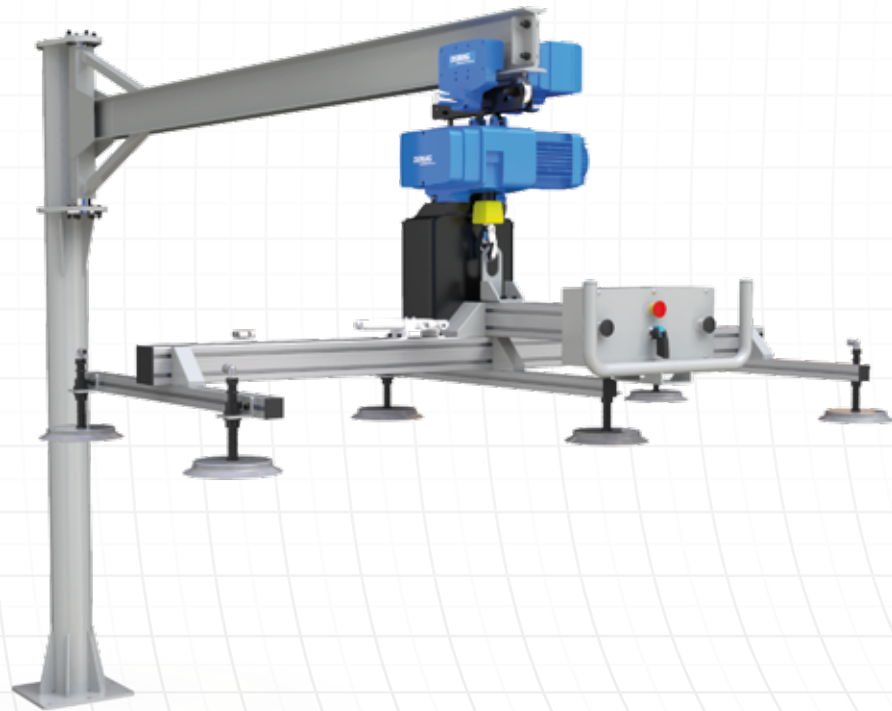
HD-F 20030

HD-F 20030 Technical Data		
X Axis	20100	mm
Y Axis	3070	mm
Z Axis	165	mm
Max. sheet size	20090 x 3048	mm
Max. Speed X Axis	60	m/min.
Max. Speed Y Axis	60	m/min.
Max. Speed Z Axis	30	m/min.
Max.Synchronized Speed (X-Y)	85	m/min.
Max. Synchronized Acceleration (X-Y)	14	m/s ²
Positioning Accuracy	±0,05	mm



Automatic Loading – Unloading Units Solutions For Your Process

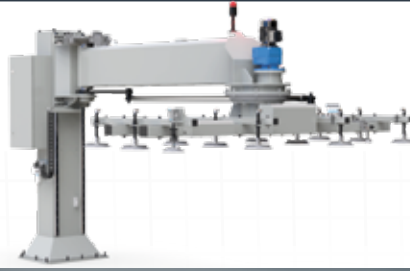
- Manual loading-unloading systems
- Semi automatic loading-unloading systems
- Automatic loading-unloading systems



M-LOADER 3015 / 4020

Technical Data	3015	4020	
Sheet Length (Max.)	3000	500 - 4000	mm
Sheet Width (Max.)	1500	500 - 2000	mm
Sheet Thickness	10	6	mm
Max. Loading Capacity	360	450	kg
Vacuum Pad Qty.	6	8	pcs.
Rotation angle (Max.)	260°	260°	°
Consumption Values			
Electricity	0,5	0,5	kW
Compressed Air	3	3	m³/h
Compressed Air	7	7	bar

FIBER LASER



D-LOADER 3015 / 4020

Technical Data	3015	4020	
Sheet Length (Max.)	500-3000	500-4000	mm
Sheet Width (Max.)	500-1500	500-2000	mm
Sheet Thickness	0.5 - 25	0.5 - 25	mm
Max. Loading Capacity	900	1600	kg
Vacuum Pad Qty.	12	18	pcs.
Total Cycle Time	60-75 sn. (depends on loading height)	60-85 sn.(depends on loading height)	sec.
Working Area	4200 x 4100 h=2260	5500 x 5400 h=2720	mm
Rotation angle (Max.)	90	90	°
Electricity	3	4	kW
Compressed Air	6	10	m³/h
Compressed Air	7	7	bar

- COMPACT DESIGN
- Space-Saving
- Easy Integration
- Cost-Effective Solution
- Low Maintenance Cost

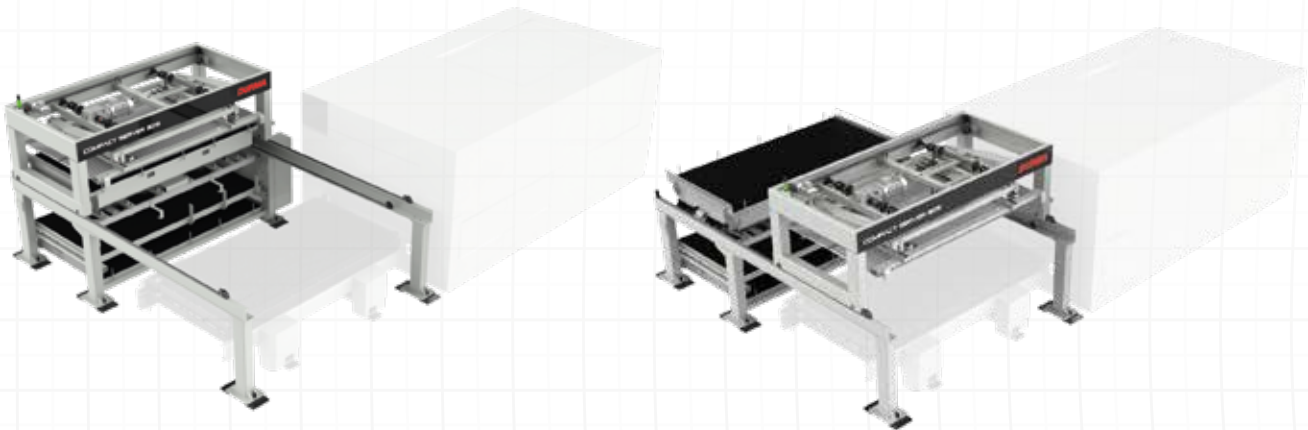


COMPACT SERVER (H Type)

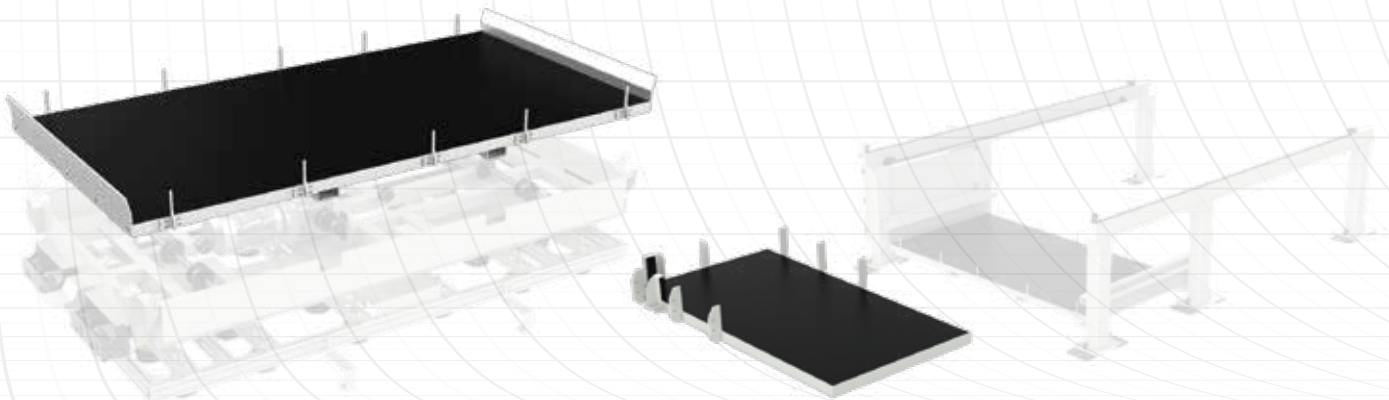
Teknik Özellikler	3015	4020	
Min. Sheet Size	800x800	800x800	mm
Length	1000, 1500, 2000, 2500, 3000	1000, 1500, 2000, 2500, 3000, 3500, 4000	mm
Width	1000, 1250, 1500	1000, 1250, 1500, 2000	mm
Thickness	0,5 - 25	0,5 - 25	mm
Max. Sheet Size	3050 x 1525	4050x2025	mm
Max. Sheet Load	5000	6500	kg
Max. Sheet Stack Heighti	250	250	mm
Cycle Time	60	70	sec
Unloading Station Max. Stack Height	85	85	mm
Unloading Station Max. Stack Weight	3000	4000	kg
Double Sheet Dedector	var	var	
Sheet Separation System	var	var	

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AUTOMATIC FORK MOVEMENT OPTION



ADDITIONAL SHELF OPTION



Operational Continuity and High Production Capacity

Enhances production capacity with uninterrupted loading and unloading operations. The machine can continue operating while the unloading process is in progress

FIBER LASER



DURMA RAPID SERVER 3015 / 4020 (H Tipi)

Technical Data	3015	4020	6020	
Min. Sheet Size	1000 - 1000	1000 - 1000	1000 - 1000	mm
Length	1000, 1500, 2000, 2500, 3000	1000, 1500, 2000, 2500, 3000, 3500, 4000	1000, 1500, 2000, 2500, 3000, 3500, 4000, 6000	mm
Width	1000, 1250, 1500	1000, 1250, 1500, 2000	1000, 1250, 1500, 2000	mm
Thickness	0,5 - 25	0,5 - 25	0,5 - 25	mm
Max. Sheet Size	3050 x 1525	4064 x 2032	6096 x 2032	mm
Max. Loadable Sheet Loading Weight	5000	6000	9000	kg
Max. Sheet Loading Height	250	250	250	mm
Cycle Time	50	60	80	sn
Dual Sheet Sensor	Yes	Yes	Yes	
Sheet Separation System	Yes	Yes	Yes	

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DURMA RAPID TOWER 3015 / 4020 / 6020 (H Type)

Technical Specifications	3015	4020	6020	
Min. Sheet Size	1000 - 1000	1000 - 1000	1000 - 1000	mm
Length	1000, 1500, 2000, 2500, 3000	1000, 1500, 2000, 2500, 3000, 3500, 4000	1000, 1500, 2000, 2500, 3000, 3500, 4000, 6000	mm
Width	1000, 1250, 1500	1000, 1250, 1500, 2000	1000, 1250, 1500, 2000	mm
Thickness	0,5 - 25	0,5 - 25	0,5 - 25	mm
Max. Sheet Size	3050 x 1525	4064 x 2032	6096 x 2032	mm
Max. Sheet Metal Loading Weight That Can Be Loaded On The Pallet	3000	4000	5000	kg
Pallet Numbers	10	10	10	pcs.
Total Loadable Sheet Weight	30000	40000	50000	kg
Max. Sheet Loading Height	85	85	85	mm
Cycle Time	50	60	80	sec.
Dual Sheet Sensor	var	yes	yes	
Sheet Separation System	var	yes	yes	
Electric Power	23	38	40	kW
Compressed Air	1400	1400	1400	lt/min.
Compressed Air	7	7	7	bar

FIBER LASER

SPECIAL APPLICATIONS



Industrial Machines



Steel Service Center



Damper Trailer



Lighting and Energy Poles

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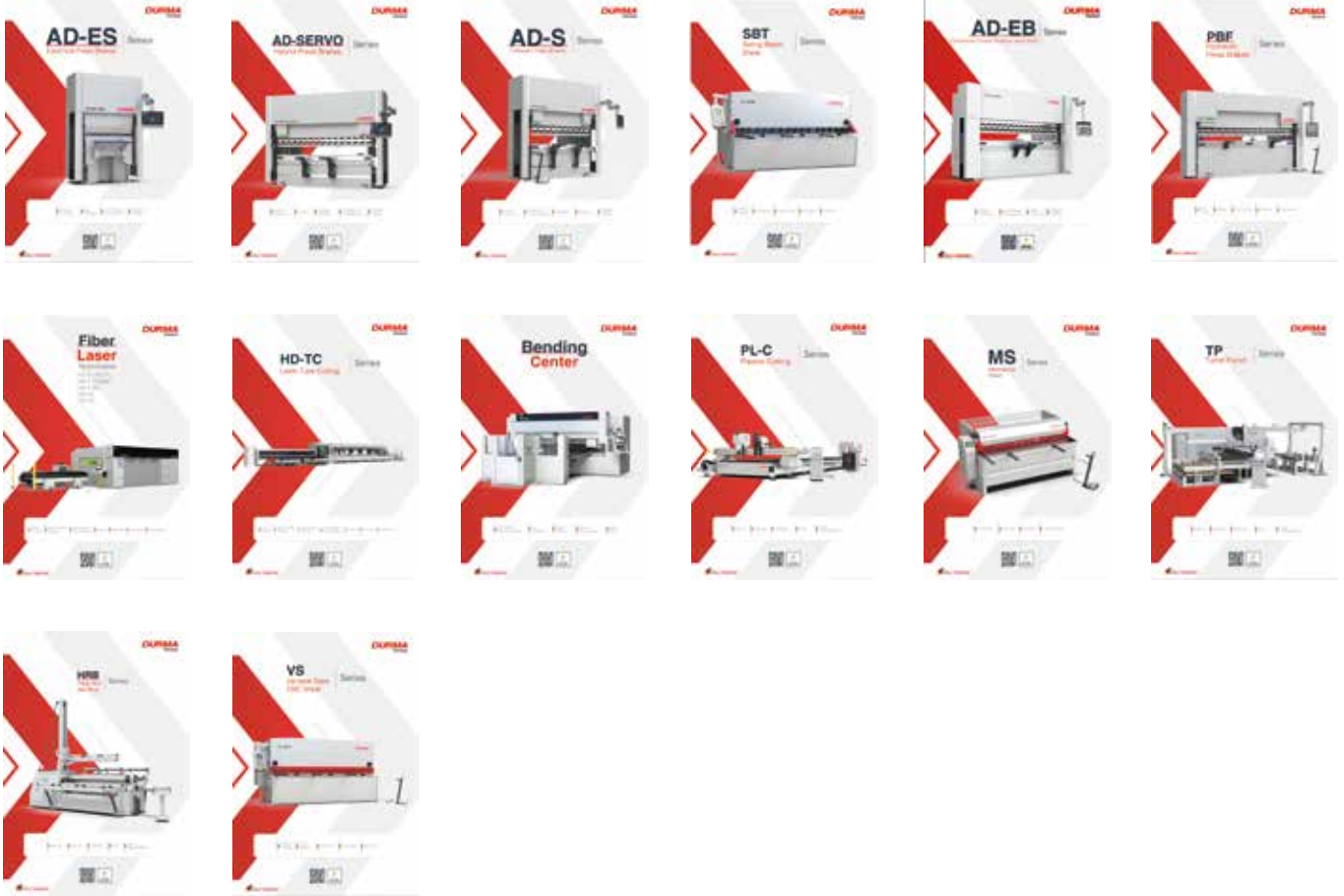
FAST ON SERVICE AND SPARE PARTS

DURMA provides the best level of service and spare parts with qualified personnel and spare parts in stock. Our experienced and professional service personnel are always ready at your service. Our professional training and application enriched courses will give you an advantage to use our machinery.



Product Groups

DURMA



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