DURMA
Forever

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

Low Power Consumption

durmazlar

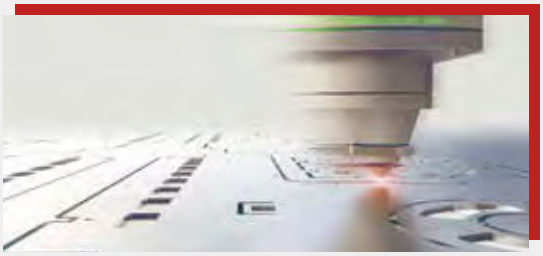
As a total supplier for sheet metal manufacturing with almost 70 years of experience, Durma understands and recognizes the challenges, requirements and expectations of the industry. We strive to satisfy the ever higher demands of our customers by continuously improving our products and processes while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

In our three production plants with a total of 150.000 m^2 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

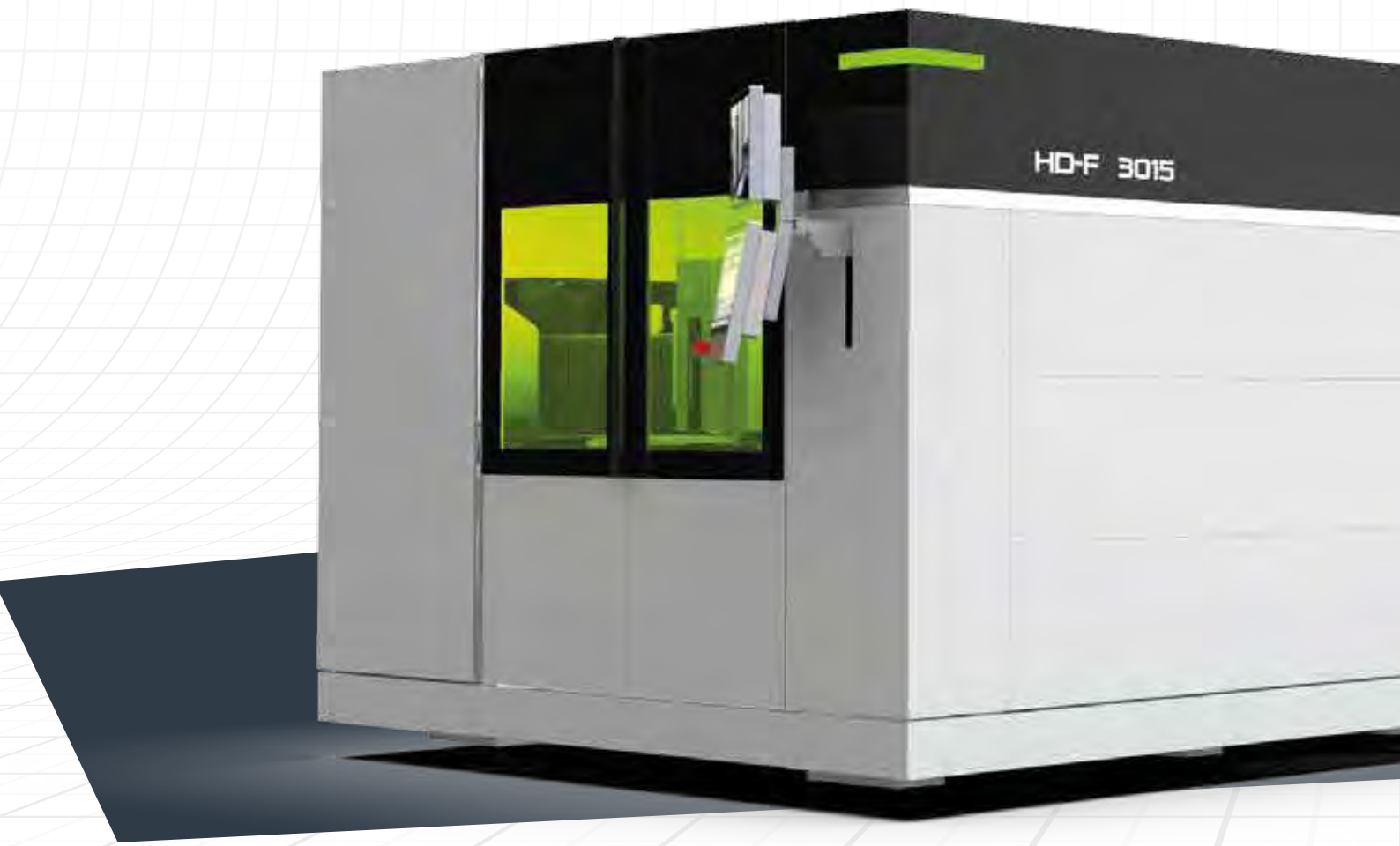
Top quality components

3

High quality machines designed in R&D Centre

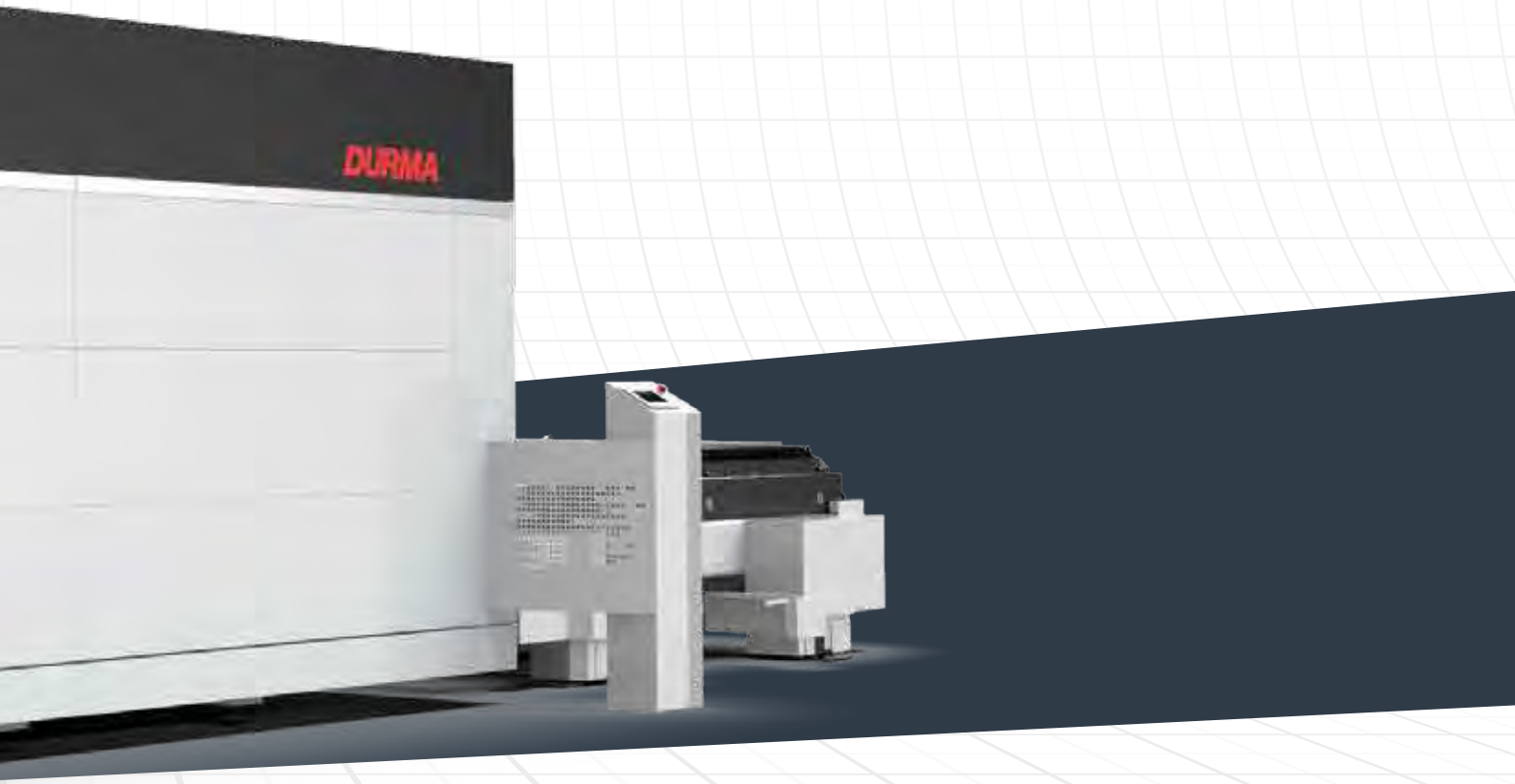
FIBER LASER

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



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

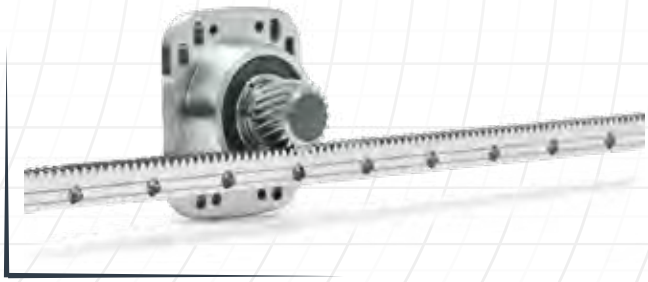
Fiber Laser Technologies

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

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						
Emission wavelength	1070 -1080nm						
Feed fiber diameter	Available in single mode, 50, 100, 200, 300µm						
Ancillary Options	Options Available: Internal coupler, Internal 1x2 beam switch, Internal 50:50 beam splitter, External 1x4 or 1x6 beam switch						
Interface	Standard: LaserNet, Digital I/O, Analog Control Additional Options: DeviceNet or Profibus						

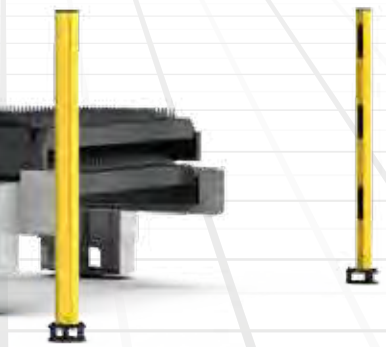
Material (Cutting Capacity)*	YLS 4000 (4kW)	YLS 6000 (6kW)	YLS 10000 (10kW)	YLS 12000 (12kW)	YLS 15000 (15kW)	YLS 20000 (20kW)	YLS 30000 (30kW)
Mildsteel (S235)	20 (22) mm	25 mm	30 mm	30 mm	35 (40) mm	40 (50) mm	50 (60) mm
Stainless Steel (304)	10 (12) mm	15 (20) mm	25 (30) mm	25 (30) mm	35 (40) mm	40 (50) mm	50 (60) mm
Aluminium (5083)	12 (15) mm	20 (25) mm	25 (30) mm	30 (40) mm	35 (40) mm	40 (50) mm	40 (50) mm
Copper (CU)	6 mm	10 mm	15 mm	15 mm	15 mm	15 mm	15 mm
Brass (CUZN39 PB3)	10 mm	12 mm	20 mm	20 mm	20 mm	20 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



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

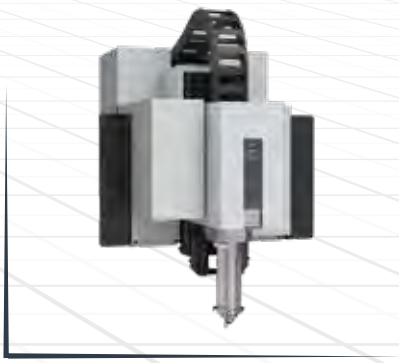
It provides a healthy work environment by absorbing smoke, dust and small particles generated during cutting. The filter output can be delivered directly to the factory atmosphere. Businesses remain clean, healthy workspaces are provided for operators. The vibrating dust collection filter is fully automatic. 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

Lighter and strongly rigid bridge does not allow it to vibrate at high speed and obtain high accurate cutting geometry.
During the construction of the bridge all kind of deformations analyzed and prevented.



FIBER LASER

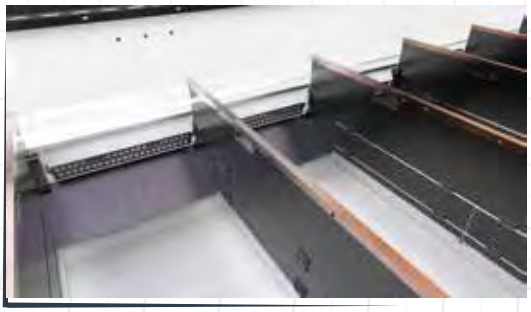
Shuttle Table

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

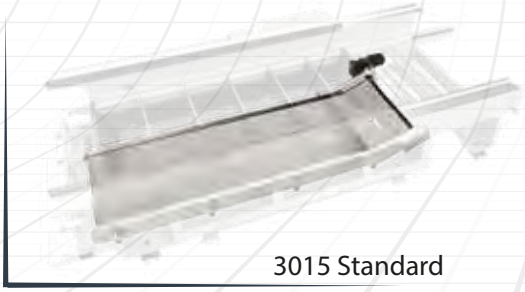
With the multi chambers high efficient system offers the ability to make an equal amount of suction during the cutting operation of the whole machine cutting area.



Scrap Conveyor

In the 3015 model, a conveyor running along the machine that carries scrap parts to a scrap box located at the back of the machine is standard. As an option, there is a horizontal conveyor system available instead of this scrap box.
In this system, scraps coming from the large conveyor are transferred to a smaller scrap box via a short conveyor.

This ensures the quickest removal of scrap parts from the working area without stopping the cutting process. The conveyor running along the 3015 machine prevents potential part jams with its jam detection and reverse winding features.



3015 Standard

3015 Option

Automatic Nozzle Changer (Option)

Automatic nozzle change feature consists of 26 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 ± 45 ° (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 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

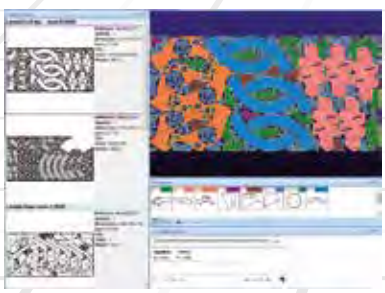
Durma Cloud ensures that machines are accessible and inspectable. It stores machine data and allows for its reuse. Advantages include preventive maintenance, calculation of operating vs. downtime and efficiency, real-time status of your machine, remote monitoring without having to visit the machine, 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

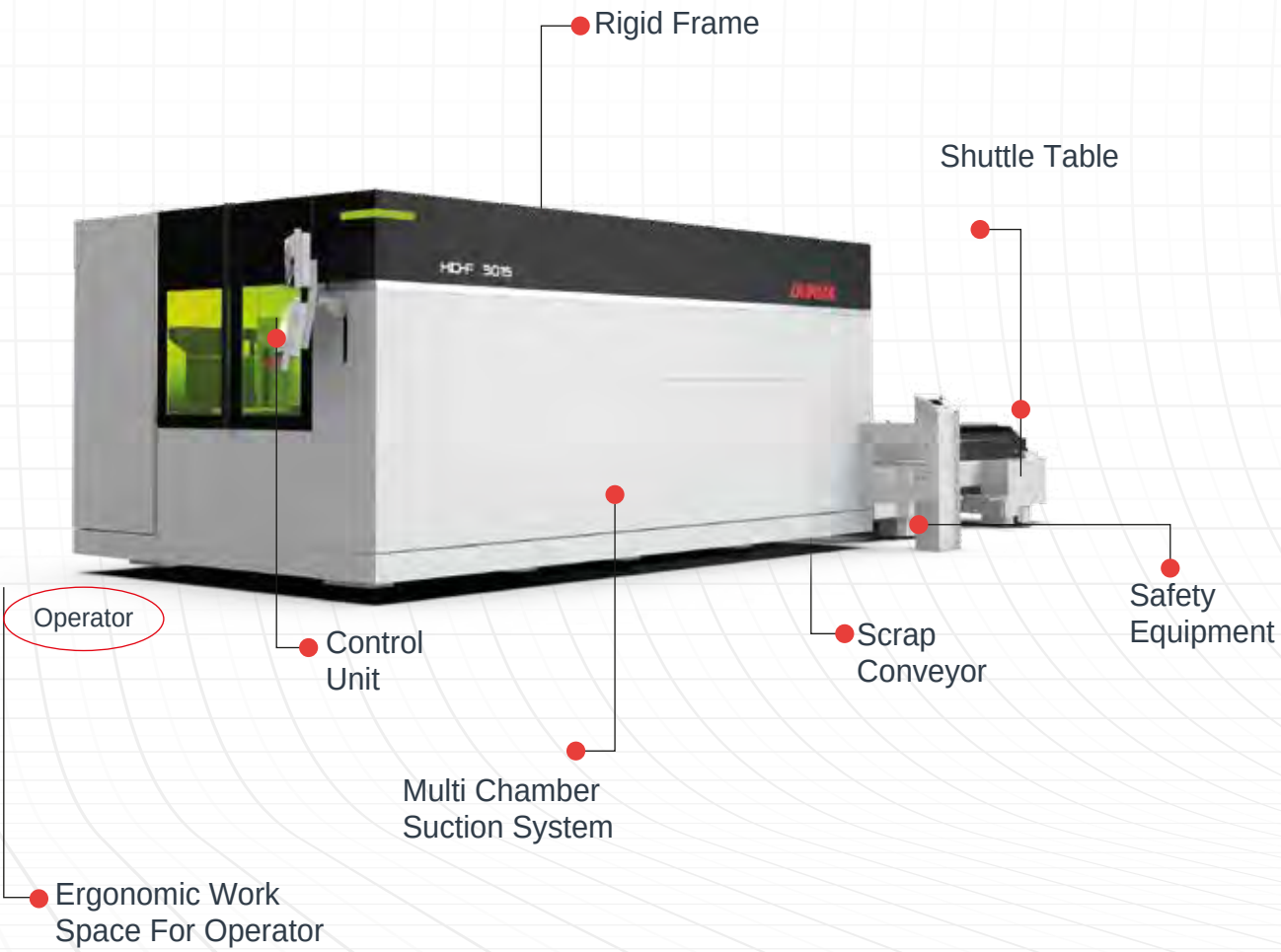
D-WISE / LANTEK

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.



Experience the Difference with Dynamic DURMA Lasers



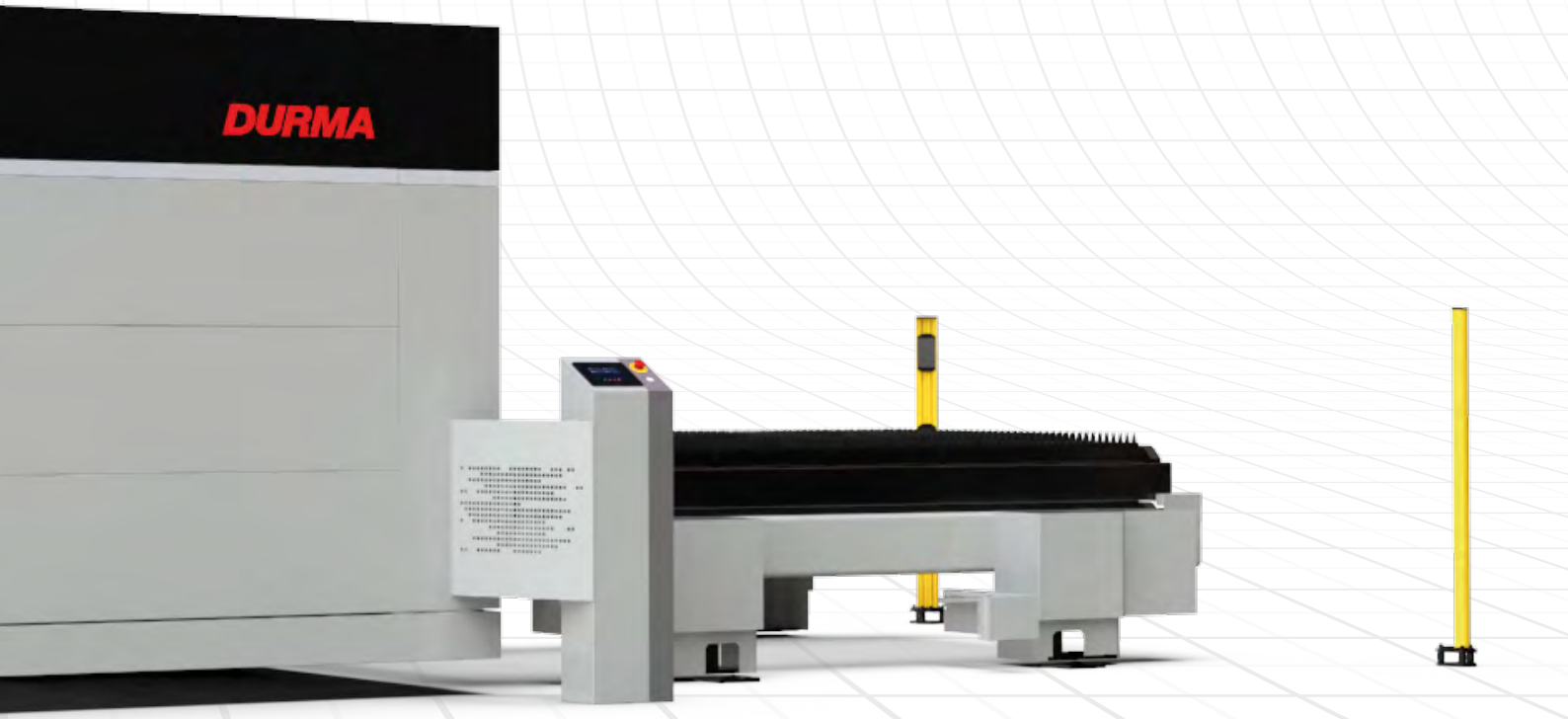
FIBER LASER

HD-F

- User Friendly
- Ergonomic
- Efficient
- Fast
- Reliable Brand

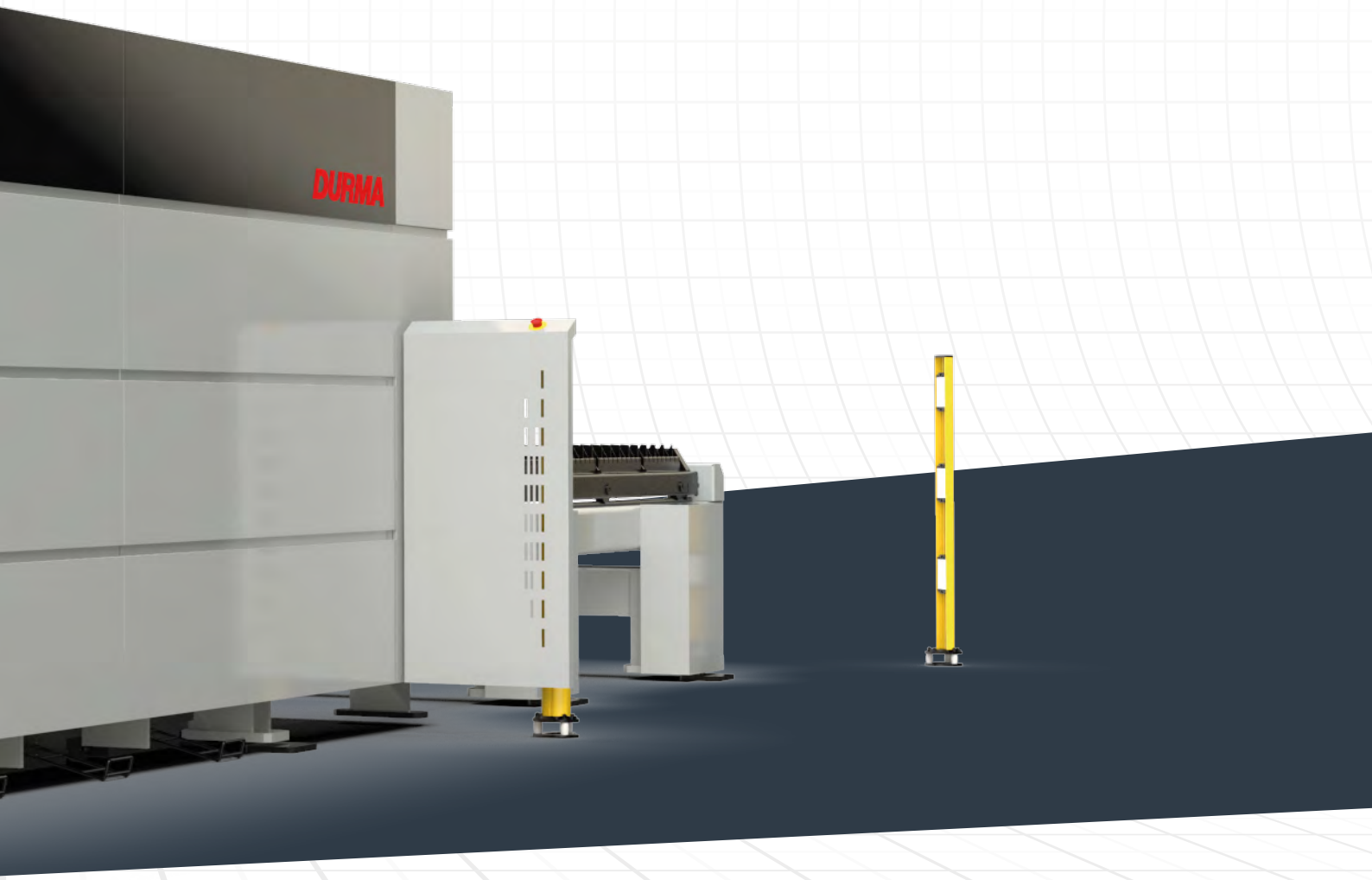
	3015	4020	6020	6025	
X Axis	3100	4100	6100	6100	mm
Y Axis	1525	2070	2070	2570	mm
Z Axis	160	185	185	185	mm
Max. Sheet Size	3048 x 1524	4064 x 2032	6096 x 2032	6096 x 2540	mm
Max. Sheet Weight *(Single Table)*	320	320	320	240	kg/m^2

	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	28	m/s^2
Positioning Tolerance	±0,03	mm
Repeatability	±0,03	mm



FIBER LASER

HD-FN
Price & Performance Advantage in Laser Cutting

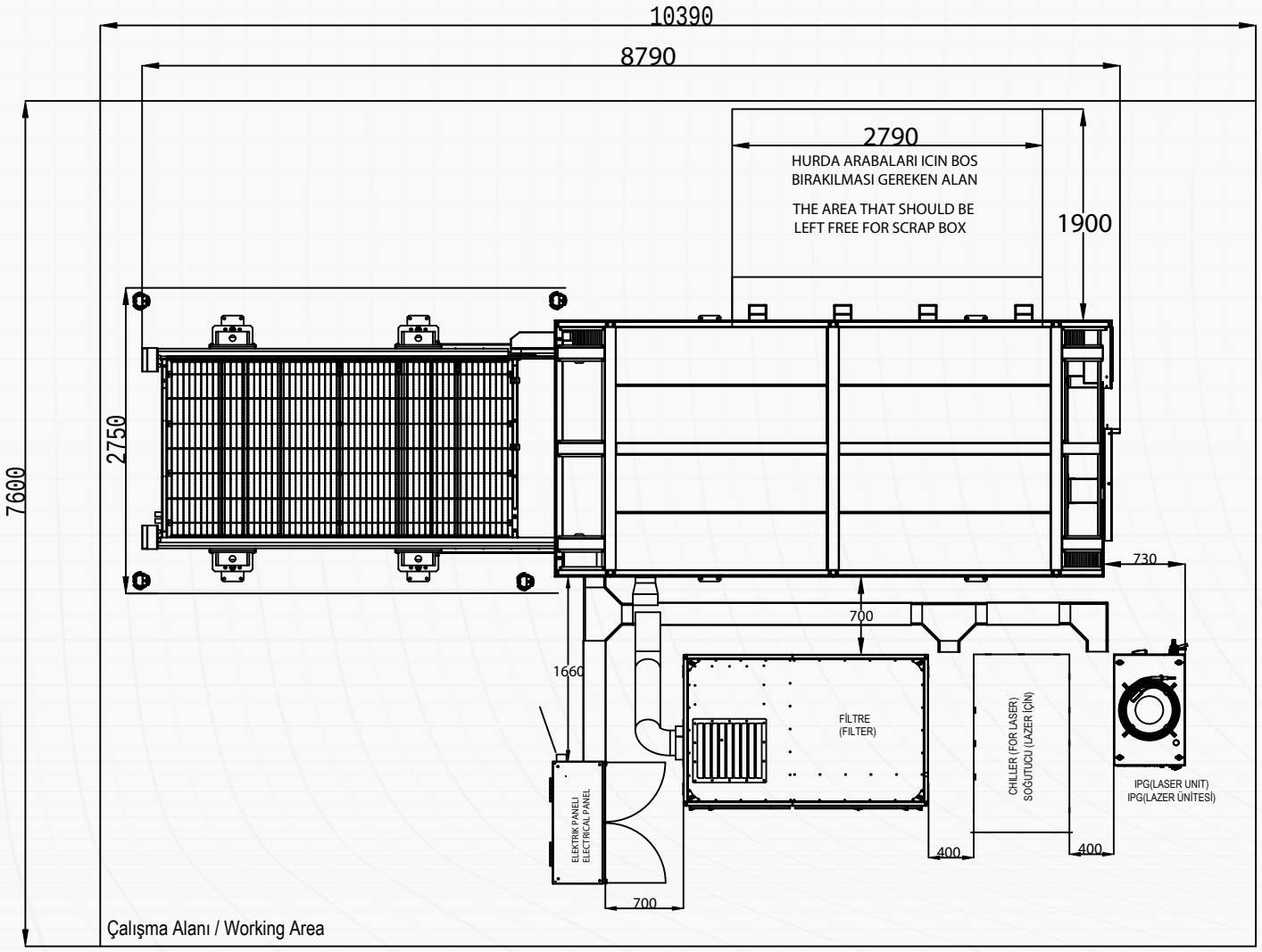

DURMA

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 / 400	240 / 400	240 / 400	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	14	m/s2
Positioning Tolerance	±0,05	mm
Repeatability	±0,05	mm


10390
8790
2790
HURDA ARABALARI ICIN BOS
BIRAKILMASI GEREKEN ALAN
THE AREA THAT SHOULD BE
LEFT FREE FOR SCRAP BOX
1900
2750
7600
730
700
1660
FİLTRE
(FILTER)
CHILLER (FOR LASER)
SOĞUTUCU (LAZER İÇİN)
IPG(LASER UNIT)
IPG(LAZER ÜNİTESİ)
ELEKTRİK PANELİ
ELECTRICAL PANEL
400
400
700
Çalışma Alanı / Working Area

FIBER LASER

HD-FO FIBER LASER

User Friendly

Ergonomic

Efficient

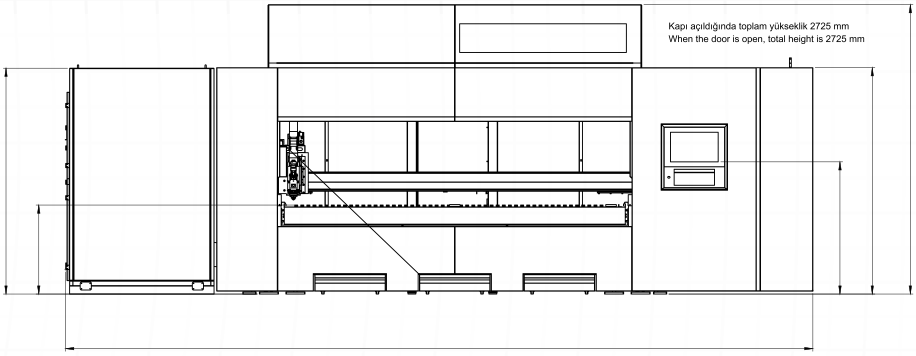
Fast

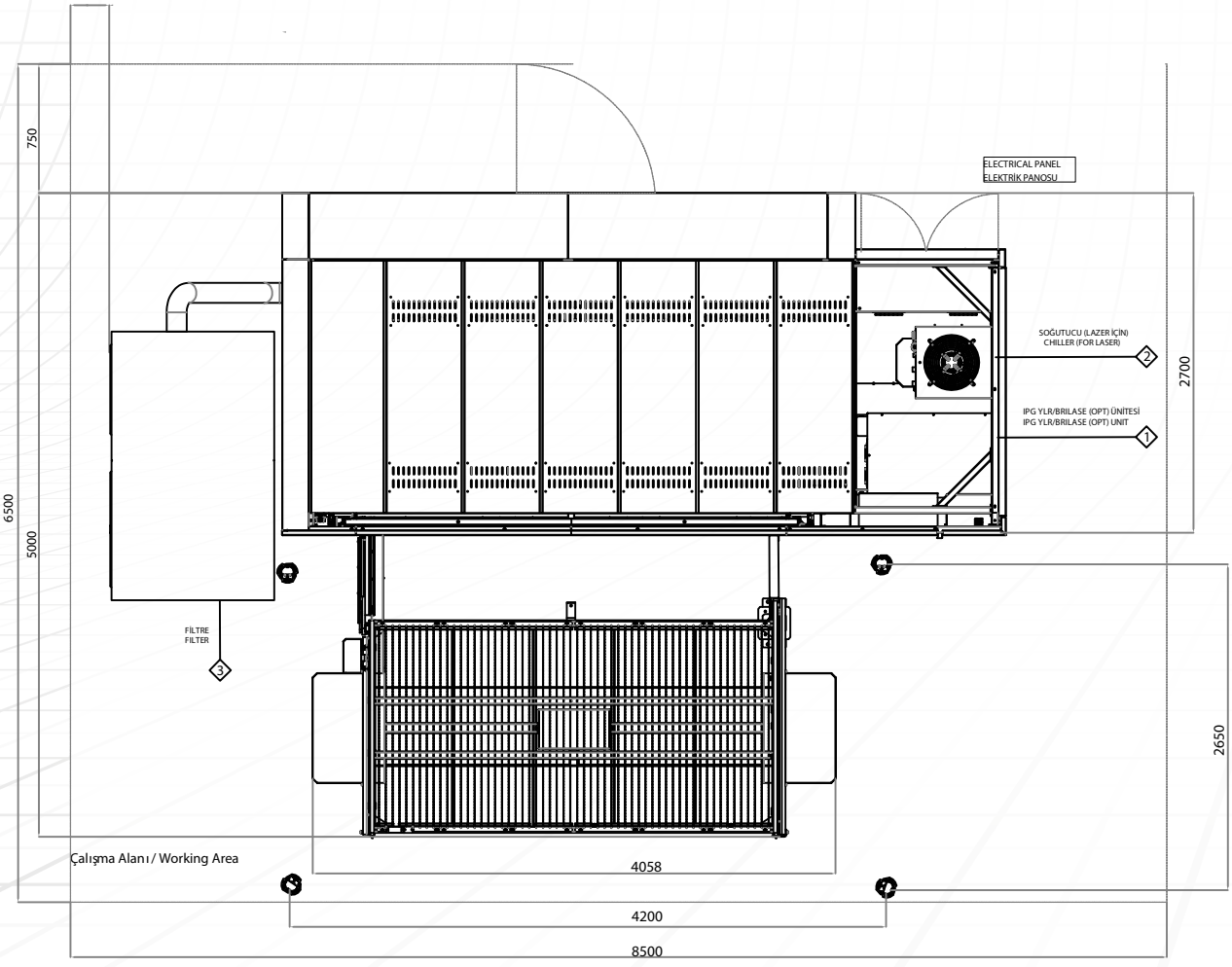
Reliable Brand

FIBER LASER

SPECIFICALLY DESIGNED ACCORDING TO LAYOUT

- User Friendly
- Low Operating 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	1530	mm
Y Axes	3060	mm
Z Axes	140	mm
Max. Sheet Dimensions	3.048 x 1.524	mm
Max. Sheet Weight	730	kg
Dynamics		
Max. Speed X Axis	90	m/dak.
Max. Speed Y Axis	90	m/dak.
Max. Speed Z Axis	30	m/dak.
Max. Synch (X-Y)	127	m/dak..
Max. Synch Acceleration	14	m/s^2
Positioning Tolerance	±0,05	mm
Repeatability	±0,05	mm
Control Unit		
CNC	BOSCH REXROTH	
Screen	18.5'' Touch Screen	
Laser Cutting Head		
Type	Durma	
Focal Distance (mm)	150	
Focal Type	Automatic	

Material Cutting Thichness (mm)			
Material	3000 (3kW)	4000 (4kW)	6000 (6kW)
Mildsteel (S235)	16	20	20
Stainless Steel (304)	8	10	15
Aluminium (5083)	8	12	20
Copper (CU)	5	6	10
Brass (CUZN39 PB3)	8	10	12

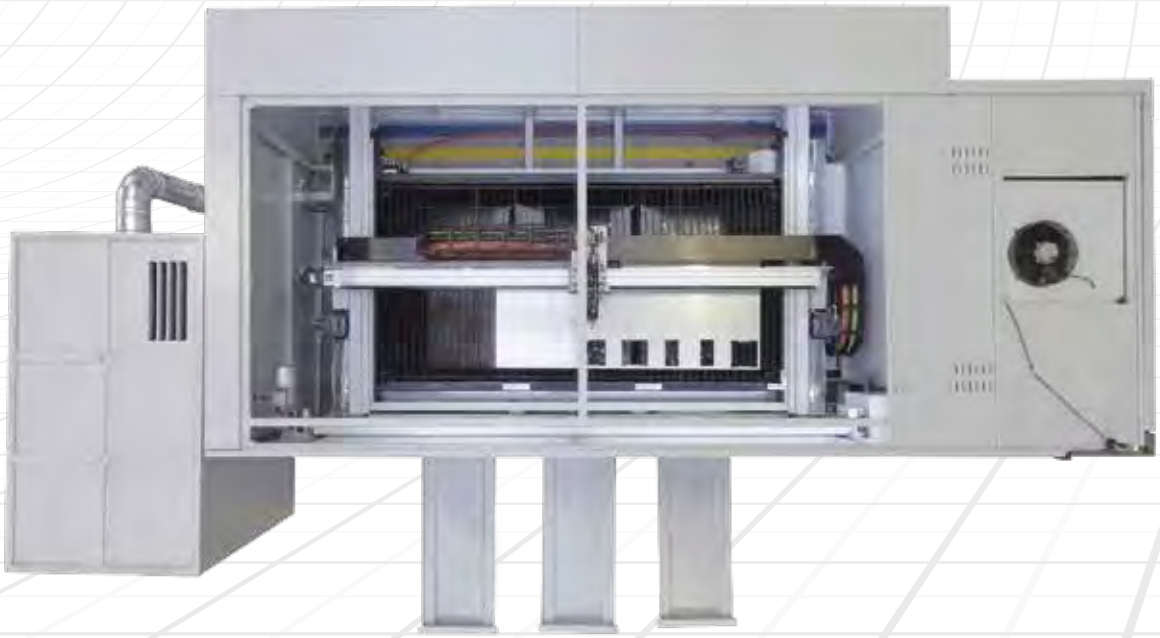
FIBER LASER

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.

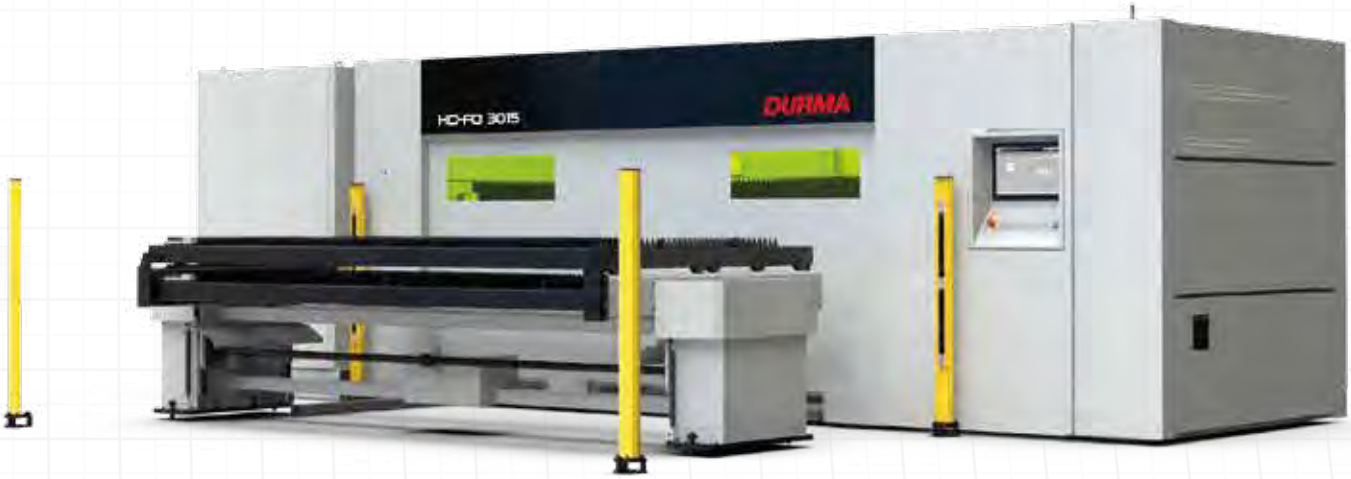
COMPACT, MODERN AND ERGONOMIC LAYOUT

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



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

FIBER LASER

HD-FA 5 AXIS LASER

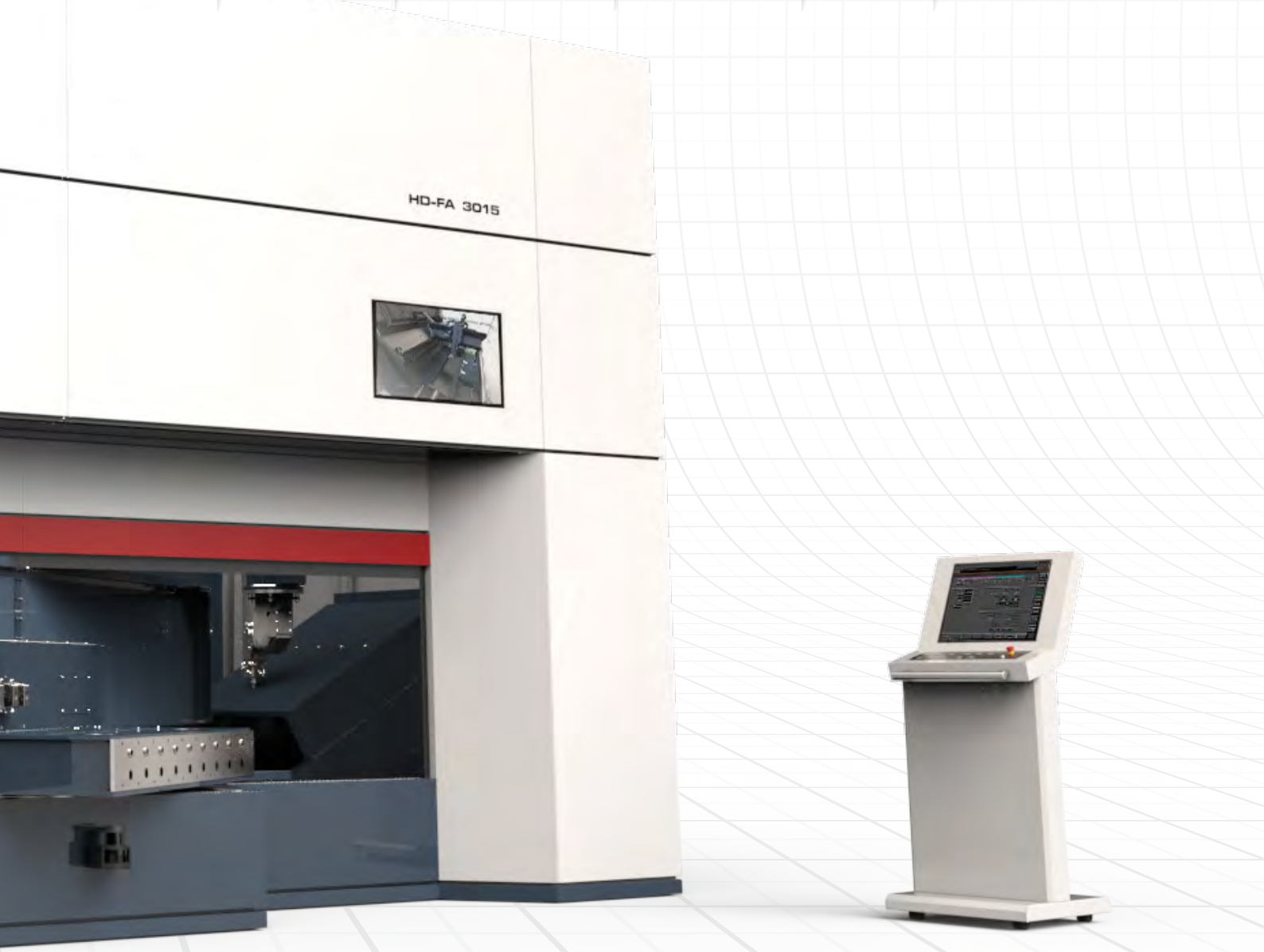
User Friendly

Ergonomic

Efficient

Fast

Reliable Brand

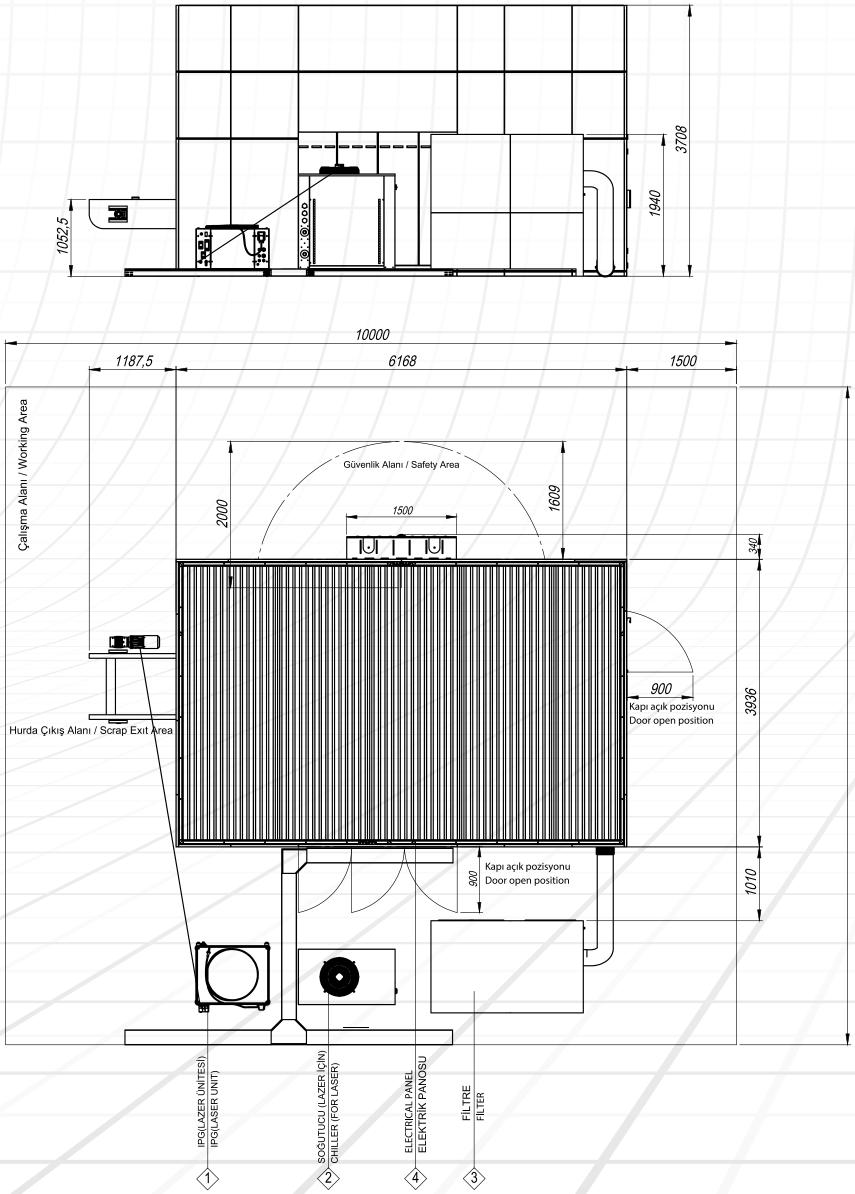


FIBER LASER

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.

- **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	3.000 mm
Y Axis Stroke	1.500 mm
Z Axis Stroke	650 mm
B Axis	±135°
C Axis	±360°xn
Max. Synchronous Speed	173 m/min.
Max. Synchronous Accelaration	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 10.000 mm **(Secure Area)**
Rotary Table's Door Length	4.000 mm
Machine Weight	16.000 kg

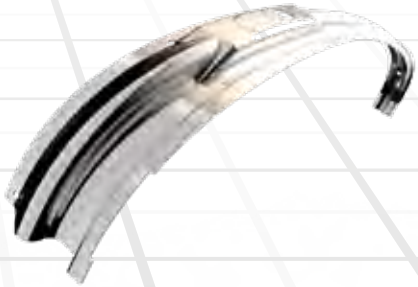
CUTTING THICKNESS (mm)			
Power	2 kW	3 kW	4 kW
Mild Steel (mm)	12	16	20
Stainless (mm)	6	8	10
Aluminum (AlMg3) (mm)	6	8	12
Brass (mm)	6	8	10
Copper (mm)	3	5	6

CUTTING HEAD	
Type	3D
Focus	Automatic

CONTROL UNIT	
CNC	SIEMENS SINUMERIK 840D SL
Screen	19" Touch Panel

FILTER	
Capacity	2.500 m^3/h - 4 kW

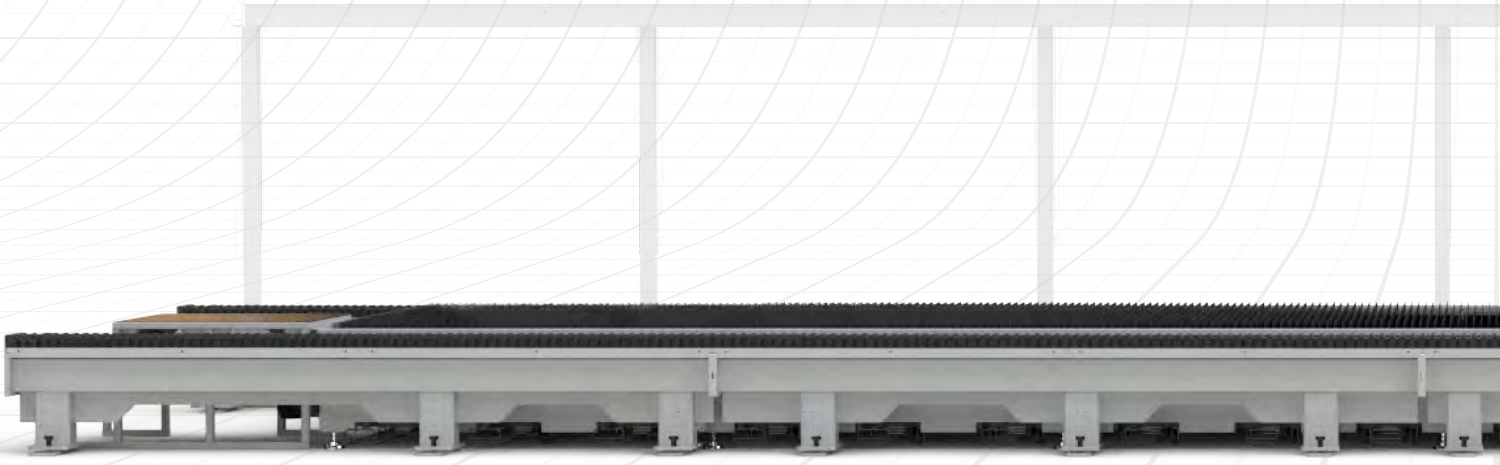
CHILLER	
Chiller for 2 kW	IPG LG 71
Chiller for 3 kW	IPG LG 170
Chiller for 4 kW	IPG LG 171



FIBER LASER

SPECIAL APPLICATIONS

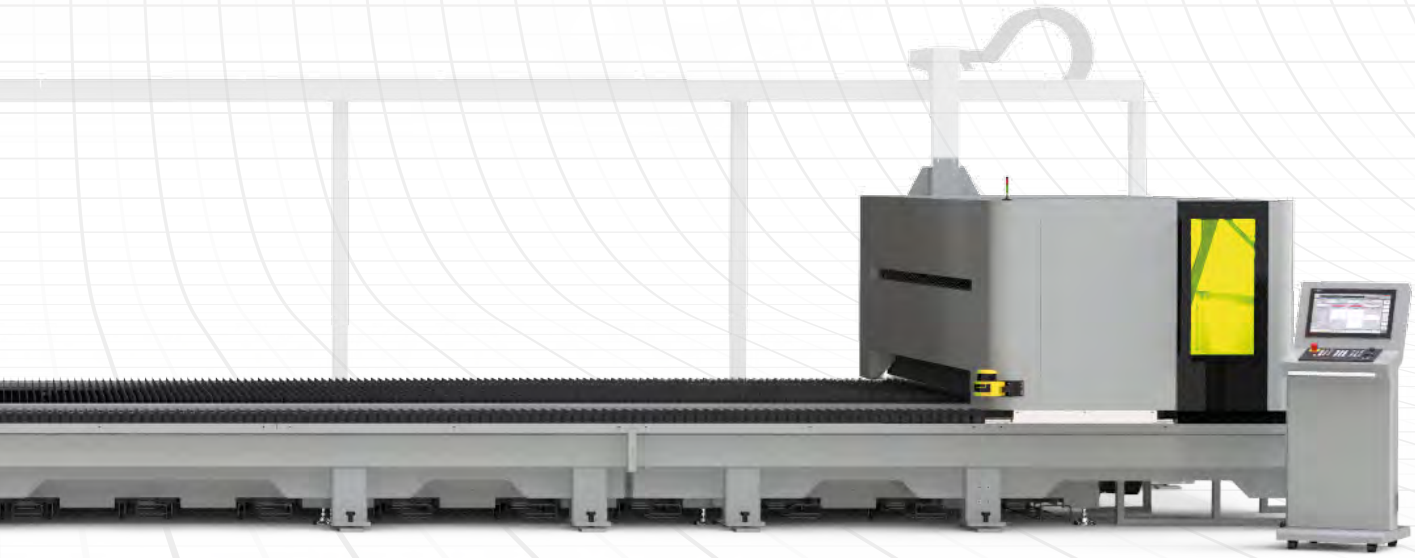
Turkey's Biggest and Fastest Laser



HD-F 20030

Cutting Length 20.000 mm
Cutting Width 3.000 mm
Power 20 kW

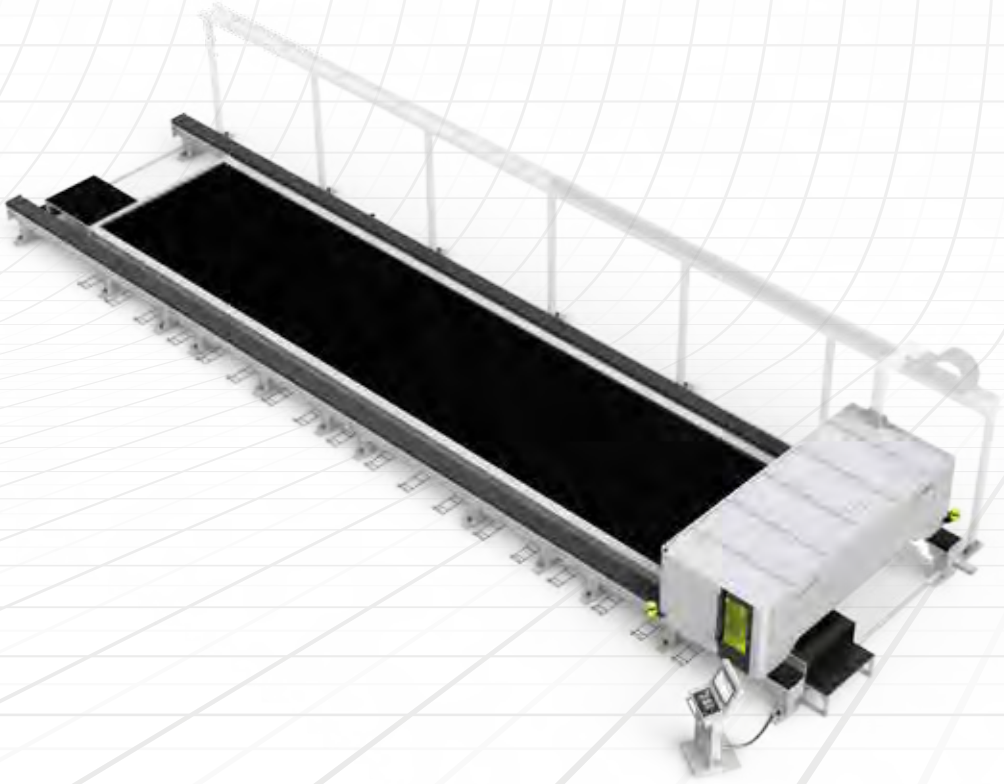
Bevel +/- 45^{0} Cutting Option



FIBER LASER

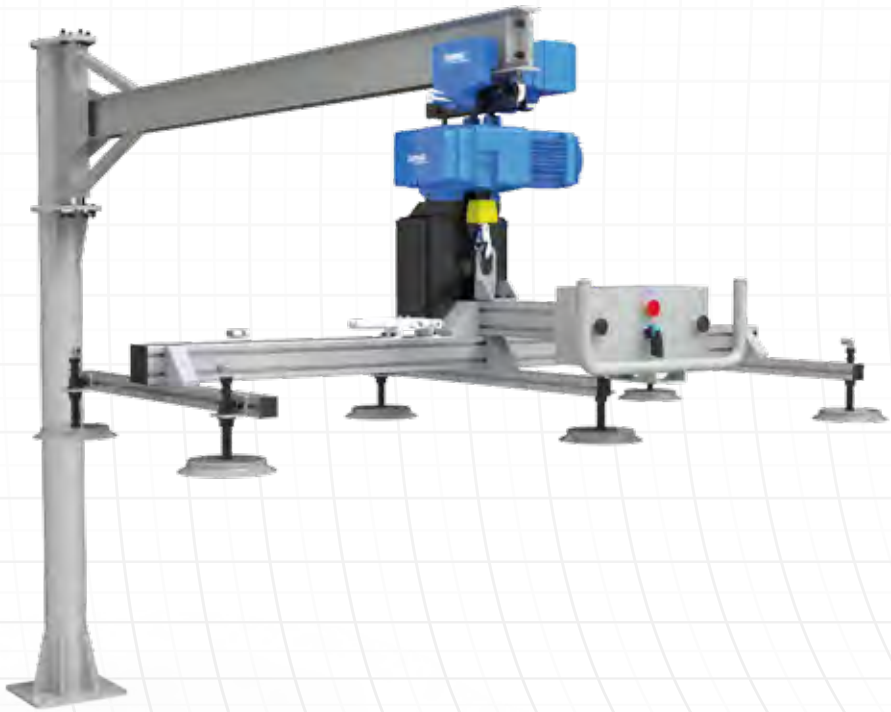
HD-F 20030

HD-F 20030 Technical Data	
X Axis	20100 mm
Y Axis	3070 mm
Z Axis	165 mm
Max. sheet size	20090 x 3048 mm
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^2
Positioning tolerance	0.05 mm



Automatic Loading – Unloading Units Solutions For Your Process

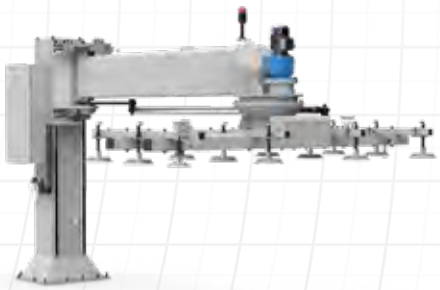
- Manual loading-unloading systems
- Semi automatic loading-unloading systems
- Automatic loading-unloading systems



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

FIBER LASER

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 sn. (depends on loading height)	60-85 sn.(depends on loading height)
Working Area	4200 x 4100 mm h=2260 mm	5500 x 5400 mm h=2720 mm
Rotation angle (Max.)	90º	90º
Electricity	3 kW	4 kW
Compressed Air	6 m^3/sa--7 bar	10 m^3/sa--7 bar



DURMA RAPID SERVER 3015 / 4020 (H Type)			
Technical Specifications	**3015**	**4020**	**6020**
Min. Sheet Size	1000 - 1000 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 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.	60 sec.	80 sec.
Dual Sheet Sensor	yes	yes	yes
Sheet Separation System	yes	yes	yes

DURMA RAPID TOWER 3015 / 4020 / 6020 (H Type)			
Technical Specifications	**3015**	**4020**	**6020**
Min. Sheet Size	1000 - 1000 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 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. 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	80 sec
Dual Sheet Sensor	yes	yes	yes
Sheet Separation System	yes	yes	yes
Electric Power	23 kW	38 kW	40 kW
Compressed Air	1.400 lt/dk - 7 bar	1.400 lt/dk - 7 bar	1.400 lt/dk - 7 bar

SPECIAL APPLICATIONS

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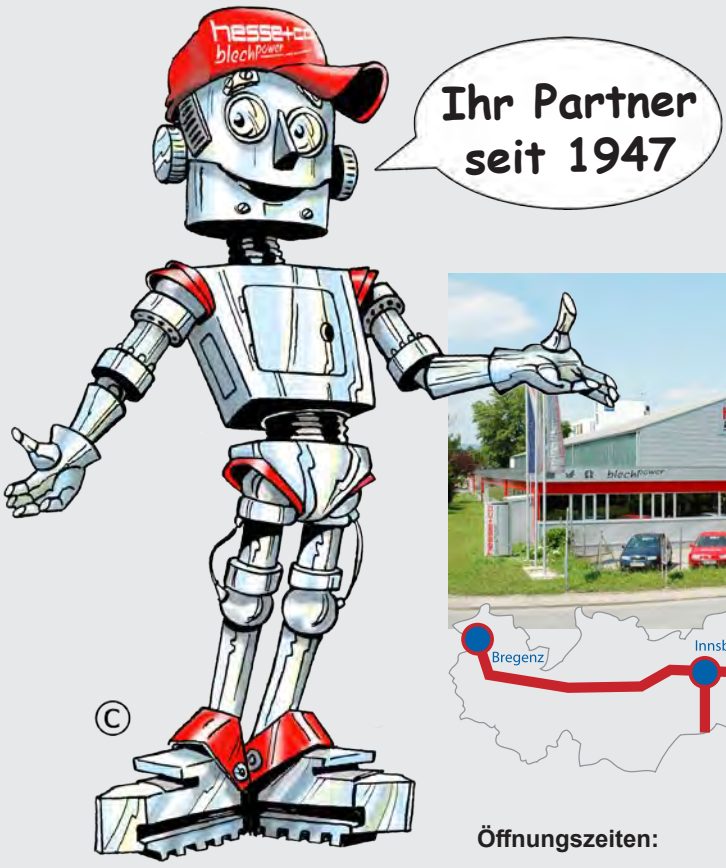

Öffnungszeiten:

Mo - Do 8:00 - 16:30 Uhr
Fr 8:00 - 14:30 Uhr

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HESSE+CO Maschinenfabrik GmbH
Industriezentrum NÖ-Süd
Straße 4 - Objekt 8
A-2351 Wiener Neudorf
AUSTRIA

Tel.: +43/2236/638 70-0
Fax: +43/2236/636 62
office@hesse-maschinen.com
www.hesse-maschinen.com
www.blechpower.com