The Winning Force

DURMA

HD-TC SERIES

Laser Tube Cutting

- Easy To Use
- High Quality Cutting
- Low Energy Consumption
- Faster
- Efficient
- Winning
- Ergonomic

durmazlar

DURMA The Winning Force

As a total supplier for sheet metal manufacturing with almost 60 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.

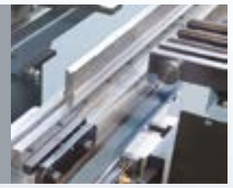
In our three production plants with a total of 150.000 m², we dedicate 1,000 employees to delivering high quality manufacturing solutions at the best performance-to-price ratio in the market.

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.

Present Durmazlar machines with **DURMA** name to the world.

1
High technology, modern production lines

2
Top quality components



3
High quality machines designed in R&D Centre

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HD-TC
LASER TUBE CUTTING

Laser tube cutting is specifically designed for businesses that care about high quality profile and tube cutting. Full automatic Loading and Unloading requires less effort and time save for the operator.

HD-TC Lasers make differences with speed, high quality components, efficiency and industrial design.

User Friendly

Ergonomic

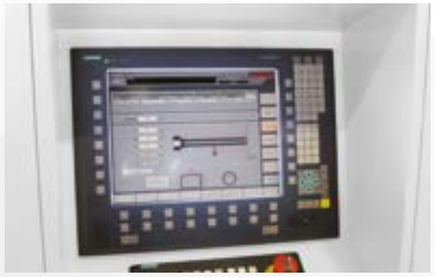
Efficient

Fast

Reliable Brand

Control Panel

The Sinumerik 840DSL CNC controller is an efficient 64-bit microprocessor system with an integrated PC. 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.



Rack and Pinion Motion System (HD-F Series)

Axes motions achieved by rack and pinion design. There are low backlash gears 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 (10 m/ s2.), speed (100 m/min.) and accuracy (0,05 mm) values.

Resonator	1.0 kW	2.0 kW	3.0 kW
Product designation	YLS-1000	YLS-2000	YLS-3000
Available operation modes	CW, QCW, SM		
Polarization	Random		
Available output power	100-1000 w	200-2000 w	300-3000 w
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 1000 (1kW)	YLS 2000 (2kW)	YLS 3000 (3kW)
Mild Steel	4 mm	8 mm	10 mm
Stainless Steel	2 mm	4 mm	6 mm
Aluminium (AlMg3)	3 mm	6 mm	8 mm

* Standard cutting parameters

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

CAD/CAM Software

- The laser power is controlled as a function of the path, velocity, time and travel
- Close-loop working
- Optionel functions
- 6 MB expanded user memory, external memory option
- 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

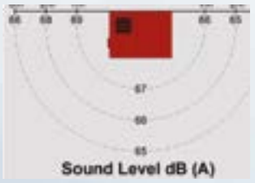
Chiller

The cooler is a device that provides cooling of the laser power source, optics in the cutting head. It has a water-based cooling system.

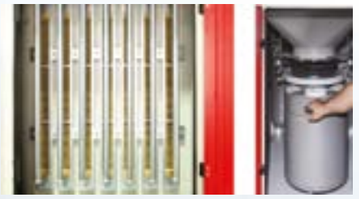
Thanks to the dual circuit system, cooling water is sent at different temperatures, which are needed for optics and laser power supply.

Filter

It provides a healthy working environment by absorbing smoke, dust and small particles formed during cutting. The vibrating dust collection filter is fully automatic.
It runs automatically when cutting is started.
Filter cartridges are a compact unit with integrated fan motor assembly and jet-pulse (back blow) cleaning system.



Low noice level



Easy access to filters and dust bins

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 6 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 g, enabling 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

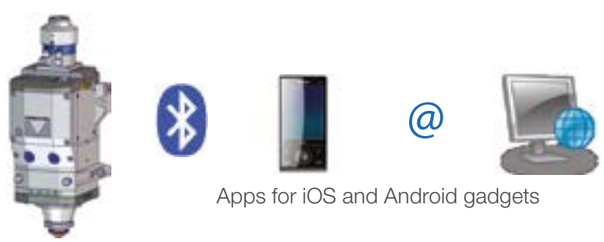
Lightweight and slim design created for fast acceleration and cutting speed
Motorized focus position adjustment for automatic machine setup and piercing work
Drift-free, fast-reacting distance measurement
Permament protective window monitoring
Values displated via bluetooth

Flexible

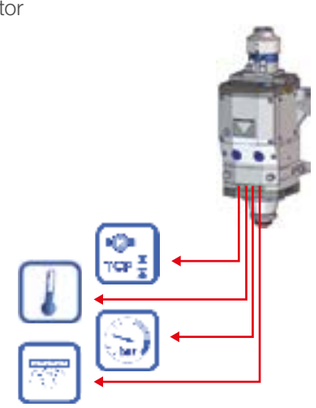
Selectable optical configuration, optimized for the range of applications
Straight and angled design versions adapted to the machine concept
Zoom lens for automatically adjusting the focus diameter
Motorized or manual focal position adjustment

User Friendly

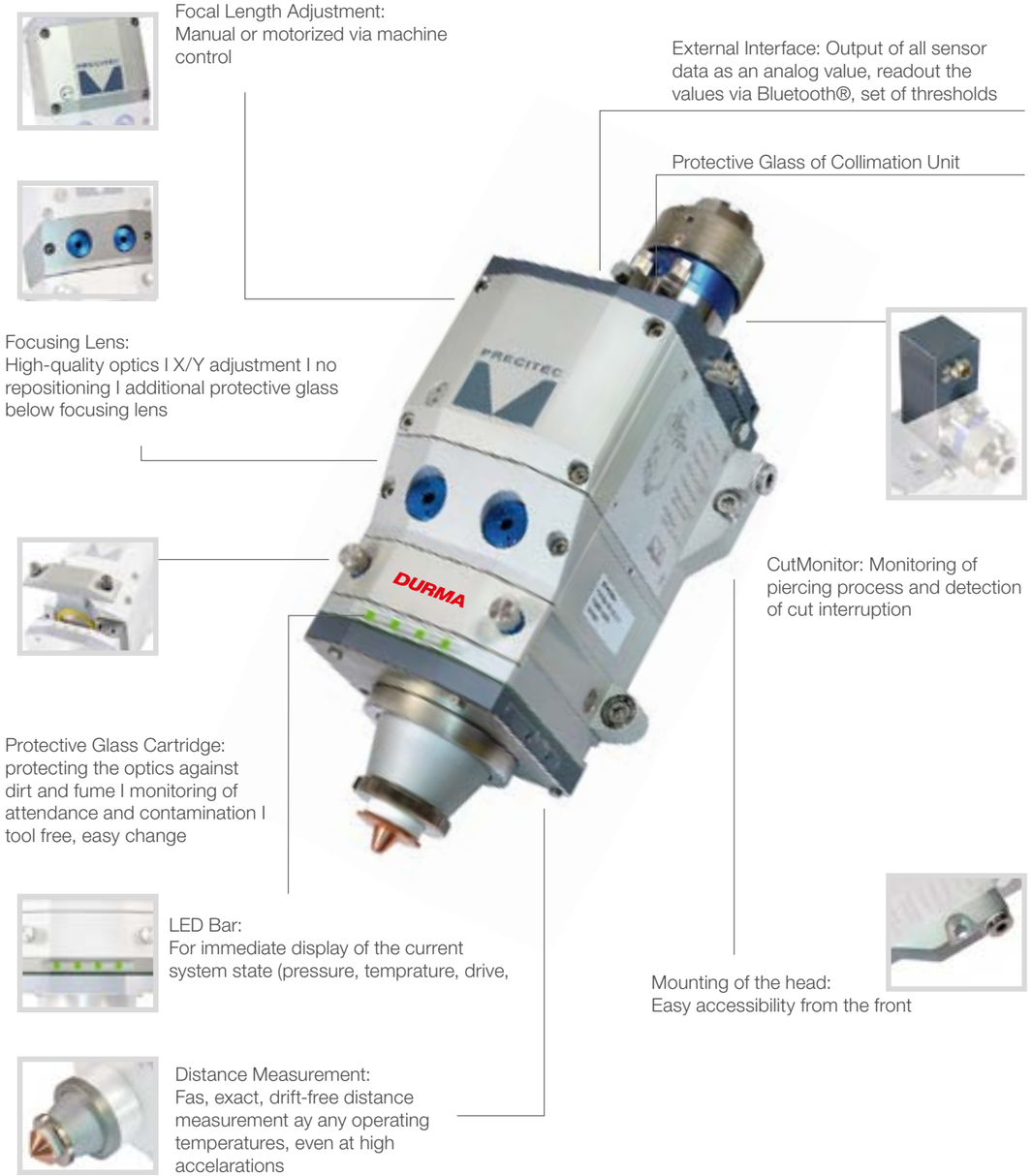
Completely dustproof beam path with protective windows
LED operating status display
Display of operating parameters via Bluetooth and interface for machine control
Monitoring of the piercing process and detection of cutting breaks with CutMonitor



Apps 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.



Auto Loading System

Profiles taken from bundle one by one to the chain, system moves the profile up and grippers clamps the profile and move it to the chuck axis and chuck holds the profile.

Measuring Profile Length

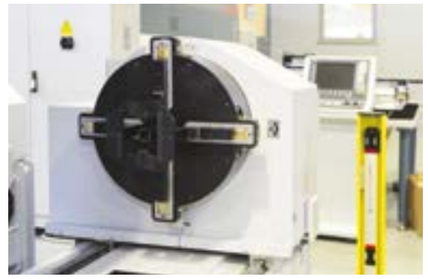
With servo motor on it measures profile length and send the data to the system.

Tube Transfer System

Tube transfer system ensures that tubes are taken to cut-ting line with right position.

Hydraulic Profile Holder

It can hold variety of profiles by 4 clamps working independently as 2+2. Adjust hydraulic pressure automatically according to profile material thickness.



Chain Transfer System

Chain transfer system is used with the princible of loading stainless steel aluminium brass etc. tubes without stratching.

Z Axis

Z axis allows faster cutting process with its high dynamic per-formance.
Laser head with automatic focusing eliminates time loss in the preparation phase before cutting.

Automatic Loading Gripper System

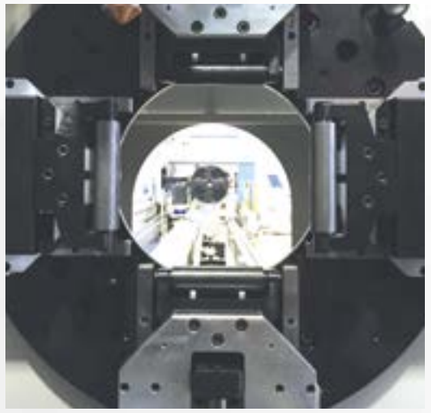
Tubes which come from loading unit are transfered to cutting zone and centered automaticly.

Profile Support system

4 pieces support arms with servo motors obtain the loading to be the same level with hydraulic chuck.
As hydraulic chuck move forward the profile at X1 axis, supports arms close down one by one to open the front of hydraulic chuck.

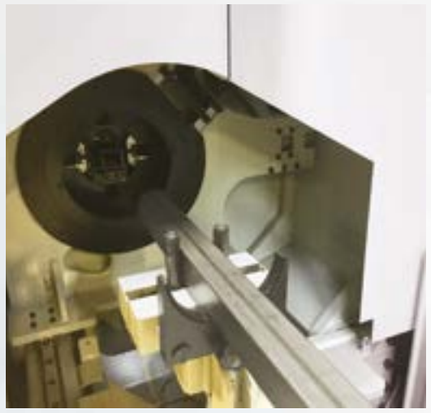
Centering Chuck

To get cutting pression, centers the profile as close as possible to cutting head. Driver turn sencronized with chuck. 4 independent clamps come to position automatically before profile comes.



Tube Centering Mechanism

Tubes centering mechanism which is on the first support takes tubes to the chuck axis.



Automatic Unloading System

Unloading unit support mechnanism height controlled by servo motor and keep supporting profile during cutting.

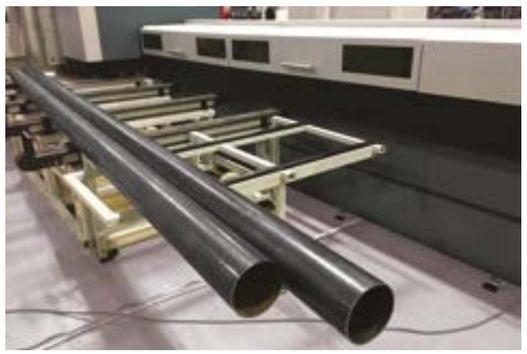
- 4 m and 6 m options.
- Front and back side options.
- Unloading table can remove the cut tubes by taking out of cabin with its in-out movement.

Unloading Unit (4 m Front)

For smaller parts than 800 mm, unloading table stays in outside and another small unloading system unloads the parts.

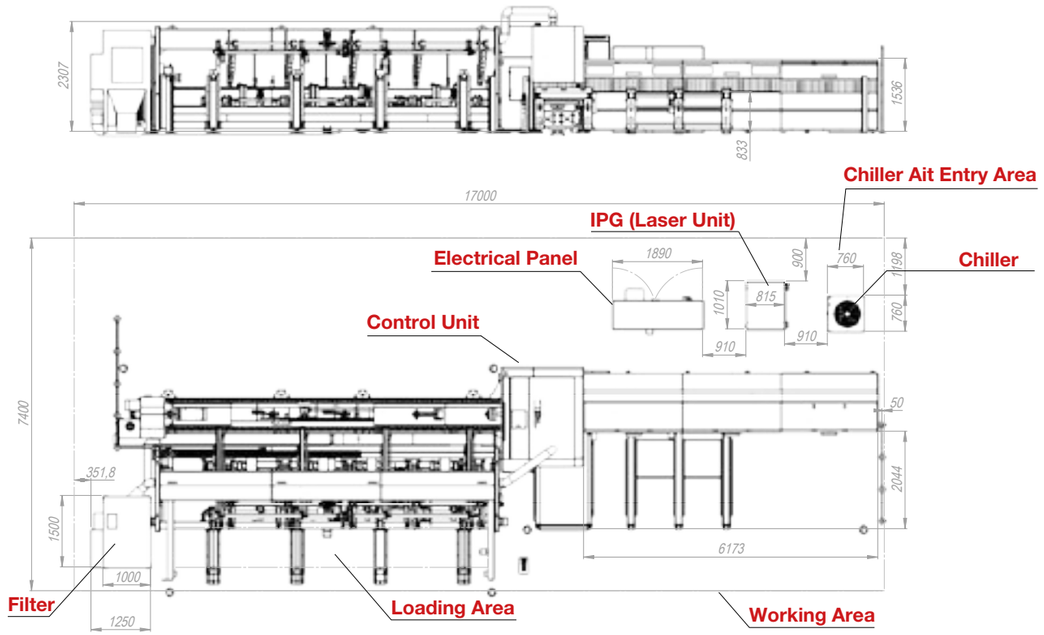
For longer parts than 800 mm, unloading table enters the cabin and unloads the parts.

Tube-Cutting Technical Specifications	
Max Diameter (mm)	Ø170
Max Square Tube Dimension(mm)	120x120
Max Rectangular Tube Dimension (mm)	150x100
Min. Diameter (mm)	Ø20 (Ø12 Option)
Max. Tube Lenght (mm)	6500
Min. Tube Lenght (for automatic loading)	3000
Max. Tube Weight (kg/m)	37,5
Max. Material Thickness (mm) (for 2 kW)	8
Min. Material Thickness(mm)	0,8
Automatic Loading	Yes
Automatic Unloading	Yes
Cutting Head	2D
Amount of Chuck	1
Centering Chuck	Yes
Last Cut Tube Lenght (mm)	185
Velocity of Driver Chuck (m/dk.)	90
Acceleration of Driver Chuck (m/s²)	10
Accuracy (mm)	±0,20
Positioning Accuracy (mm)	±0,05
Tube Types	Pipe, Square, Rectangular, Eliptic H, C, U, L

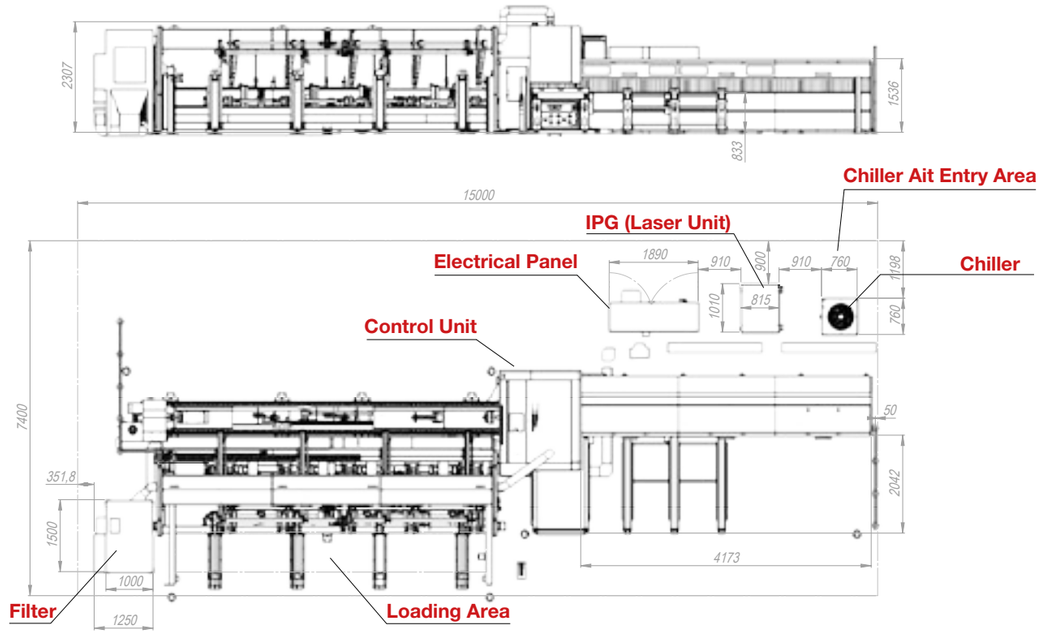


Tubes up to 6 m of lenght are removed by automatic unloading system with conveyor.

Layout (6 m Unloading System With Conveyor)



Layout(4 m Unloading System)



SPECIAL APPLICATIONS


Industrial Machines



Steel Service Center


Damper Trailer




Lighting and Energy Poles

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.


Consultancy


Spare Parts


R&D Center


After Sales Service

DURMA
Solution Center


Service Agreements


Software


Training


Flexible Solution

DURMA

PANEL BENDER

PUNCH

PRESS BRAKE

VARIABLE RAKE SHEAR

PLASMA

L ANGLE PROCESSING CENTER

TUBE LASER CUTTING

FIBER LASER

IRON WORKER

POWER OPERATED SHEAR

ROLL BENDING

PROFILE BENDING

CORNER NOTCHER

DURMA

Today, Tomorrow and Forever With You...

HD-TC SERIES
Laser Tube Cutting

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