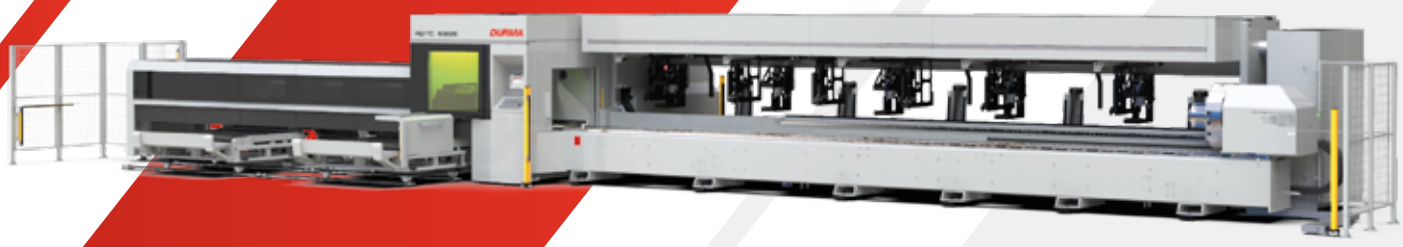
DURMA
Forever

Tube & Profile Laser Cutting Machine

Series

HD-TC COMPACT
HD-TC
HD-TC MEGA



Easy To Use
High Quality Cutting
Low energy Consumption
Faster
Winning
Ergonomic

Low Energy Consumption

durmazlar

As a total supplier for sheet metal manufacturing with almost 70 years of experience, Durma understands and recognizes the chal-lenges, 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

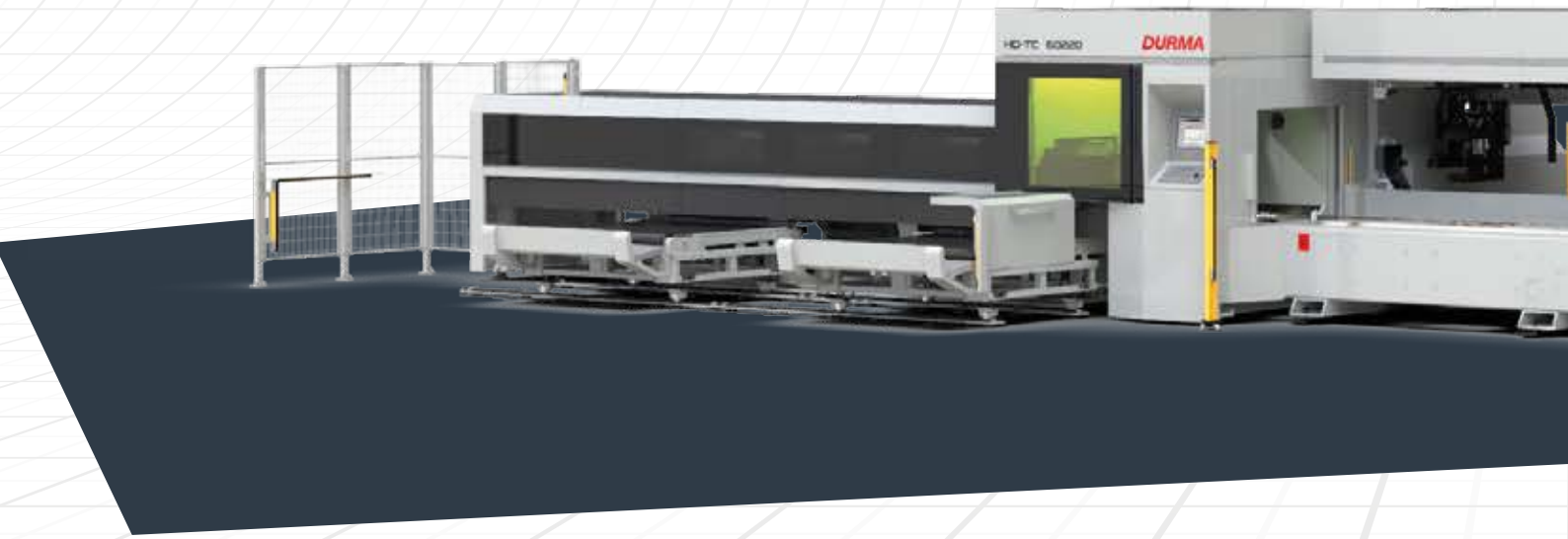
High quality machines designed in R&D Centre

HD-TC

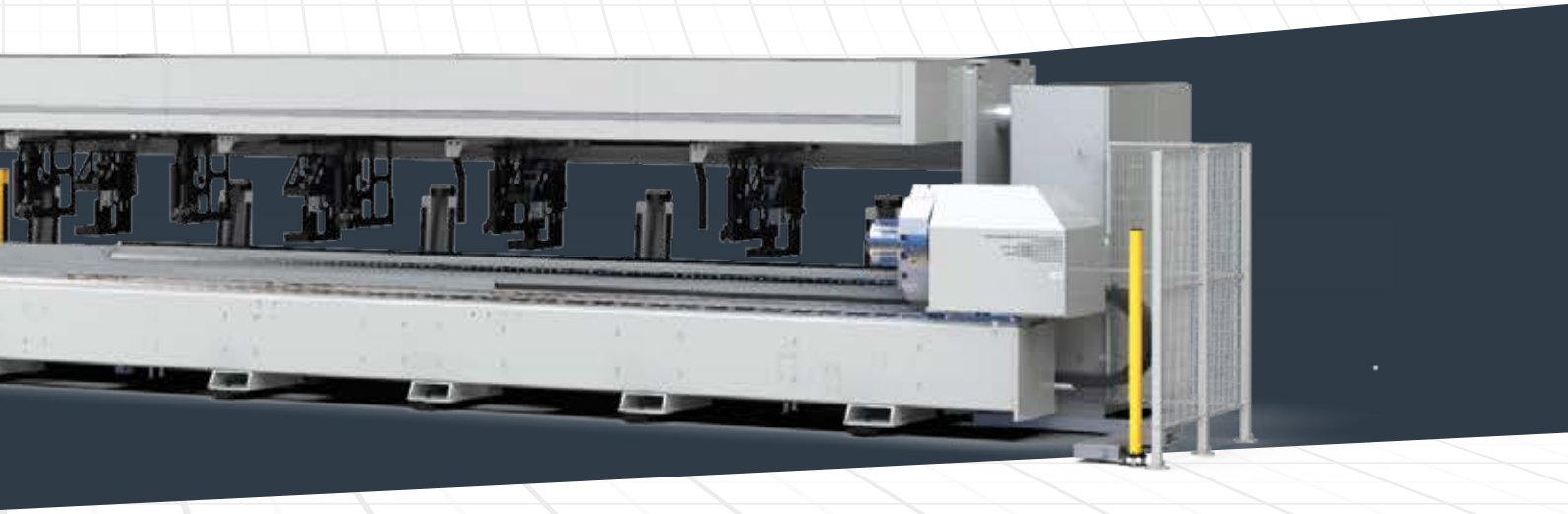
HD-TC Tube & Profile Laser Cutting Machines

DURMA HD-TC Tube & Profile Laser Cutting Machines are 'high-speed' 2D & 3D cutting systems used for cutting tube and profile materials.

The moving axes operate via maintenance-free, dynamic and high-performance AC servo motors. Suction system is used to vacuum the dust generated during laser cutting to the dust collection filter. Automatic pipe and profile loading system is designed in accordance with the principle of reducing the material preparation time and automatic pipe and profile unloading system to collect the cut materials without stopping the machine. Thanks to the compact layout of the machine, all pipe and profile loading / cutting / unloading actions are performed with less space and less processing.



- Friendly
- Ergonomic
- Efficient
- Fast
- Reliable Brand



HD-TC

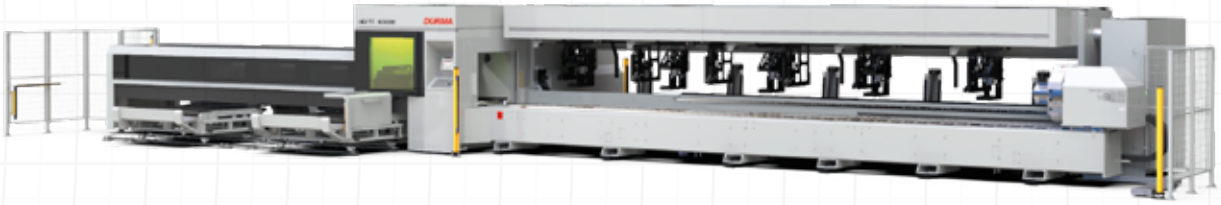
HD-TC 60220

Tube & Profile Laser Cutting Machine

- Both – sides (front & back) unloading system
- Ø220 mm profile diameter,
- 160x160 mm square tube dimension,
- 200x100 mm rectangular tube dimension, maximum cutting sizes

Low Operating Costs

- Low energy consumption
- Low cost per part
- Maintenance-free operation
- Modular design, quick commissioning
- Compact, robust, and easy to use
- Wide product range



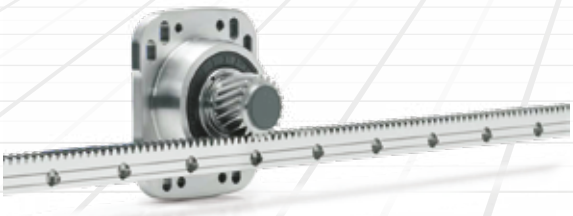
Control Unit

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

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.



CAD/CAM Software

D-WISE / LANTEK

- 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: Reduces the need of marking holes during cutting
- Automatic entry point
- Fully automatic cutting
- Z-Axis control

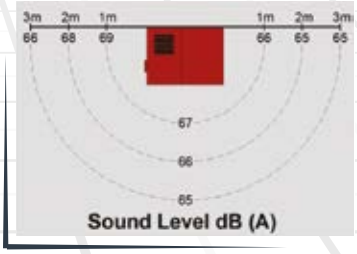
Chiller

The cooler is a device that provides cooling of the laser power source, optics in the cutting head.

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

HD-TC

Automatic 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.

Profile Transfer System

Profile transfer system ensures that profiles are taken to cutting line with right position.

Chain Transfer System

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

Automatic Loading Gripper System

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

Measuring Profile Length

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

Driver Chuck

With its 4 independent jaws working in a 2+2 configuration, it can grip profiles of different cross-sections. It automatically adjusts the clamping pressure according to the wall thickness of the profile. By measuring the jaw position, it enables fast and reliable clamping.

Central Chuck

To achieve precision in cutting, it centers the profile in the position closest to the cutting head. It rotates in synchronization with the driver chuck. The roller jaws, operating in a 2+2 configuration, automatically clamp after the profile arrives. The clamping pressure is automatically adjusted according to the wall thickness of the profile. To prevent collisions, the positions of the rollers are detected by sensors.

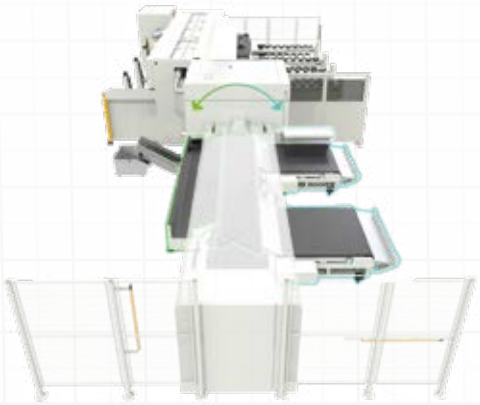
Profile Support System

The 4 support arms automatically adjust to the required height with a servo motor according to the profile dimensions during loading, ensuring that the profile is loaded on the same axis as the driver chuck. The VY axis between the 1st and 2nd support arms precisely aligns the profile with the central chuck axis. In addition, the support rollers adaptively support the profile both horizontally and vertically during cutting, eliminating deflection in the profile and minimizing waste, thus enabling high-precision cuts.

HD-TC

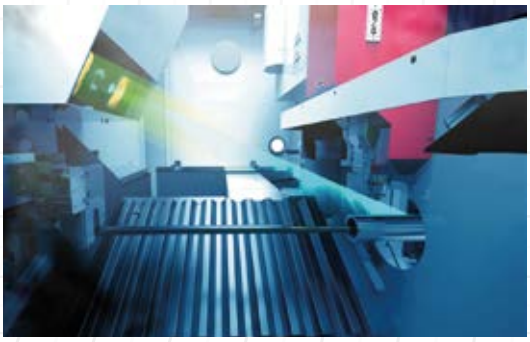
Automatic Unloading System

The automatic unloading system is designed to sort cut parts into separate locations based on their lengths, and it operates in both directions. It features a conveyor at the front and a discharge bin at the rear. Additionally, the table can move back and forth, allowing short parts to be quickly dropped onto the lower part/scrap conveyor and collected in the part trolley. Depending on user preferences, it is possible to drop the cut parts to either side, with sorting based on length, type, and shape. (It is standard on machines with a 220 mm diameter.)



Seam Detection Sensor (Option)

The Seam Detection sensor attached to the HDTC machines detects the stitched surface when the pipe is loaded on the machine and provides the ability to rotate the operator's cut holes at any angle.



Centering System with Laser Sensors (Option)

With the newly added laser sensor centering option added to the HDTC machines, it is possible to control the size and irregular structure of the profile during cutting or before cutting with the help of sensors to ensure that the internal contours to be cut are at the right point.

Spatter Protection System (Option)

The Spatter Protection system is used to prevent the slag coming out at the cutting edge from sticking to the opposite surface of the profile. The burrs adhering to the inner surface of the profile disrupt both the cutting quality and cause some cleaning of the inner surface of the work pieces. All these problems can be prevented by Spatter Protection system.

3D Bevel Cutting (Option)

To achieve the required angled surfaces in the welding of pipes and profiles, HD-TC machines offer an excellent 3D cutting option. This feature enables high-speed and high-quality bevel cuts from ±45 for pipes and profiles.

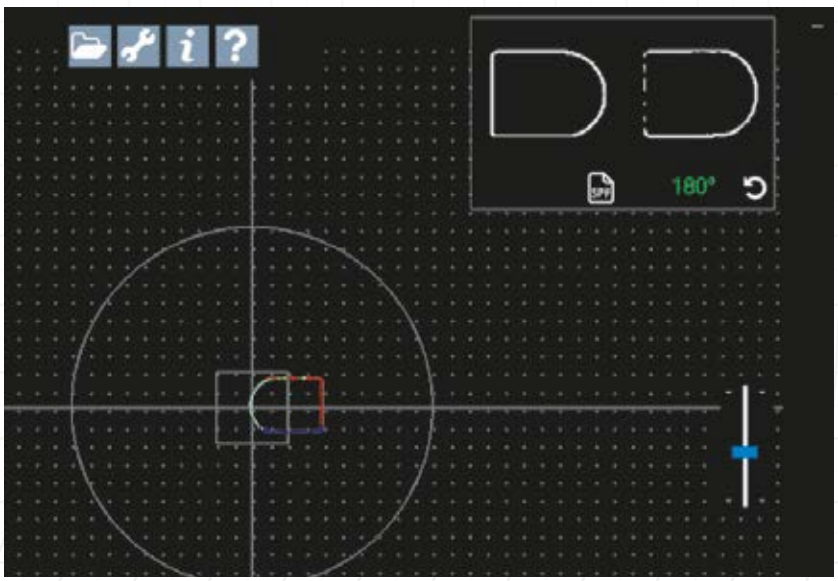
Front Chain Loader - Semi Automatic (Option)

8 tubes can be loaded to chain loader at once. Different types of tubes can be loaded at once. (In the order in the part program list) After loading to cutting line, the tube length is measured automatically by measuring system. ZIt allows for the semi-automatic loading of special profiles (L, U).

HD-TC

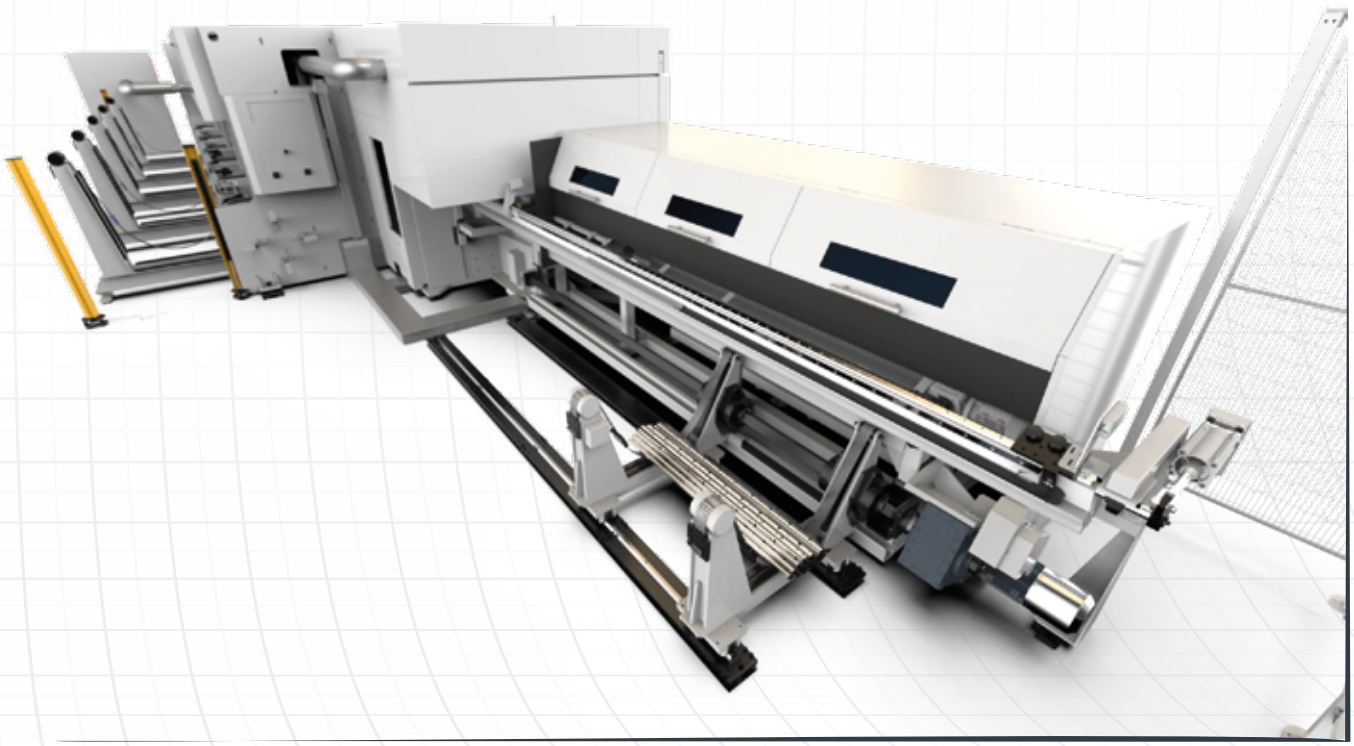
PROFILE ANGLE DETECTION SYSTEM *(Option)*

Automatically loading of non-symmetrical profiles is a common problem for many customers. We eliminated this problem with Durma Smart Profile Detection System. Automatically loading of all profiles is now much easier and smoother.
Durma profile cutting fiber laser, simplifies fully automatic laser profile cutting.
You can now easily load specially shaped profiles automatically, which was previously not possible due to the special geometries of the profiles.



Full Automatic Loading & Stacking *(Option)*

Your profiles are ready for packaging after the cutting process. With its advanced Automatic Unloading and Stacking System, Durma ensures that the profiles you cut on the machine are stacked precisely according to their dimensions and without deformation, thus preventing potential time losses and additional labor costs.



HD-TC

HD-TC 60250 COMPACT

Capacity		
Max. Pipe Diameter	Ø250	mm
Max. Square Profile Dimension	160x160	mm
Max. Rectangular Profile Dimension	200x150	mm
Min. Pipe Diameter	16	mm
Max. Material Length	6000	mm
Min. Length of Remaining Material	95 (If last part can be cut with one chuck, otherwise 255mm)	mm
Unloading Length	3000 / 6000	mm
Automatic Unloading Unit	Part Box / Conveyor (Option)	
Max. Material Weight	58	kg/m
Max. Total Workpiece Weight	350	kg
Material Lenght Range for Semi Auto Loading	5800 - 6100	mm
Semi Automatic Laoding Unit	Option (6m)	
Profile Types Can Be Cut	Round, Square, Rectangular, Eliptic	
Open Profile Types Can Be Cut **	L, U, H	
Max. Open Profile Dimension	160x160	mm
Min. Lenght of Remain Part for Open Type Tubes	115 (If last part can be cut with one chuck, otherwise 275mm)	mm
Dynamics		
X Axis	40	m/min
Y Axis	94	m/min
Z Axis	30	m/min
A Axis	510	°/s
Accuracy * **		
Positioning Accuracy	±0.2	mm
Positioning Variation	±0.05	mm
Tube Center Search with Capacitive Sensor	Yes	
Control Unit		
CNC	Durma CNC Aurora	

** A slim-type head must be used for H-profile cutting.
***The values given represent the cumulative positional accuracy of the machine's axes. Cutting accuracy varies depending on errors in the profile's diameter or edge dimensions, radius, warping, or the use of a nozzle of the wrong size. The warping of the profile directly affects the cutting tolerance, and this effect varies depending on the profile dimensions. The laser centring option is recommended to achieve precise cutting.
**** The 'lead-in' distance in the final cut may alter the scrap material length. This should be taken into account when nesting.

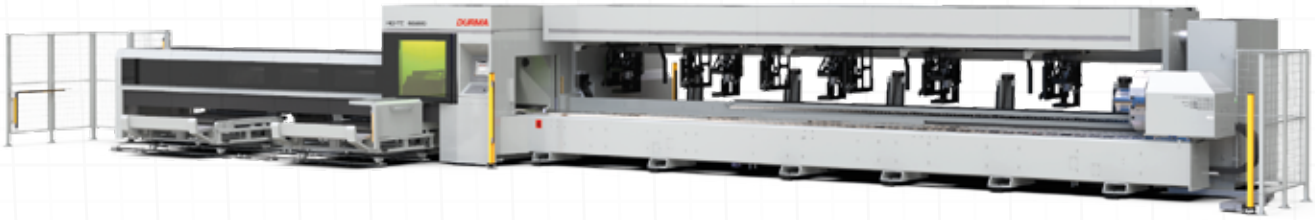
HD-TC 60170

Capacity		
Max. Pipe Diameter	Ø170	mm
Max. Square Profile Dimension	120 x 120	mm
Max. Rectangular Profile Dimension	150 x 100	mm
Min. Pipe Diameter	20 (12 optional)*	mm
Max. Material Length	6500	mm
Min. Material Length for Automatic Loading	3000	mm
Min. Length of Remaining Material	130 (110 optional)	mm
Unloading Length	Max. 4500 / Max. 6000	mm
Max. Material Weight	37,5	kg/m
Max. Total Workpiece Weight	210	kg
Max. Bundle Weight	3000	kg
Profile Types Can Be Cut	Round, Square, Rectangular, Eliptic	
Open Profile Types Can Be Cut **	L, U, H	
Max. Open Profile Dimension	120	mm
Height of Chuck Center	1150	mm
Dinamik		
X Axis	60	m/min
Y Axis	60	m/min
Z Axis	30	m/min
A Axis	840	°/s
Hassasiyet		
Positioning Accuracy	±0.2	mm
Positioning Variation	±0.05	mm
Tube Center Search with Capacitive Sensor	Yes	

*Pipes and profiles smaller than Ø20 can only be loaded manually.
** Open-section profiles can only be loaded manually or using a semi-automatic chain loading system. A slim-type head must be used for H-profile cutting.
***The values provided represent the cumulative positional accuracy of the machine's axes. Cutting accuracy varies depending on the profile's diameter or edge dimensions, radius, warping, or the use of a nozzle of the wrong size. The profile's warping directly affects the cutting tolerance, and this effect varies depending on the profile's dimensions. The laser centring option is recommended to achieve precise cutting.

HD-TC

HD-TC 60220



Kapasite		
Max. Pipe Diameter	Ø220	mm
Max. Square Profile Dimension	160 x 160	mm
Max. Rectangular Profile Dimension	200 x 100	mm
Min. Pipe Diameter	Ø20 (Ø12 optional)*	mm
Max. Material Length	6500	mm
Min. Material Length for Automatic Loading	3000	mm
Min. Length of Remaining Material	160 (140 optional)	mm
Unloading Length	Max. 4500 / Max. 6000	mm
Max. Material Weight	52	kg/m
Max. Total Workpiece Weight	360	kg
Max. Bundle Weight	3000	kg
Profile Types Can Be Cut	Round, Square, Rectangular, Eliptic	
Open Profile Types Can Be Cut **	L, U, H	
Max. Open Profile Dimension	100 (bigger size optional)	mm
Height of Chuck Center	1150	mm
Dinamik		
X Axis	60	m/min
Y Axis	60	m/min
Z Axis	30	m/min
A Axis	840	°/s
Hassasiyet		
Positioning Accuracy	±0.2	mm
Positioning Variation	±0.05	mm
Tube Center Search with Capacitive Sensor	Yes	

*Pipes and profiles smaller than Ø20 can only be loaded manually.
** Open-section profiles can only be loaded manually or using a semi-automatic chain loading system. A slim-type head must be used for H-profile cutting.
***The values provided represent the cumulative positional accuracy of the machine's axes. Cutting accuracy varies depending on the profile's diameter or edge dimensions, radius, warping, or the use of a nozzle of the wrong size. The profile's warping directly affects the cutting tolerance, and this effect varies depending on the profile's dimensions. The laser centring option is recommended to achieve precise cutting.

HD-TC 80220

Kapasite		
Max. Pipe Diameter	Ø220	mm
Max. Square Profile Dimension	160 x 160	mm
Max. Rectangular Profile Dimension	200 x 100	mm
Min. Pipe Diameter	Ø20 (Ø12 optional)*	mm
Max. Material Length	8500	mm
Min. Material Length for Automatic Loading	3000	mm
Min. Length of Remaining Material	160 (140 optional)	mm
Unloading Length	Max. 4500 / Max. 6000	mm
Max. Material Weight	52	kg/m
Max. Total Workpiece Weight	360	kg
Max. Bundle Weight	4000	kg
Profile Types Can Be Cut	Round, Square, Rectangular, Eliptic	
Open Profile Types Can Be Cut **	L, U, H	
Max. Open Profile Dimension	100 (bigger size optional)	mm
Height of Chuck Center	1150	mm
Dinamik		
X Axis	60	m/min
Y Axis	60	m/min
Z Axis	30	m/min
A Axis	840	°/s
Hassasiyet		
Positioning Accuracy	±0.2	mm
Positioning Variation	±0.05	mm
Tube Center Search with Capacitive Sensor	Yes	

*Pipes and profiles smaller than Ø20 can only be loaded manually.
** Open-section profiles can only be loaded manually or using a semi-automatic chain loading system. A slim-type head must be used for H-profile cutting.
***The values provided represent the cumulative positional accuracy of the machine's axes. Cutting accuracy varies depending on the profile's diameter or edge dimensions, radius, warping, or the use of a nozzle of the wrong size. The profile's warping directly affects the cutting tolerance, and this effect varies depending on the profile's dimensions. The laser centring option is recommended to achieve precise cutting.

HD-TC

HD-TC 60350 MEGA

Kapasite		
Max. Pipe Diameter	Ø350	mm
Max. Square Profile Dimension	350x350	mm
Max. Rectangular Profile Dimension	350x350	mm
Min. Pipe Diameter	20	mm
Max. Material Length	6500	mm
Min. Length of Remaining Material	0	mm
Unloading Length	6000	mm
Automatic Unloading Unit	Standard (Chain Unloader)	
Max. Material Weight	125	kg/m
Max. Total Workpiece Weight	800	kg
Material Lenght Range for Semi Auto Loading	4500-6500	mm
Semi Automatic Laoding Unit	Standard Chain Loader	
Profile Types Can Be Cut	Round, Square, Rectangular, Eliptic	
Open Profile Types Can Be Cut **	L, U, H	
Max. Open Profile Dimension	350x350	
Height of Chuck Center	1400	mm
Dinamik		
X Axis	80	m/min
Y Axis	30	m/min
Z Axis	30	m/min
A Axis	320	°/s
Hassasiyet		
Positioning Accuracy	±0.2	mm
Positioning Variation	±0.05	mm
Tube Center Search with Capacitive Sensor	Yes	
Kontrol Ünitesi		
CNC	Durma CNC Aurora	

** A slim-type head must be used for H-profile cutting.
***The values given represent the cumulative positional accuracy of the machine's axes. Cutting accuracy varies depending on errors in the profile's diameter or edge dimensions, radius, warping, or the use of a nozzle of the wrong size. The warping of the profile directly affects the cutting tolerance, and this effect varies depending on the profile dimensions. The laser centring option is recommended to achieve precise cutting.
**** The 'lead-in' distance in the final cut may alter the scrap material length. This should be taken into account when nesting.

HD-TC 80350 MEGA

Kapasite		
Max. Pipe Diameter	Ø350	mm
Max. Square Profile Dimension	350x350	mm
Max. Rectangular Profile Dimension	350x350	mm
Min. Pipe Diameter	Ø20	mm
Max. Material Length	6500	mm
Min. Length of Remaining Material	0	mm
Unloading Length	6000	mm
Automatic Unloading Unit	Standard (Chain Unloader)	
Max. Material Weight	125	kg/m
Max. Total Workpiece Weight	800	kg
Material Lenght Range for Semi Auto Loading	4500-6500	mm
Semi Automatic Laoding Unit	Standard Chain Loader	
Profile Types Can Be Cut	Round, Square, Rectangular, Eliptic	
Open Profile Types Can Be Cut **	L, U, H	
Max. Open Profile Dimension	350x350	mm
Height of Chuck Center	1400	mm
Dinamik		
X Axis	80	m/min
Y Axis	30	m/min
Z Axis	30	m/min
A Axis	320	°/s
Hassasiyet		
Pozisyon Hassasiyeti	±0.2	mm
Tekrarlanabilirlik	±0.05	mm
Kapasitif Sensör İle Profil Merkezi Arama	Yes	
Kontrol Ünitesi		
CNC	Durma CNC Aurora	

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**** The 'lead-in' distance in the final cut may alter the scrap material length. This should be taken into account when nesting.

HD-TC

HD-TC 120350 MEGA

Kapasite		
Max. Pipe Diameter	Ø350	mm
Max. Square Profile Dimension	350x350	mm
Max. Rectangular Profile Dimension	350x350	mm
Min. Pipe Diameter	Ø20	mm
Max. Material Length	12500	mm
Min. Length of Remaining Material	0	mm
Unloading Length	12000	mm
Automatic Unloading Unit	Standard (Chain Unloader)	
Max. Material Weight	125	kg/m
Max. Total Workpiece Weight	1500	kg
Material Lenght Range for Semi Auto Loading	4500-12500	mm
Semi Automatic Laoding Unit	Standard Chain Loader	
Profile Types Can Be Cut	Round, Square, Rectangular, Eliptic	
Open Profile Types Can Be Cut **	L, U, H	
Max. Open Profile Dimension	350x350	mm
Height of Chuck Center	1400	mm
Dinamik		
X Axis	80	m/min
Y Axis	30	m/min
Z Axis	30	m/min
A Axis	320	°/s
Hassasiyet		
Positioning Accuracy	±0.2	mm
Positioning Variation	±0.05	mm
Tube Center Search with Capacitive Sensor	Yes	
Kontrol Ünitesi		
CNC	Durma CNC Aurora	

** A slim-type head must be used for H-profile cutting.
***The values given represent the cumulative positional accuracy of the machine's axes. Cutting accuracy varies depending on errors in the profile's diameter or edge dimensions, radius, warping, or the use of a nozzle of the wrong size. The warping of the profile directly affects the cutting tolerance, and this effect varies depending on the profile dimensions. The laser centring option is recommended to achieve precise cutting.
**** The 'lead-in' distance in the final cut may alter the scrap material length. This should be taken into account when nesting.

HD-TC 120500 MEGA

Kapasite		
Max. Pipe Diameter	Ø500	mm
Max. Square Profile Dimension	380x380	mm
Max. Rectangular Profile Dimension	400x350	mm
Min. Pipe Diameter	Ø40	mm
Max. Material Length	12500	mm
Min. Length of Remaining Material	0 (3 chuck)	mm
Unloading Length	125 00	mm
Automatic Unloading Unit	Standart (Chain Unloader)	
Max. Material Weight	175	kg/m
Max. Total Workpiece Weight	2100	kg
Material Lenght Range for Semi Auto Loading	4500-12000	mm
Semi Automatic Laoding Unit	Standart Chain Loader	
Profile Types Can Be Cut	Round, square, rectangular, eliptic	
Open Profile Types Can Be Cut **	L,U,H	
Max. Open Profile Dimension	380x380	mm
Height of Chuck Center	1400	mm
Dinamik		
X Axis	50	m/min
Y Axis	50	m/min
Z Axis	30	m/min
A Axis	150	°/s
Hassasiyet		
Positioning Accuracy	±0.2	mm
Positioning Variation	±0.05	mm
Tube Center Search with Capacitive Sensor	Yes	
Kontrol Ünitesi		
CNC	Durma CNC Aurora	

** A slim-type head must be used for H-profile cutting.
***The values given represent the cumulative positional accuracy of the machine's axes. Cutting accuracy varies depending on errors in the profile's diameter or edge dimensions, radius, warping, or the use of a nozzle of the wrong size. The warping of the profile directly affects the cutting tolerance, and this effect varies depending on the profile dimensions. The laser centring option is recommended to achieve precise cutting.
**** The 'lead-in' distance in the final cut may alter the scrap material length. This should be taken into account when nesting.

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.

Product Groups

DURMA

Durma International
durmainternational
durmaint
durmamachines
Durmazlar

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