

www.c-t.com.tr



We are proud serving over 100 customers
inland and since 1998 and
abroad over 13 countries...

Waterjet Cutting ...





Waterjet cutting is a technology, which is capable of cutting all kinds of material over the world, from 0.1 mm to 200 mm thickness, regardless it is hard or soft, using water or water-abrasive mixture of a beam of 0.1 mm to 1.1 mm...

Waterjet Cutting Technologies...

Our machines are designed and equipped with electronic, mechanic and high pressure components of the highest quality level and the most advanced technology in the market

General Specifications of our machines:

- Machines are controlled by real CNC units instead of PC based general application controllers.
- Cutting materials such as glass, marble, granite, for which piercing must be started with low pressure, there is no need to wait for water blocked in the valve and the pipes to decrease its pressure to low level. Instead, we decrease the pressure to its low level over the pump hydraulics when the cutting head is running to its new piercing position. This saves not only time but also abrasive and spare part life as well.
- For Z axis movement, heavy-duty ball circulating linear guides and DC motor driven screw are used. Z axis is controlled manually by the operator using CNC keys.
- All the mechanical components - except main body and some assembly parts - are made of stainless steel or aluminum.
- Protective bulks are of rectangular cross-section and totally closed. Therefore, guiding and driving elements, motors and other electrical equipment are completely protected against water and abrasive.
- All protective covers and water tank are made of stainless steel.
- Abrasive dosing unit is isolated against water and humidity.
- Abrasive feeding system is air pressure driven and equipped with level warning system.
- Main body is protected against water and humidity by epoxy paint after sand - blasting.
- Our standard color is RAL 5021.

Orifice Size	SL-V 155	SL-V 305	SL-V 505	SL-V 755	SL-V 1005
0.10	3	5	9	14	19
0.12	2	4	6	9	13
0.15 / 0.55	1	3	4	7	9
0.17 / 0.55	1	2	3	5	6
0.20	1	1	2	4	5
0.23*	-	1	2	3	4
0.25 / 0.76	-	1	1	2	3
0.28	-	-	1	2	2
0.30 / 1.02	-	-	1	1	2
0.33 / 1.1	-	-	1	1	2
0.35 / 1.1	-	-	-	1	1
0.40	-	-	-	1	1

At 4, 136 bar
* This orifice size is used abrasive cutting also.

Material cut with Water-Abrasive mixture

- Mild steel and stainless steel
- Titanium, tungsten alloys, all hard metals
- Aluminum, copper, bronze, lead, all soft metals
- Carbon, Kevlar, rubber coated metals, composites
- Marble, granite, ceramic
- Laminated glass and any material else all over the world

Material cut with Water

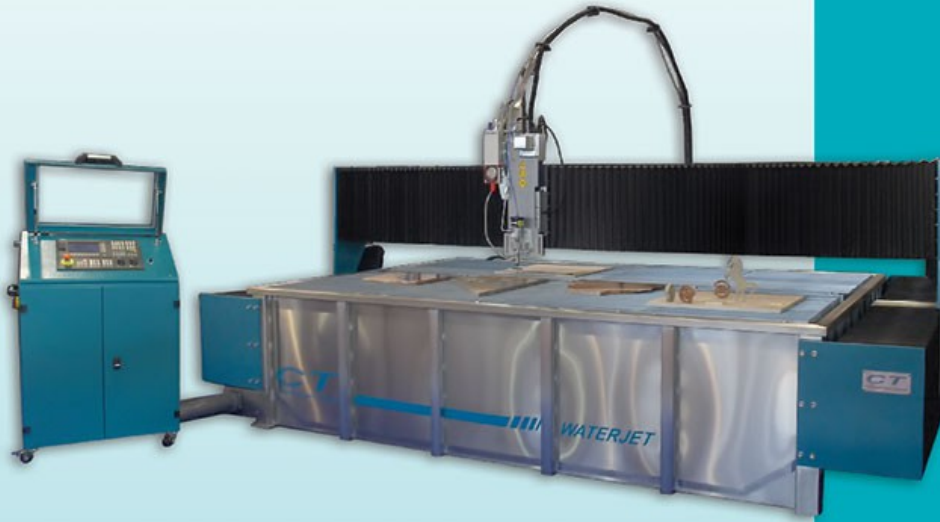
- Rubber, plastic products
- Wood and wooden products
- Flooring material
- Sponge, polyurethane, foam
- Cloth, leather-textile products
- Carpet
- Isolation material
- Sealing material





Cutting Technologies & Machinery

www.c-t.com.tr



EXP Series Waterjet Cutting Machines...

EXP Series Machines Waterjet Cutting

With the cutting dimensions of 3000mm x 2000mm and 4000mm x 2000mm this new compact design has the advantages such as being user friendly, easy to use and easy to transport.

Compared to other models it is more economic.

Machines of both sizes can fit a container therefore it is preferred by the clients from other countries.

It is used mostly by general purpose contract cutting workshops and by marble cutting factories.

EXP Serisi Makinalar Su Jeti Kesme

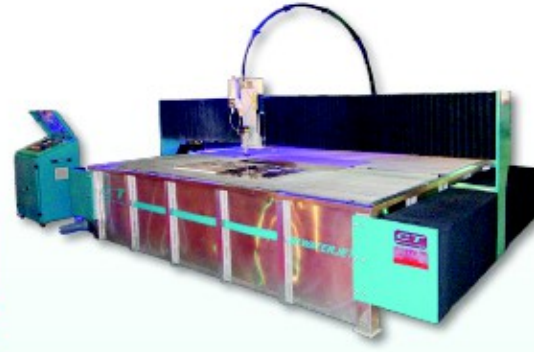
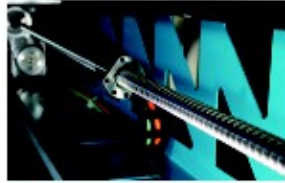
EXP Serisi makinalar, kompakt tip, pratik, kullanışlı, bir yerden bir yere nakliyesi kolay makinalardır.

Her iki imal ölçüsü de konteyner standartlarında olduğundan, yurtdışı firmaların daha çok tercih ettiği makina tipidir.

Genel amaçlı fason kesim ve mermer, granit sektörü tarafından da en çok tercih edilen makina türüdür.

Alışılmış Portal makina ölçüleri:

3000 x 2000 mm
4000 x 2000 mm



Technical Specifications / Teknik Özellikler

Portal EXP Type / Portal EXP Tip	EXP Series
Portal EXP Type Machine Specifications Portal EXP Tip Makina Özellikleri	EXP / S-Standard Spindle (Ball-Screw Driven) EXP / S-Standard Vidalı Mil: Standart
CNC Control System CNC Kontrol Sistemi	SIEMENS
Parallel Axis Servo Motor Paralel Eksen Motoru	2 x AC Servo Motor (SIEMENS)
Parallel Axis Synchronization Paralel Ana Eksen Senkronizasyonu	Electronic synchronization Elektronik Senkronizasyon
Main Axis Driving Mechanism Ana Eksen Tahrik Mekanizması	Ball - Screw Boşluksuz Vidalı Mil
Main Axis Guiding Mechanism Ana Eksen Tahrik Mekanizması	Heavy Duty Linear Circulating Ball Bearing and guide Bilya Sirkülasyonlu Ağır Tip Doğrusal Yatak
Bridge Axis Servo Motor Köprü Eksen Motoru	1 x AC Servo Motor (SIEMENS)
Bridge Axis Driving Mechanism Köprü Eksen Tahrik Mekanizması	Ball - Screw Boşluksuz Vidalı Mil
Bridge Axis Guiding Mechanism Köprü Eksen Yataklama Mekanizması	Heavy Duty Linear Circulating Ball Bearing and Guide Bilya Sirkülasyonlu Ağır Tip Doğrusal Yatak
Max. Positioning Speed Max. Pozisyonlama Hızı	20.000 mm / min. - Dak.
Max. Accurate Cutting Speed Max. Hatasız Kesme Hızı	10.000 mm / min. -Dak.
Positioning Accuracy Pozisyonlama Hassasiyeti	0.03 mm
Term of Warranty Garanti Süresi	24 Months
High Pressure System Yüksek Basınç Sistemi	Pump / Pompa: KMT 50HP Classic 4000 bar Kesme Kafası / Cutting Head : KMT
Pressure (Nominal) Basınç (Nominal) Pressure (Continuous) Basınç (Sürekli)	4000 bar 3800 bar
Flow Rate Pompa Debisi	Q max.: 3.8 lt / min. 37 kW (50 HP)

All rights of technical modifications are reserved / Teknik değişiklik hakkı saklıdır.



- We use heavy-duty ball circulating guiding mechanisms with our machines.
- Stability, accuracy and long life time of both guiding and driving system of our machines should be expressed especially.
- All the guiding and driving elements are standard parts which are supplied all over the world.





Console Type Waterjet Cutting Machines...

Console Type Machines Waterjet Cutting

Console type machines are small and mid-sized machines.

Guiding and driving are managed from a single construction.

One side of the bridge is open and this gives the operator the change of using three sides of cutting table for loading material.

Compared to portal type machines they can reach higher speeds.

With any supports used outside the cutting table, much bigger plates can be placed on the table and out of that plate any pieces of a size within limits of the cutting area can be cut.
(bridge ax. X main ax.)

1600 x 3200 mm
1500 x 3000 mm
1000 x 2000 mm

* If necessary, main axis can be upto 5000 mm

Konsol Tip Makinalar Su Jeti Kesme

Konsol tip makinalar, orta ve küçük ölçülü makinalardır.

Yataklama ve tahrik tek gövdede, köprünün bir tarafı şaseye bağlı diğer tarafı boştaadır. Portal makinalara göre daha yüksek hızlı makinalardır.

Kesim alanın üç tarafı açıktır. Kesimi biten parça, makineden kaldırılmadan diğer bir parçanın kesimine başlanabilmeli, makina geometrisinin, boyutlarının en uçtarafı açık çalışma ortamının sağladığı önemli bir avantajdır.

Makina dışına konan destek ayakları ile, makinanın net kesme ölçüsünden çok daha büyük ölçülerde plakalar makinarya yerleştirilebilir ve net kesme ölçüsünü geçmeyen boyutlarda kesim yapılabilir.

Aışılmış konsol makina ölçüleri :
(ilk yazılan ölçü köprü eksenli strokunu, ikinci ölçü, paralel strokunu tanımlar, gövde strokunu ölçüleri gerektiğinde 5000mm ye kadar büyütülebilir.)

1600 x 3200 mm
1500 x 3000 mm
1000 x 2000 mm



Technical Specifications / Teknik Özellikler

Console Type / Konsol Tip	S-HP	S-Standard
Console Type Machine Specifications Konsol Tip	S-HP / Ball Screw - High Performance S-HP Boşluksuz Vidalı Mil - Yüksek Performans	Ball Screw - Standard S-Standard Boşluksuz Vidalı Mil-Standart
CNC Control System CNC Kontrol Sistemi	SIEMENS	
Main Axis Motor Ana Eksen Motoru	1 x AC Servo Motor (SIEMENS)	
Main Axis Guiding Mechanism Ana Eksen Tahrik Mekanizması	Ball - Screw Boşluksuz Vidalı Mil	
Bridge Axis Servo Motor Köprü Eksen Motoru	Heavy Duty Linear Circulating Ball Bearing Bilya Sirkülayonlu Ağır Tip Doğrusal Yataklık	
Bridge Axis Motor Köprü Eksen Motoru	1 x AC Servo Motor (SIEMENS)	
Bridge Axis Driving Mechanism Köprü Eksen Tahrik Mekanizması	Ball - Screw Boşluksuz Vidalı Mil	
Bridge Axis Guiding Mechanism Köprü Eksen Yataklama Mekanizması	Heavy Duty Linear Circulating Ball Bearing Bilya Sirkülayonlu Ağır Tip Doğrusal Yataklık	
Max. Positioning Speed Max. Pozisyonlama Hızı	30.000 mm / min. - Dak.	
Max. Cutting Speed Max. Hatasız Kesme Hızı	12.000 mm / min. - Dak.	
Repeating Accuracy Tekrarlama Hassasiyeti	0.03 mm	
Term of Warranty Garanti Süresi	24 Months 24 Ay	
High Pressure System Yüksek Basınç Sistemi	Pump / Pompa: KMT 50HP Plus 4136 bar Kesme Kafası / Cutting Head : KMT	Pump / Pompa: KMT 50HP Classic 4000 bar Kesme Kafası / Cutting Head : KMT
Pressure (Nominal) Basınç (Nominal)	4136 bar	4000 bar
Pressure (Continuous) Basınç (Sürekli)	4000 bar	3800 bar
Flow Rate Pompa Debisi	Q max.: 3.8 lt / min. 37 kW (50 HP)	

All rights of technical modifications are reserved / Teknik değişiklik hakkı saklıdır.





Portal Type Waterjet Cutting Machines...

Portal Type Machines Waterjet Cutting

Portal type machines are big and mid-sized machines.

They consist to two sided guiding-driving system and one bridge axis perpendicular to the paralel axis.

Wide machines are preferred for multi-head cutting, and long machines are used to load new material on one end when cutting proceeds on the other side.

Even if is possible to produce very large machines of portal type, the most common dimensions are:
(bridge ax. X main ax.)

3000 x 2000 mm veya 2000 x 3000
2000 x 4000 mm veya 4000 x 2000
3000 x 4000 mm veya 4000 x 3000

Portal Tip Makinalar Su Jeti Kesme

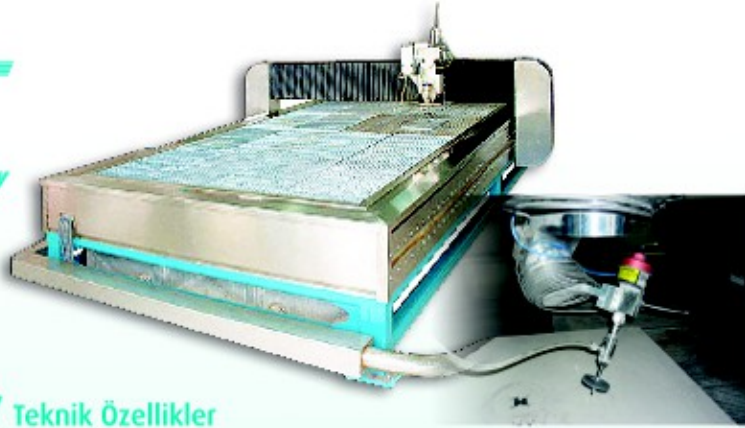
Portal tip makinalar, orta ve büyük ölçülü makinalardır.

Çift taraflı yataklama-tahrik grubu ve bu paralel eksen grubuna dik yerleştirilmiş bir köprüden oluşur.

Enine büyük makinalar, çok katlı kesimler için boyuna büyük makinalar ise bir kesimin bitmesinin ardından diğer bir kesimin derhal başlatılması anlamında yüksek üretim olanağı sağlayan makinalardır.

Çok büyük ölçülere çıkmak mümkün olmakla birlikte alışılmış portal makina ölçüleri;
(ilk yazılan ölçü köprü eksenli strokunu, ikinci ölçü, paralel ölçü strokunu tanımlar.)

3000 x 2000 mm veya 2000 x 3000
2000 x 4000 mm veya 4000 x 2000
3000 x 4000 mm veya 4000 x 3000



Technical Specifications / Teknik Özellikler

Portal Type / Portal Tip	S-HP	S-Standard
Portal Type Machine Specifications Portal Tip Makina Özellikleri	S-HP / Ball Screw - High Performance S-HP Boşluksuz Vidalı Mil - Yüksek Performans	Ball Screw - Standard S-Standard Boşluksuz Vidalı Mil-Standart
CNC Control System CNC Kontrol Sistemi	SIEMENS	
Parallel Main Axis Motor Paralel Ana Eksen Motoru	2 x AC Servo Motor (SIEMENS)	
Parallel Axis Synchronization Paralel Ana Eksen Senkronizasyonu	Elektronik synchronization Elektronik Senkronizasyon	
Parallel Axis Driving Mechanism Paralel Ana Eksen Tahrik Mekanizması	Ball - Screw Boşluksuz Vidalı Mil	
Parallel Axis Guiding Mechanism Paralel Ana Eksen Tahrik Mekanizması	Heavy Duty Linear Circulating Ball Bearing Bilya Sirküsyonlu Ağır Tip Doğrusal Yataak	
Bridge Axis Motor Köprü Eksen Motoru	1 x AC Servo Motor (SIEMENS)	
Bridge Axis Driving Mechanism Köprü Eksen Tahrik Mekanizması	Ball - Screw Boşluksuz Vidalı Mil	
Bridge Axis Guiding Mechanism Köprü Eksen Yataklama Mekanizması	Heavy Duty Linear Circulating Ball Bearing Bilya Sirküsyonlu Ağır Tip Doğrusal Yataak	
Max. Positioning Speed Max. Pozisyonlama Hızı	30.000 mm / min. - Dak.	
Max. Cutting Speed Max. Hatasız Kesme Hızı	12.000 mm / min. - Dak.	
Repeating Accuracy Tekrarlama Hassasiyeti	0.03 mm	
Term of Warranty Garanti Süresi	24 Months 24 Ay	
High Pressure System Yüksek Basınç Sistemi	Pump / Pompa: KMT 50HP Plus 4136 bar Kesme Kafası / Cutting Head : KMT	Pump / Pompa: KMT 50HP Classic 4000 bar Kesme Kafası / Cutting Head : KMT
Pressure (Nominal) Basınç (Nominal)	4136 bar	4000 bar
Pressure (Continuous) Basınç (Sürekli)	4000 bar	3800 bar
Flow Rate Pompa Debisi	Q max.: 3.8 lt / min. 37 kW (50 HP)	

All rights of technical modifications are reserved / Teknik değişiklik hakkı saklıdır.





Portal R-HP Type Waterjet Cutting Machines...

Portal R-HP Type Machines Waterjet Cutting

Portal R-HP type machines are special purpose portal machines which are big in size.

They are made of guiding and driving systems on two sides of machine frame and a perpendicular bridge placed in between.

They are special purpose large machines.

Usual sizes are:
(bridge ax. X main ax.)

2000 x 6000 mm
2000 x 8000 mm
3000 x 8000 mm
4000 x 8000 mm
4000 x 12000 mm

Portal R-HP Tip Makinalar Su Jeti Kesme

Portal R-HP tipi makinalar, özel amaçlı, büyük ölçülü makinalardır.

Çift taraflı yataklama-tahrik grubu ve bu paralel eksen grubuna dik yerleştirilmiş bir köprüden oluşur.

Alışılmış Portal makina ölçüleri:

(İlk yazılan ölçü köprü eksenli strokunu, ikinci ölçü, paralel ölçü strokunu tanımlar.)

2000 x 6000 mm
2000 x 8000 mm
3000 x 8000 mm
4000 x 8000 mm
4000 x 12000 mm



Technical Specifications / Teknik Özellikler

Portal R-HP Type / Portal R-HP Tip	R-HP	
Portal R-HP Type Machine Specifications Portal R-HP Tip Makina Özellikleri	R-HP / Rack and Pinion - High Performance R-HP / Kramayer - Yüksek Performans	
CNC Control System CNC Kontrol Sistemi	SIEMENS	
Parallel Main Axis Motor Paralel Ana Eksen Motoru	2 x AC Servo Motor (SIEMENS)	
Parallel Axis Synchronization Paralel Ana Eksen Senkronizasyonu	Elektronik synchronization Elektronik Senkronizasyon	
Parallel Axis Driving Mechanism Paralel Ana Eksen Tahrik Mekanizması	Rack and Pinion Kramayer	
Parallel Axis Guiding Mechanism Paralel Ana Eksen Tahrik Mekanizması	Heavy Duty Linear Guiding Ağır Tip Doğrusal Yatak	
Bridge Axis Motor Köprü Eksen Motoru	1 x AC Servo Motor (SIEMENS)	
Bridge Axis Driving Mechanism Köprü Eksen Tahrik Mekanizması	Rack and Pinion Kramayer	
Bridge Axis Guiding Mechanism Köprü Eksen Yataklama Mekanizması	Heavy Duty Linear Guiding Ağır Tip Doğrusal Yatak	
Max. Positioning Speed Max. Pozisyonlama Hızı	30.000 mm / min. - Dak.	
Max. Cutting Speed Max. Hatasız Kesme Hızı	10.000 mm / min. - Dak.	
Repeating Accuracy Tekrarlama Hassasiyeti	0.03 mm	
Term of Warranty Garanti Süresi	24 Months 24 Ay	
High Pressure System Yüksek Basıncı Sistemi	Pump / Pompa: KMT 50HP Plus 4136 bar Kesme Kafası / Cutting Head : KMT	Pump / Pompa: KMT 125 HP 6200 bar Kesme Kafası / Cutting Head : KMT
Pressure (Nominal) Basıncı (Nominal)	4136 bar	6200 bar
Pressure (Continuous) Basıncı (Sürekli)	4000 bar	6000 bar
Flow Rate Pompa Debisi	Q max.: 3.8 lt / min. 37 kW (50 HP)	Q max.: 5.5 lt / min. 90 kW (125 HP)

All rights of technical modifications are reserved / Teknik değişiklik hakkı saklıdır.





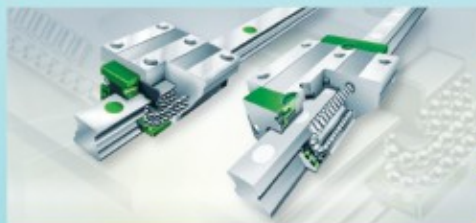
CNC, Servo Motors and Software

- Our machines are controlled by Siemens Sinumerik CNC controllers with color graphic screens and optional cutting path simulation.
 - Controllers have color LCD TFT screen.
 - Program and parameter backup and downloading is possible to and from memory storage devices thru USB connection. Optional ethernet communication is also available for program and parameter backup and transfer.
 - User RAM is 1 MB in standart and can be extended upto 15 MB.
 - PLC modules are connected over PROFIBUS connection.
 - CNC is connected to Servo drivers with DRIVE-CLIQ connectors.
 - When executing CNC programs, look-ahead function is used for optimum interpolation in synchronized movements.
- With the help of gantry option, portal machines with two paralels axes are kept precise and safe against any possible cause of accidental deformation.



Software

- Cutting software is Windows based.
- Another way to program the CNC is directly writing in ISO code.
- In case the plate of material to be cut is not placed on the machine horizontal or perpendicular to any of the axes, by rotating the cartesian axes system according to the placed plate through CNC software, we prevent the waste of time spent for placing the plate again and again to get it parallel to any axis.
- OrWin (our CAM software) can import DXF file generated by your CAD software.
- It is possible to change speed independent from the cutting program during execution.
- Reducing speed approaching corners is possible.
- Tool radius compensation is available.



Mechanical driving element and guiding

- Building our machines we make use of the ball screws which assures high accuracy and best performance for long life. But in case the machine dimensions are out of limits of 5000 mm stroke, hardened and ground rack-and pinion mechanisms together with servo gear boxes are used.
- For guiding we use ball circulating linear guide systems.
- Ball screw systems used in our machines have an accuracy of 1 microns per 300mm. In other words, for each 300mm movement, maximum possible error is 1 microns (0.001mm). The projection of ball-screw accuracy to the machine movements is less than 0.03mm.
- We use heavy-duty ball circulating guiding mechanisms with our machines.
- Stability, accuracy and long life time of both guiding and driving system of our machines should be expressed especially.
- All the guiding and driving elements are standard parts which are supplied all over the world.



SPARE PARTS ABRASIVE



Important Advantages of Water Jet Technology...

- Since it is a cold cutting process, problems such as burning, melting, hardening and deformation which can be result of thermal cutting process do not exist.
- Material pairs and sandwich materials which cannot be cut by laser because of their various melting or burning temperatures can be cut by water jet.
- Since there is no melting or burning, water jet creates no chemical pollution. Due to this advantage, no investment such as gas suction and filtering systems is necessary.
- With the small cutting kerf thickness (max. 1.1mm), material loss is minimized.
- As a cutting element, with water jet, depending on its diameter it is possible to cut very narrow and cute angled corners.
- Without any danger of melting or burning very thin material can also be cut.
- Without changing any equipment, by only changing the cutting speed, the type of material to be cut can easily be changed. This helps, especially for contract cutting, saving setup and adjustment time for one project to the other.
- As the distance between the cutting edge and the material is tolerant, especially for irregular material, cutting defects which may arise from failures of cutting distance control do not exist.

facebook/ctmakine

twitter/CTMakina



CT Kesme Teknolojileri ve Makina Sanayi Tic.Ltd.Şti.

Tuzla Kimya Sanayicileri Org. San. Böl. Melek Aras Bulvarı
Analitik Caddesi No.:70 34956 Tuzla İstanbul - TURKEY
Tel.: +90 216 593 28 18 pbx
Fax: +90 216 593 28 08

info@c-t.com.tr
www.c-t.com.tr