Waterjet systems

The **iCUTwater** waterjet range leaves nothing to be desired. For example, the **iCUTwater PLATINUM** has highly-dynamic, granite-mounted linear drives. This drive form and the stable design enable high travel speeds and maximum accuracy. The **iCUTwater basic** is the basis for this range. Here, **imes-icore** has placed value on top quality workmanship, together with excellent value for money. The expansion possibilities are vast: Water level regulation, start-hole drilling machine or abrasive desludging. The patented **iCUTwater** tube cutting device enables cutting without sacrificial material and has impressively short set-up times. A 5-axis head for correcting the cutting angle or up to 12 heads are possible. Be impressed by the **iCUTwater** waterjet range!

And this is what our customers
say about the iCUTwater waterjet systems:

Norbert Schütz GmbH & Co. KG

"Our decision for your machines was made after our visit to the trade fair in Stuttgart. In comparison to other manufacturers, we liked your drive technology and the overall machine design the most.
The value for money was spot on in comparison to the competition."

Norbert Schütz, Managing Director

isy CAM
The perfect CAD/CAM software simply integrated!

Visit us at our factory in Eiterfeld and find out more about the possibilities that our company can offer you from a single source!

Tel.: +49 (0) 6672 - 898 228

iCUTwater eco II

The ideal waterjet machine for the workshop!

Highlights

- Machine construction from proven and stable profile structure
- Complete enclosure with doors/accesses front and rear for clean, safe and quiet operation
- Protected, durable, circulating ball screw drives
- High pressure pump, guide machine, CNC control MADE IN GERMANY!
- Post processor, CAD/CAM software based on Windows® (comprehensive import interface, e.g. for BMP, DXF and many other file formats)
- Minimal space requirement (high pressure pump, sand conveyance, controller all integrated into the machine frame)

Options

- External pumps with up to 4150 bar
- CNC-controlled Z-axis
- Pure water conversion set
- Automatic nesting

Application areas

- Skilled trades
- Workshop machine
- For small and medium-sized companies
- Training and education
- As an alternative processing technology
- As an expansion machine

Typical materials

- Flat materials such as metals and stone up to approx. 15 mm
- Light materials such as foams up to approx. 40 mm

"Cutting all conventional materials"

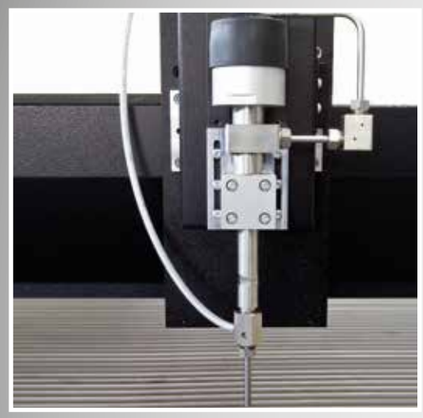
Due to the minimal investment costs, the **iCUTwater eco range** is particularly well suited for individual pieces and small production series. The complete pump and abrasive technology is integrated in the machine. As such, it is easy to transport and fits in anywhere, with its installation space of less than 2 x 2 m. In conjunction with the energy-saving pump and the flexible possibilities of waterjet cutting, the **iCUTwater eco II** is therefore the **ideal workshop machine**.

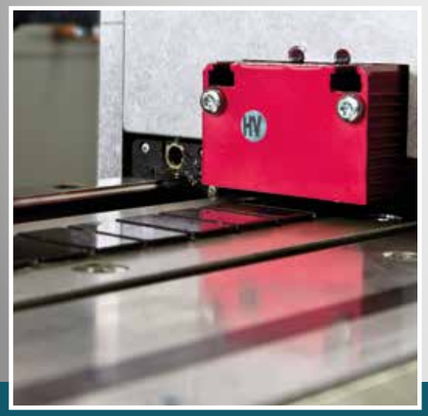
Technical data	iCUTwater eco II 0610	iCUTwater eco II 0611
Machine dimensions (W x H x D) in mm	2150 x 2400 x 1750	
Machine weight in kg	approx. 1500 to 2500	
Travel ranges (X / Y / Z) in mm	1000 / 600 / 100	
Travel speed in m/min	5	
Table bearing capacity in kg/m²	max. 250	
Gantry clearance in mm	70 (optionally 150)	
Repetition accuracy in mm	± 0.02	
Positioning accuracy in mm	± 0.08	
Drive type	Servo motors	
Drive elements (X / Y / Z)	Ball screw, adjustable without play	
Guides	Linear guides with ball circulation slides	
Connection voltage	16 A / 400 V	
Pump type	imes-icore 1.5 to 1500 bar	Uhde (Thyssen-Krupp) up to 3500 bar
Operation	14" notebook and operating keys	
Software	Cos4Mos software package	

Machine dimensions without notebook or additional accessories.

iCUTwater basic III

Extremely economical due to unique value for money!





Highlights

- NC-controlled Z-axis
- Table loading 800 kg/m²
- Cutting water sedimentation tank (4 chambers)
- Complete high pressure pipework
- Infinitely variable abrasive metering and 80 l abrasive storage tank
- Linear motors in X- and Y-axis
- Suitable for pure water and abrasive cutting
- Hand-held operating unit with joystick
- Machine size up to large format available
- Tanks and guiding machine thermally and mechanically separated

Options

- Abrasive desludging system
- Stainless steel tanks
- Start-hole drilling machine
- Second cutting head on a 500 mm crossbeam
- Various pump types, also up to 6200 bar
- Height sensor with collision protection system
- Light barrier / operator protection
- Nesting functions
- Pure water conversion set

Application areas

- Glass industry
- Stone/marble processing
- Machine construction
- Shipbuilding
- Steel construction
- Workshop operation
- Aerospace industry
- Defence engineering/equipment industry
- Building industry
- Medical engineering
- Automotive and automotive supplier industry
- Packaging and paper industry
- Food industry
- Training and education
- Electrical industry

Typical materials

- Steel
- Stainless steel
- Aluminium
- Marble
- Granite
- Glass/bullet-proof glass
- Ceramics
- Composite materials

Modern CNC waterjet systems are suitable for automatically processing almost every contour and every material. However, this standard no longer comes close to satisfying requirements for modern industrial solutions. As an experienced, long-term manufacturer of CNC machine systems, **imes-icore GmbH** has therefore concentrated on the fundamental features with the **iCUTwater basic** range, and has succeeded in developing the most economical and reliable waterjet cutting system presently available on the market. This machine is 100% manufactured in our factory in Germany. All machines and machine parts are subject to our defined ongoing quality controls and comply with strict European standards. A further feature of the **iCUTwater basic** range is the intuitive controller, which has been produced according to modern ergonomic aspects. In this way, less experienced operators are also capable of starting with it immediately, without complex and costly training sessions, which is what one expects from a modern waterjet system:

Waterjet cutting - economically and reliably.

Technical data	iCUTwater basic III 1010	iCUTwater basic III 2010	iCUTwater basic III 3020
Machine dimensions (W x H x D) in mm	2100 x 2200 x 2260	3100 x 2200 x 2260	4100 x 2200 x 3260
Machine weight in kg	approx. 2500	approx. 3000	approx. 3500
Travel ranges (X / Y / Z) in mm	1050 / 1050 / 150	2050 / 1050 / 150	3050 / 2050 / 150
Travel speed in m/min	18		
Table bearing capacity in kg/m²	max. 800		
Gantry clearance in mm	150		
Repetition accuracy in mm	± 0.02		
Positioning accuracy in mm	± 0.05		
Drive type	Linear motors (X / Y) and servo motor (Z)		
Drive elements (X / Y / Z)	Linear drives (X / Y) and play-free adjustable ball screw (Z)		
Guides	Low-maintenance heavy duty steel ball circulation profile rail guides (X / Y) and linear guides with ball circulation slides (Z)		
Connection voltage	16 A / 400 V		
Operation	Mobile control panel		
Software	Cos4Mos software package		

Machine dimensions without control panel or additional accessories.

iCUTwater PLATINUM

Highest demands - without compromises!

Highlights

- Light barrier / operator protection
- CNC-controlled Z-axis
- Table loading 1200 kg/m²
- Abrasive desludging system
- Cutting water sedimentation tank
- Infinitely variable abrasive metering and 200 l storage tank
- Panel position software and additional teach-in software module
- Height sensor with collision protection system
- Start equipment with diamond nozzle
- Automatic nesting function
- Linear motors in X- and Y-axes
- Granite supports for linear motors in Y-axis
- Hand-held operating unit with joystick

Options

- Up to 12 additional cutting heads, on individual motorised Z-axes or crossbeams according to preference
- Stainless steel tanks
- Machine in chosen colour (RAL)
- Start-hole drilling machine, shuttle table
- Various pump types with up to 6200 bar
- Tube cutting device for diameters from 60 to 250 mm
- True 5-axis system for angle error adjustment and arbitrary adjustable setting angle (± 45°)

Application examples

- Glass industry
- Stone/marble processing
- Machine construction
- Shipbuilding
- Steel construction
- Workshop operation
- Aerospace industry
- Defence engineering/equipment industry
- Building industry
- Medical engineering
- Automotive and automotive supplier industry
- Packaging and paper industry
- Food industry
- Training and education
- Electrical industry

Typical materials

- Aluminium
- Marble
- Granite
- Glass/bullet-proof glass
- Ceramics
- Steel
- Stainless steel
- Composite materials

Be it with the high-precision and ultra-dynamic linear drives or the pre-integrated abrasive removal system, make no compromise; instead demand precisely those features from a first-class waterjet cutting system that you require for your success. With the maximum machine quality, you are truly equipped for the future. Do you require multiple cutting heads on an adjustably mounted crossbeam or on individually controlled Z-axes? Automated water level regulation or a tube cutting device? Or even a true 5-axes/3D cutting system with angle error adjustment? We can offer you all conceivable equipment options. Because what are custom solutions for others have long been standard in the range of **imes-icore GmbH**. Allow us to support you on your path to success. Opt for machine tools from the **iCUTwater PLATINUM** range.

Technical data	iCUTwater PLATINUM 3020	iCUTwater PLATINUM 4020	iCUTwater PLATINUM 3060
Machine weight in kg	approx. 3500	approx. 4000	approx. 7000
Travel ranges (X / Y / Z) in mm	3080 / 2050 / 250	4080 / 2050 / 250	3080 / 6050 / 250
Travel speed in m/min	30		
Table bearing capacity in kg/m²	max. 1200		
Repetition accuracy in mm	± 0.01		
Positioning accuracy in mm	± 0.03		
Drive type	Linear motors (X / Y) and servo motor (Z)		
Drive elements (X / Y / Z)	Linear drives (X / Y) and play-free adjustable ball screw (Z)		
Guides	Low-maintenance heavy duty steel ball circulation profile rail guides (X / Y) and linear guides with ball circulation slides (Z)		
Connection voltage	16 A / 400 V		
Operation	Mobile control panel		
Software	Cos4Mos software package		

Machine dimensions without control panel or additional accessories.

iCUTwater micro

Waterjet cutting for the highest demands!

Application examples
- Prototype construction
- Medical engineering
- Automotive and automotive supplier industry
- Aerospace industry
- Jewellery and fashion sector
- Precision parts
- High-end job order production
- Training, education and research

Typical materials
- Aluminium
- Marble
- Granite
- Glass/bullet-proof glass
- Ceramics
- Steel
- Stainless steel
- Composite materials

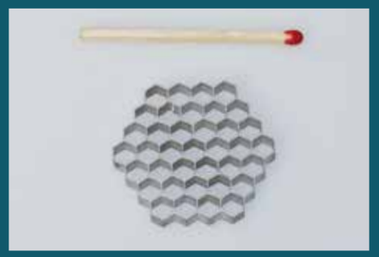
Highlights

- Double sand feed for various grains
- Manual fine adjustment of the cutting head
- Micro cutting head for 0.08 to 0.3 mm jet diameter
- Solid substructure, vibration-free and temperature-resistant granite
- No ribs or cladding sheets, instead a special clamping system
- Connections for tank cooling or sludge extraction system
- Best available external measuring systems
- Smallest installation space
- Linear direct drives
- Dynamic database for micro processing
- Hand-held operating unit with joystick

Options

- Complete enclosure with fume extraction system
- Automated angle compensation ± 9 degrees
- Integrated sludge extraction system
- Machine in chosen colour
- Lifting/lowering device for water level
- Air-conditioning

Micro waterjet cutting is used in all areas where normal waterjet cutting meets its accuracy or delicacy limits. Thanks to the special features of our micro machine range, we are able to control and minimise the waterjet. Furthermore, accuracy-distorting factors can be eliminated and even the smallest contours can be cut without heat input or structural changes.



Repetition accuracy of 0.005 mm

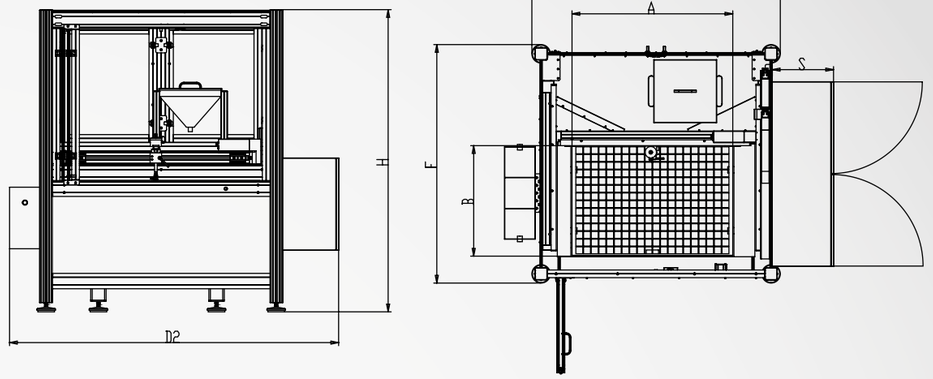
Technical data	iCUTwater micro 0505	iCUTwater micro 1005
Machine weight in kg	approx. 3000	approx. 3500
Travel ranges (X / Y / Z) in mm	550 / 550 / 150	1050 / 550 / 150
Travel speed in m/min	12	
Repetition accuracy in mm	± 0.005	
Positioning accuracy in mm	± 0.01	
Connection voltage	16 A / 400 V	
Operation	Mobile control panel	
Cutting head	Micro cutting head for 0.08 mm to 0.3 mm	
Software	Cos4Mos software package	

Machine dimensions without control panel or additional accessories.

The waterjet range with detailed dimensions

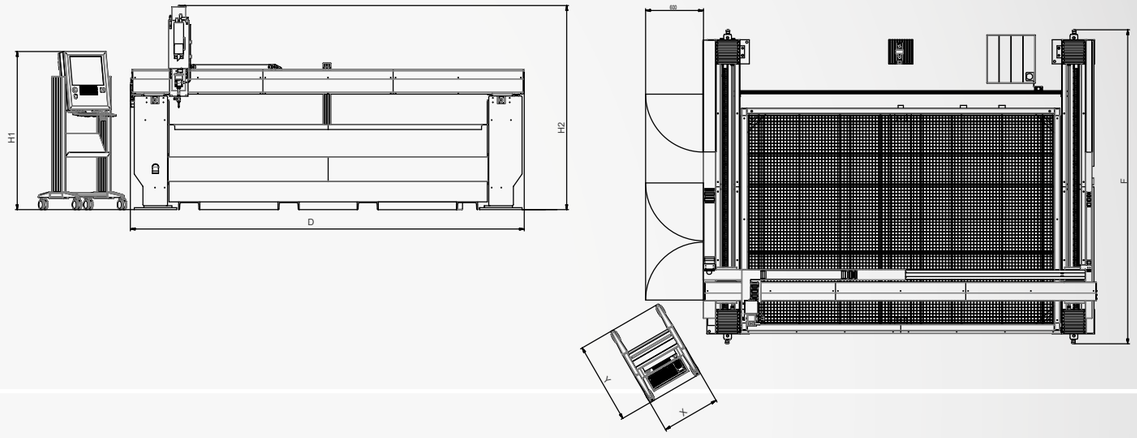
eco

Dimensions in mm	eco
Width A	1045
Depth B	718
Width D1	1615
Width D2	2150
Depth F	1550
Height H	1964
Width S	400



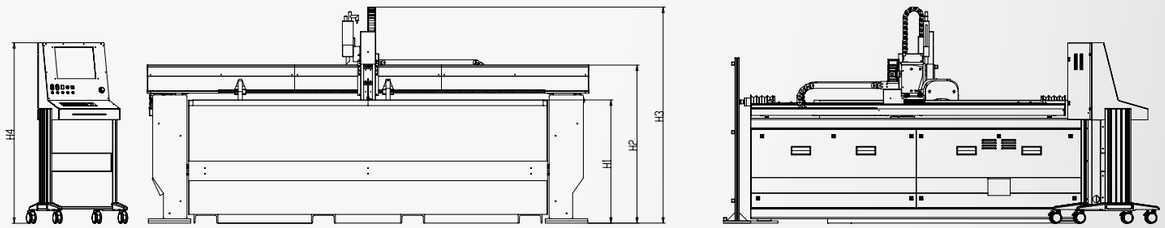
basic

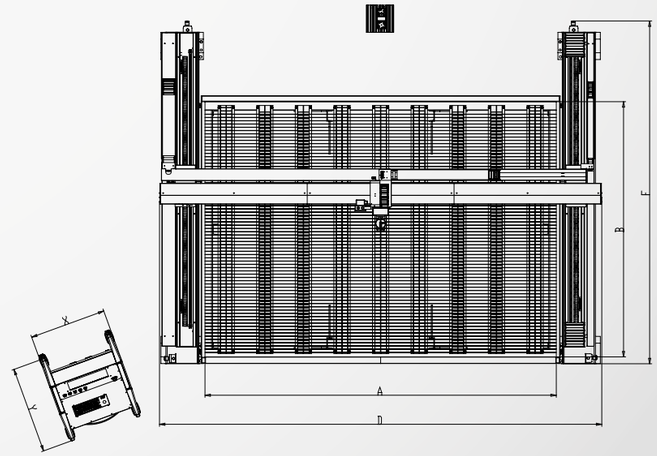
Dimensions in mm	basic 1010	basic 2010	basic 3020
Width D	2100	3100	4100
Depth F	2260	2260	3260
Height H1	1650	1650	1650
Height H2	2200	2200	2200
Width X	705	705	705
Depth Y	850	850	850



PLATINUM

Dimensions in mm	PLATINUM 3020	PLATINUM 4020	PLATINUM 3060
Width A	3200	4200	3200
Width D	3950	4950	3950
Depth B	2200	2200	6300
Depth F	2900	2900	7900
Height H1	900	900	900
Height H2	1300	1300	1300
Height H3	1950	1950	1950
Height H4	1985	1985	1985
Width X	705	705	705
Depth Y	800	800	800





For more information on our **iCUTwater range** waterjet systems, contact our waterjet system specialist directly:

Marco Grohmann

Sales - waterjet systems and laser systems

Telephone: +49 (0) 6672 / 898 485
marco.grohmann@imes-icore.de

Waterjet system accessories

iCUTwater

UHDE

BHDT

KMT

Flexible solutions thanks to various pump types

We offer our customers the possibility of finding solutions especially tailored to their needs. This also applies to selecting the right pump for waterjet systems. Choose from a wide range of models, from economical pumps with an output of 7.5 kW to extremely high capacity pumps with an output of up to 93 kW and **6200 bar**. We currently work with three renowned pump manufacturers. UHDE - places the highest demands on material and processing. BHDT - delivers not only impressive outputs but also saves up to 15 % energy through modern drive concepts. Or KMT, who are able to generate **6200 bar** with their Waterjet PRO ultra high pressure range. However, we are particularly proud of our own pumps. We presently offer two extremely compact and economical pumps with outputs of 7.5 kW and 22 kW - of course, they are **made in Germany.**

Equipment options for waterjet systems

We offer various equipment options from renowned suppliers, such as the proven abrasive equipment from Allfi or KMT. We offer solutions from Metallbau Müller for abrasive desludging options. From simple designs to complex systems, these also enable the water level to be regulated infinitely.

An optical positioning laser, which enables perfect positioning parallel to the cutting head, is also popular. Of course, we are also happy to supply you with individual accessories that we have produced ourselves.

Find out more about the accessory and upgrade options for our CNC waterjet systems at www.imes-icore.de

iCUTwater 5-axis head

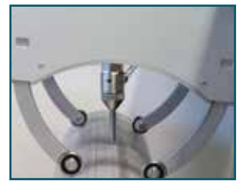
imes-icore GmbH has two aligned cutting head systems available for various 5-axis waterjet processing tasks. Both systems carry out movement around the TCP (tool centre point) and therefore save a large amount of space.

The 10° 5-axis head was developed in order to minimise effects that are detrimental to the cutting results in the cutting angle at very high cutting speeds, as can arise with very high pressures of up to 6200 bar. The effect of this is that the cutting edge no longer runs vertically to the material surface. In order to achieve a quality cut at these high speeds regardless of this, the necessary movements of the cutting head must be implemented highly dynamically, without corrections in X, Y and Z. Through the unique design principle, it is possible to cut endless numbers of "spirals" without a return movement being required. The **imes-icore** in-house developed movement mechanism is particularly space-efficient by limiting the working angle to a maximum of ± 10°, and can therefore be retrofitted to existing machines. The 45° 5-axis head is available with a true 45° cutting device. This enables 2.5D or 3D cuts to be carried out on panel material. The swivel movement is also carried out around the TCP. During the entire cutting procedure, a tailored height sensing system ensures a constant distance between the water outlet and the workpiece surface. This system also enables the user to correct the cutting angle.

iCUTwater tube cutting device

Pipe processing with an abrasive waterjet requires a number of features, in order to guarantee an industrial production process. **imes-icore GmbH** therefore offers its own auxiliary module for your flat material waterjet systems, which enables tube processing without damaging the inside of the tube and without using the customary sacrificial material.

This patented process works quietly and splash-free beneath the water level and requires no costly and vulnerable fourth axis. The pipe is moved purely mechanically without an additional drive. The specialised controller only reads in processed 3D drawings for this. However, the operator without CAD experience can also prepare pipe processing in just a few seconds with macro support. Because the tube cutting device is an additional module, the waterjet system can change between tube and flat material processing with just a few manual adjustments.



Even more flexible with the iCUTwater tube cutting device!