

High precision cutting system for micro component manufacturing

Water Jet Sweden Micro machine is a precision system based on the fine abrasive waterjet technology (FAWJ). The machine has an innovative technical design with a unique set of features. The micro process share all the benefits of traditional abrasive waterjet cutting (AWJ). Environmentally friendly, non-thermal etc.

Micro NCM 10 is built with high-end components to facilitate high precision cutting at extreme tolerances. The FAWJ cutting system with 300 micron jets make it possible to cut very fine features with extremely high precision. A powerful control system enables capability to fully use the highly dynamic motion system. Micro NCM is a useful machine tool in branches like Electronics, Medical, Biotechnology, Fine Mechanics and Jewelry.

TECHNICAL DATA

Construction:	Gantry (WJS world-wide patented guide system)
Frame:	Welded
Cutting Table:	Stainless Steel
Cutting Table Frame:	Mineral Casting Bearlit®
Motion System:	Ballscrew / Renishaw RESOLUTE RELA®
Control Unit:	PanelOne Operator HMI
CNC-system:	FANUC 31i
Number of Z:	1
Processes:	FAWJ (PWJ and AWJ compatible)

PERFORMANCE

Table width:	1010
Table length:	1010
Maximum piece thickness:	100 mm
Positioning accuracy:	± 0.01 mm/300 mm (20° C)
Repetition accuracy:	± 0.008 mm (20° C)

FEATURES

- WJS Micro table frame in Mineral Casting Bearlit® for excellent stiffness, accuracy and absorption.
- A high accuracy invar scale, Renishaw RESOLUTE RELA®, with extremely low expansion coefficient and high resolution.
- The Palletized cutting table offers outstanding opportunities for fixturing. WJS deliver specially designed fixturing tables according to customer needs.
- Rubber suspended stainless steel catcher to avoid vibration and thermal influence.
- Drainage including stainless steel particle settling system to avoid sewer blockage.
- Software controlled fine abrasive feeder and sensor monitoring of critical level in abrasive buffer.
- The WJS Micro Cutting Head is a state-of-the-art precision tool capable of producing one of the most precise abrasive water jets in the world. A pure water jet (PWJ) nozzle assembly can also be fitted to the high pressure jet valve.



General Water Jet Sweden benefits

WJS Worldwide Patent

WJS worldwide patented guide system (EP 0842009, PCT/SE96/00842). The patent is a mechanical, self-adjusting parallel axis system, which eliminate and handle the squareness error between two parallel axes. It gives the same high tolerance and quality performance to all WJS machines independent of size and shape, with benefits like:

- Finer tolerance
- Increased uptime
- Long lifetime on motion system
- Easy calibration on squareness



WJS Motion Systems

WJS motion systems are specifically designed to fit the waterjet cutting processes and are chosen to fit WJS worldwide patented guide system. Our Ballscrew and Linear drives gives dynamic tolerance and high cutting performance.

PanelOne® HMI

All machines are equipped with WJS PanelOne HMI. PanelOne is an easy to use and easy to learn machine control unit. PanelOne has a touch screen operator panel, operator desk with joystick and main function keys, online diagnostic and a number of time saving operating functions.

Fanuc CNC systems

To secure Water Jet Sweden machines as high performance production tools all machines are run with Fanuc CNC systems, who has the best reliability and highest availability in the world.



Turnkey Delivery

To secure machine performance and customer operations Water Jet Sweden always deliver turnkey production units, including installation, training and performance testing, and offer support by WJS service team.

Machine Performance Testing

All Water Jet Sweden machines are thoroughly tested before delivery, using the latest technology from Renishaw, AS XL-80 Laser, ± 0.5 PPM and Q-10 Ballbar. The AS XL-80 Laser is testing the static linear, straightness, angular and circular measurements. The Q-10 Ballbar is a dynamic performance test to secure machine accuracy and repetition.



Service and Support

WJS service team are specialized in waterjet cutting. They are famous for quick problem solving and personal engagement. With our hotline support our technical expertise is available 24/7 and we always send spare parts the same day. With WJS worldwide support and spare parts you get better machine performance, lower cost, improved uptime and longer lifetime.

CERTIFICATE



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