INNOVATION THROUGH PASSION

WATERJET CUTTING SYSTEMS

www.techniwaterjet.com
OUR MISSION

TECHNI WATERJET™ is committed to manufacturing waterjet cutting machines that are easy to operate, reliable, accurate and will last beyond our customers’ expectations.

Features such as:

1. **We were the first company to incorporate a Crash Sensing Break Away Head to a production abrasive waterjet cutting machine.**
2. **We incorporate a unique drive system which utilizes a highly-tensioned, precision stainless steel band, which allows us to achieve very fast cutting and traverse speeds (more than twice as fast as other major brands), while maintaining extremely high tolerances, and being able to withstand the very harsh waterjet environment in the case of water and abrasive coming into contact with the drive system.**
3. **We developed the patented Tech-Sense™ monitoring system that notifies an operator if the cutting head isn’t working efficiently. When connected with the latest mobile phone technology, you can remotely communicate with your machine – ideal for “lights out” operation.**
4. **We incorporate a linear scale feedback on our premium product range “Techjet-X3™”. The linear scales give positional feedback to .001mm (0.00004”), making them the most accurate waterjet machines within their price range by far.**
5. **The patented EZY-Load series of material handling has revolutionized the Glass and Stone industries. The EZY-Loader allows for rapid loading/unloading of these brittle materials with ease.**
6. **TECHNI Waterjet™ is the only waterjet manufacturer to offer the patented “MPG” technology which allows the operator to automatically step through the program – forwards and reverse.**
7. **The PAC 60 is the most advanced 5 axis cutting head available in the World of Profile Cutting Machines. The patented design incorporates Direct Servo Technology that enables the highest level of precision to eliminate taper, while enabling beveling of up to +/- 60 degrees.**

ABOUT WATERJET

Waterjet cutting is an amazing technology. By utilizing some of Earth’s most common resources, water and stone, we are able to cut almost any material in thicknesses up to 8” (200mm). Modern developments in waterjet cutting technology, software, and the machines that drive them has made waterjet cutting the fastest growing machine tool industry on Earth. This is largely due to the fact that waterjet is by far the most versatile cutting process, and with the latest developments has now become very economical. Add to this its simplicity, reliability, and environmental credentials, it’s no wonder waterjet is rapidly becoming the cutting process of choice throughout most industries.

WATERJET BENEFITS

- **VERSATILE**: Waterjet is capable of cutting “any” material including: Stainless Steel, Aluminum, Glass, Marble, Plastic, Rubber, Cork and Wood, just to name a few.
- **POWERFUL**: Capable of cutting up to 200mm (8”) thick steel.
- **ACCURATE**: With waterjet cutting, part deformation is avoided and high cutting accuracy is achieved without leaving any frayed edges or burns.
- **NO HEAT AFFECTED ZONE**: Resulting in less warping of components, increased cutter life on secondary operations and no grinding for weld preparation.
- **FLEXIBLE**: Any two-dimensional shape can be cut by a simple program done on the machine CAD system or from any DXF file either networked, downloaded through the inbuilt modem, or from a USB disk or CD.
- **CLEAN**: Waterjet produces no smoke or toxic gases because there is no burning process.
- **FAST**: Rapid set up times, no tooling and reduced need for secondary operations due to its accuracy and quality of the cut edge.

Darren Reukers  MARKETING DIRECTOR

“TECHNI Waterjet™ is committed to the continuing development of our waterjet cutting machines to ensure that we remain on the leading edge of this remarkable technology and dynamic industry.”

Patent 

Image 536x26 to 829x234
WATERJET IS A “COLD CUTTING” PROCESS THAT PRODUCES NO HEAT AFFECTED AREAS OR BURNT EDGES.

Waterjet is Versatile, Powerful & Accurate.

Due to its very small stream size (approximately 1mm or 0.040") even the most intricate patterns can be cut out. With its extremely high pressure (up to 90,000 psi) materials up to 8” thick are easily cut.

Stainless Steel
Aluminium
Glass
Marble
Plastic
Rubber
Cork
Wood
Exotic Metals
Foam
Granite
Copper
Stone
and more...

GLASS
Glass cutting is an ideal application for waterjet. Without any tooling or set up changes you can go from cutting the most delicate lead light glass, through to the strongest 100mm (4”) thick laminated bullet resistant glass. The very fine cutting stream (approx. 1mm or 0.040”) enables cutting of almost any shape, no matter how fine or intricate, with almost no load from the cutting process being applied to the glass. As long as you can handle it, waterjet can cut it.

“Waterjet cutting has revolutionized how we process our flat glass. No longer do we tie up our expensive, and slow CNC machines with work that can be done much faster on the waterjet.”

Dennis Loudoun
BEVELITE GLASS IN SYDNEY

STONE
Waterjet Cutting of all natural and man-made stones is simple, fast and highly effective. The very small stream size (approximately 0.040”) or 1mm) allows for intricate patterns, while the extremely high pressure (up to 90,000 psi) ensures thick materials (up to 8” thick) can be cut. SoftCut™ Software enables you to go from design to finished part in minutes with very little training and experience.

“Since installing our Waterjet Cutting Machine we have dramatically improved our processing time, while reducing our rejects and making the workshop so much cleaner and quieter. I don’t know how we got by without it.”

Stewart Macciolli
SEELTA MARBLE IN MELBOURNE

GASKETS
The versatility of Waterjet Cutting makes it ideal for the manufacture of gaskets. Capable of cutting anything from hardened spring steels, to non-ferrous materials such as brass and copper to delicate graphite composites and softer materials like rubber and paper. It is ideal for low volume, “one-offs” and prototypes.

“Our waterjets have enabled us to significantly reduce our production and delivery time, while also making savings on materials and producing gaskets of the highest quality.”

David Nordeen
PERISCOPE SEAL AND INSULATORS, TEXAS, USA AND LONDON UK

METALS
Waterjets are extremely powerful, capable of cutting up to 200mm (8”) thick stainless steel. Waterjets don’t care how hard the material is, and whether it’s ferrous or non-ferrous, makes no difference to a waterjet. The very small kerf (approx. 1mm or 0.040”) allows it to produce tight corners, with very high tolerances. Waterjet is a “Cold Cutting” process that produces no heat affected areas or burnt edges. These factors mean that there is little or no secondary operation required for most applications.

“At Merrill Tool and Die we process all types of steel and aluminium materials, in a range of thickness with varying degrees of accuracies. The waterjet lets us take on virtually anything. In fact we were so successful with the first one, we purchased a second one.”

Lee Opsahl
MERRILL TOOL AND DIE IN WISCONSIN

FOAM & RUBBER
Waterjet Cutting is ideal for many foam, rubber, plastic, insulation and woven materials. With an extremely fine cutting stream (down to 0.004” or 0.1mm) very tight nesting and therefore good material yields can be obtained. The high cutting speeds of waterjet (up to 60m/min or 2500”/min) also means that it is extremely fast, especially when combined with automated loading/unloading equipment.

“In my shop, it’s all about speed, versatility and quick response time to our customers, and nothing delivers better than a waterjet.”

Cotton Davis
UNIVERSAL RUBBER PRODUCTS IN NORTH CAROLINA

APPLICATIONS
The Intec-G2® Value Series of Water Jet Cutting Systems represents the greatest “VALUE” for money available in the world of profile abrasive Waterjet cutting. The Intec-G2® can cut almost any material to 8” thick at maximum cutting speeds with minimum Capital outlay. The Intec-G2® is based on the same design platform as the Techjet-X3®. It is these same design solutions that will provide each Intec-G2® customer with a Waterjet machine that lasts longer and requires less maintenance, while delivering an easy to use, fast and accurate system at a very competitive price. This series of machines are particularly well-suited for industries with slightly lower tolerances such as metal fabricating, marble and granite and glass.

The Techjet-X3® series is the latest in our evolution of innovative products to create a precision, easy-to-operate, safe and highly reliable Waterjet Cutting Machine.

**TECHJET® TECH SPECS**

<table>
<thead>
<tr>
<th>Module</th>
<th>T1500-X3</th>
<th>T2000-X3</th>
<th>T4000-X3</th>
<th>T6000-X3</th>
<th>T8000-X3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Size (L x W x H)</td>
<td>2100 x 2600 x 2000 mm</td>
<td>2500 x 3100 x 2000 mm</td>
<td>5000 x 6000 x 2000 mm</td>
<td>8000 x 10200 x 2000 mm</td>
<td>10000 x 13400 x 2000 mm</td>
</tr>
<tr>
<td>Does not include pumps or control cabinet</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Machine Weight (empty)</td>
<td>560 kg (1233 lbs)</td>
<td>1360 kg (3000 lbs)</td>
<td>2560 kg (5660 lbs)</td>
<td>4470 kg (9860 lbs)</td>
<td>6700 kg (14770 lbs)</td>
</tr>
<tr>
<td>Machine Weight (empty) with tank</td>
<td>810 kg (1781 lbs)</td>
<td>1960 kg (4320 lbs)</td>
<td>3670 kg (8080 lbs)</td>
<td>6520 kg (14390 lbs)</td>
<td>9470 kg (20830 lbs)</td>
</tr>
<tr>
<td>Machine Weight (water)</td>
<td>760 kg (1671 lbs)</td>
<td>1700 kg (3740 lbs)</td>
<td>3400 kg (7480 lbs)</td>
<td>6120 kg (13470 lbs)</td>
<td>8700 kg (19180 lbs)</td>
</tr>
<tr>
<td>Cutting Table Size</td>
<td>1050 x 1325 mm (41 3/16&quot; x 52 1/8&quot;)</td>
<td>1380 x 1850 mm (54 1/8&quot; x 72 1/4&quot;)</td>
<td>2700 x 3600 mm (106 1/2&quot; x 141 3/4&quot;)</td>
<td>5400 x 7200 mm (213 1/8&quot; x 283 1/4&quot;)</td>
<td>7200 x 9000 mm (283 1/4&quot; x 354 3/4&quot;)</td>
</tr>
<tr>
<td>Cutting Area</td>
<td>935 x 1250 mm (36 1/2&quot; x 49 1/4&quot;)</td>
<td>1180 x 1560 mm (46 1/2&quot; x 61 3/4&quot;)</td>
<td>2360 x 3120 mm (92 13/16&quot; x 122 7/8&quot;)</td>
<td>4720 x 6000 mm (185 7/8&quot; x 236 1/4&quot;)</td>
<td>5960 x 7875 mm (235 5/8&quot; x 310 1/4&quot;)</td>
</tr>
<tr>
<td>Accuracy of Motion*</td>
<td>± 0.015 mm (0.0006&quot;)</td>
<td>± 0.015 mm (0.0006&quot;)</td>
<td>± 0.020 mm (0.0008&quot;)</td>
<td>± 0.020 mm (0.0008&quot;)</td>
<td>± 0.020 mm (0.0008&quot;)</td>
</tr>
<tr>
<td>Repeatability*</td>
<td>± 0.0025 mm (0.0001&quot;)</td>
<td>± 0.0025 mm (0.0001&quot;)</td>
<td>± 0.0025 mm (0.0001&quot;)</td>
<td>± 0.0025 mm (0.0001&quot;)</td>
<td>± 0.0025 mm (0.0001&quot;)</td>
</tr>
<tr>
<td>Max. Air Speed</td>
<td>19.6 m/min (700 ppm)</td>
<td>19.6 m/min (700 ppm)</td>
<td>19.6 m/min (700 ppm)</td>
<td>19.6 m/min (700 ppm)</td>
<td>19.6 m/min (700 ppm)</td>
</tr>
<tr>
<td>Max. Cutting Speed</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
</tr>
<tr>
<td>Max. Material Thickness**</td>
<td>80 mm (3&quot;)</td>
<td>80 mm (3&quot;)</td>
<td>80 mm (3&quot;)</td>
<td>80 mm (3&quot;)</td>
<td>80 mm (3&quot;)</td>
</tr>
</tbody>
</table>

**IMPORTANT NOTICE:** Due to a constant endeavour to improve the machine, the specifications may change without prior notice. All the above accuracy tolerances are correct at the calibration temperature of 20°C ± 1°C.

*Linear/Axis/Meter. **115 mm (5") with PAC60 cutting head option fitted.

**TECHJET® TECH SPECS**

<table>
<thead>
<tr>
<th>Module</th>
<th>J1500-X3</th>
<th>J2000-X3</th>
<th>J3000-X3</th>
<th>J4100-X3</th>
<th>J6000-X3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Size (L x W x H)</td>
<td>2000 x 2600 x 2000 mm</td>
<td>2500 x 3200 x 2000 mm</td>
<td>3000 x 3600 x 2000 mm</td>
<td>3600 x 4200 x 2000 mm</td>
<td>4200 x 4800 x 2000 mm</td>
</tr>
<tr>
<td>Does not include pumps or control cabinet</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Machine Weight (empty)</td>
<td>400 kg (882 lbs)</td>
<td>1000 kg (2200 lbs)</td>
<td>1520 kg (3330 lbs)</td>
<td>1820 kg (4020 lbs)</td>
<td>2600 kg (5720 lbs)</td>
</tr>
<tr>
<td>Machine Weight (empty) with tank</td>
<td>650 kg (1433 lbs)</td>
<td>1720 kg (3800 lbs)</td>
<td>2730 kg (6010 lbs)</td>
<td>3220 kg (7110 lbs)</td>
<td>4580 kg (10090 lbs)</td>
</tr>
<tr>
<td>Machine Weight (with water)</td>
<td>700 kg (1543 lbs)</td>
<td>1960 kg (4320 lbs)</td>
<td>3200 kg (7030 lbs)</td>
<td>3990 kg (8770 lbs)</td>
<td>5860 kg (12920 lbs)</td>
</tr>
<tr>
<td>Cutting Table Size</td>
<td>1830 x 3050 mm (7' 5&quot; x 10' 0&quot;)</td>
<td>2100 x 4100 mm (8' 3&quot; x 13' 5&quot;)</td>
<td>3050 x 6100 mm (10' 0&quot; x 20' 1&quot;)</td>
<td>4200 x 8000 mm (13' 8&quot; x 26' 3&quot;)</td>
<td>5400 x 10200 mm (17' 10&quot; x 33' 5&quot;)</td>
</tr>
<tr>
<td>Cutting Area</td>
<td>915 x 1350 mm (36 1/4&quot; x 53 1/2&quot;)</td>
<td>1170 x 2250 mm (46 1/8&quot; x 76 3/4&quot;)</td>
<td>2035 x 3825 mm (67 3/8&quot; x 129 3/8&quot;)</td>
<td>3195 x 6000 mm (106 1/8&quot; x 197 5/8&quot;)</td>
<td>4605 x 9200 mm (153 5/8&quot; x 300 7/8&quot;)</td>
</tr>
<tr>
<td>Accuracy of Motion*</td>
<td>± 0.10 mm (0.0039&quot;)</td>
<td>± 0.15 mm (0.0059&quot;)</td>
<td>± 0.20 mm (0.0079&quot;)</td>
<td>± 0.20 mm (0.0079&quot;)</td>
<td>± 0.20 mm (0.0079&quot;)</td>
</tr>
<tr>
<td>Repeatability*</td>
<td>± 0.05 mm (0.001&quot;)</td>
<td>± 0.07 mm (0.0027&quot;)</td>
<td>± 0.10 mm (0.004&quot;)</td>
<td>± 0.10 mm (0.004&quot;)</td>
<td>± 0.10 mm (0.004&quot;)</td>
</tr>
<tr>
<td>Max. Air Speed</td>
<td>16.4 m/min (645 ppm)</td>
<td>16.4 m/min (645 ppm)</td>
<td>16.4 m/min (645 ppm)</td>
<td>16.4 m/min (645 ppm)</td>
<td>16.4 m/min (645 ppm)</td>
</tr>
<tr>
<td>Max. Cutting Speed</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
<td>17.5 m/min (700 ppm)</td>
</tr>
<tr>
<td>Max. Material Thickness**</td>
<td>250 mm (10&quot;)</td>
<td>250 mm (10&quot;)</td>
<td>250 mm (10&quot;)</td>
<td>250 mm (10&quot;)</td>
<td>250 mm (10&quot;)</td>
</tr>
</tbody>
</table>

**IMPORTANT NOTICE:** Due to a constant endeavour to improve the machine, the specifications may change without prior notice. All the above accuracy tolerances are correct at the calibration temperature of 20°C ± 1°C.

*Linear/Axis/Meter. **115 mm (5") with PAC60 cutting head option fitted.
**Winner of the Innovation Award**

"Euroblech 2010 Germany"

**Quantum Electric Servo Pump (ESP)**

Most Innovative Product in the Category

---

**Easy Access**

Spare Parts and Maintenance Tools

---

**Long Life High Pressure Components, Designed for Ease and Speed of Maintenance**

---

**Quick Change Threaded Cylinder Retaining Sleeve for Increased Safety and Fast Maintenance**

---

**Hard Wearing HDPE Work Bench that Resists Chipping, Scratching and will not Damage or Dent Components during Maintenance**

---

**Quick Change Seal Components for the fastest seal change in the industry**

---

**Easy access and improved visual diagnostics**

---

**Superior Design**

Quick-change seal components for the fastest seal change in the industry

---

**Quietest**

<68dBA with almost silent operation

---

**Smallest Footprint**

Over 50% less space required than an average hydraulic intensifier, with a lower profile and is more ergonomic

---

**Longest Life Fittings and Tubing**

Due to the elimination of “dead head” pressure spikes

---

**Easiest Maintenance**

Easy access and improved visual diagnostics

---

**Superior Design**

Quick-change seal components for the fastest seal change in the industry

---

**Smartest**

Intelligent Diagnostic Control reduces maintenance and increases uptime

---

**Environmentally Friendly**

Significantly less consumption of water & power, and minimal oil usage compared to standard hydraulic intensifiers

---

**Quantum NXT™** is capable of producing 20% more power than the original ESP

---

Can be connected to any waterjet machine

---

20% quieter than the original ESP

---

Far superior pressure signal (resulting in smoother edges at a given cutting speed)

---

Improved lubrication and cooling system

---

On board diagnostics via a larger colour touch screen HMI

---

"TECHNI Waterjet™ is proud to introduce the Quantum NXT™, another TECHNI “first” in the waterjet industry. This revolutionary product follows in line behind our other industry “firsts” including Breakaway Head, Precision Stainless Steel Band Drive (PSBD), TechJet-X3® Linear Magnetic Scale Feedback, TechSense™ Abrasive Monitoring System and the PACK™ 5-axis bevel cutting with taper elimination. The Quantum NXT™ demonstrates TECHNI Waterjet™ commitment to developing innovative products that truly benefit the customer.”

Darren Reuelers
MANAGING DIRECTOR
Geometric Global have been developed by one of the world's largest and fastest growing software companies, Softec Nest utilizes advanced nesting algorithms which incorporate the latest cutting speeds, machine ramping profiles, optimal cutting speeds and machine ramping. These algorithms ensure that the cutting process is as efficient as possible, minimizing waste and maximizing productivity. The result is a comprehensive “All in One” Windows-based software, that is specifically designed for Waterjet and CNC Cutting, providing an intuitive interface that even the most inexperienced operator can learn to use quickly and easily. The cutting stream is delivered to the nozzle at the minimum cost with the highest accuracy. With the operator full jogging control in X-Y & Z, as well as manual and remote control pendant, the AM2000 control system allows operators to operate at the same time and simultaneously cut identical parts.

Benefits include:

- Reduces damaged focusing tubes and bent nozzle tubes
- Reduces waste and scrap parts due to lost position
- Protects machine from major damage
- Restarts in the exact same place

**Abrasive Pump and Hopper**

Benefits include:

- Minimum cutting head blockage thanks to the built-in filter screen
- Multiple machines can be run from a single pump/hopper system (up to 15)
- Safer, as it is a closed system and the abrasive is contained
- Virtually no maintenance, as no mechanical moving parts come into contact with the abrasive

**Waste Removal System**

Benefits include:

- Easiest loading, due its height and hinged lid
- Continuous operation without downtime, as there is no need to de-pressure the machine
- Minimized cutting head blockages, thanks to the built-in filter screen
- Multiple machines can be run from a single pump/hopper system (up to 15)
- Safer, as it is a closed system and the abrasive is contained
- Virtually no maintenance, as no mechanical moving parts come into contact with the abrasive

**Remote Control Pendant (M.P.G.)**

The Remote Control Pendant makes setting up your waterjet machine fast, simple and accurate. The RCP gives the operator full jogging control in X-Y & Z as well as along the programmed cut path. This function makes it ideal for finding the exact position to restart cutting if required for any reason.

**Material Handling Solutions**

Electrically actuated tilting arms allow for vertical loading of fragile materials such as glass and stone. The adjustable arms will support the material at the critical areas for loading and unloading, up to a maximum weight of 250kg (550lb).

**Features**

- **60 Degree Bevel Cutting**
  - Capable of producing parts with true angle up to 60 degrees with continuous rotation without having to re-position the cutting head.

- **Taper Elimination**
  - Compensate for predicted taper and produce parts with “Precision Angle Control” with square edges at all cutting speeds.

- **Multi-Pass Cutting**
  - Quick and easy chamfers, weld preparations, countersinks on either or both sides of the plate.

- **Terrain Mapping**
  - Capable of maintaining an exact standoff distance between the nozzle and the work piece, even on plate that is not flat.

- **Extremely Accurate Direct Drive Technology**
  - Capable of producing parts to tolerances of ±0.1 degrees.

- **International Patents Pending**

**AM2000 Servo Control System**

TECHNI Waterjet’s™ new control system, the AM2000, utilizes the very latest in CNC and Digital Servo Drive system. Developed by our control system partner, ANCA, the world leader in CNC Tool and Cutter Grinders. The AM2000 has a Touch screen interface as well as a pointing mouse.

**Rotary Axis**

The Rotary Axis is a Direct Drive motor assembly capable of accurately ±0.1 degrees positioning and contouring a work piece under the cutting stream.

**Innovation Through Passion**

Softec Nest utilizes advanced nesting algorithms which have been developed by one of the world’s largest and most awarded CAD and nesting software developers – Geometric Global.

Benefits include:

- Improves profitability by minimizing rapid feed times
- Increasing both nesting speed and material yield

**Reduction Job Time, Cut Costs, Improve Productivity, Reduce Waste and Improve Management Systems**

Softec Nest utilizes advanced nesting algorithms that have been developed by one of the world’s largest and most awarded CAD and nesting software developers – Geometric Global.

1. To cut parts at the minimum cost with the greatest accuracy.
2. To have a simple and intuitive interface with the operator.

The result is a comprehensive “All in One” Windows-based software, that is specifically designed for Waterjet Cutting, which maximizes productivity and anyone with PC experience can learn to use quickly and easily. At the “Heart” of Softec™ is Tru-Cut Technologies®, a highly sophisticated algorithms database that determines the optimum cutting speeds and machine ramping characteristics. Once you select the material to be cut, it’s thickness and surface edge finish required, the computer will take care of the rest, ensuring the minimum cutting time for any given part.