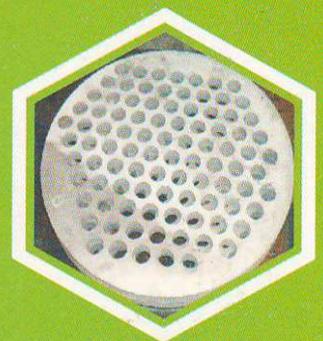


Pioneer in Waterjet Cutting....



WATERJET CUTTING SERVICES  
CNC WATERJET CUTTING SYSTEMS



## ➤ Materials

Unlimited Range of materials up to a thickness of approx 200 mm (dependent on the quality and composition of the material)

- Metal, including stainless steel, aluminium titanium and non-ferrous metals
- Fiber-reinforced synthetics, including carbon and glass-fiber-reinforced plastic
- Plastics, including the rmoplastics and duroplastics
- Hard and soft foam.
- Insulating and isolating materials
- Sandwich and structural materials.
- Wood paper and cardboard
- Sealing materials, including rubber and fabric-based laminates



## ➤ Areas of application

The waterjet cutting production process is in use worldwide in the :

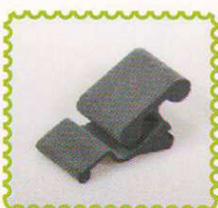
- Metal Artwork
- Metals, exotic & nontraditional materials
- Automotive
- Aerospace
- Electronics Industry
- Foam Products
- Fiberglass
- Gaskets
- Slitting operations/trim & hole cuts
- Medical/Surgical
- Aircraft and spacecraft industries
- Arms industry
- Construction industries
- Interior decoration industries



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## ➤ Pure Water Cutting

This cutting method is primarily used for cutting soft materials such as rubber, foam, gasket, leather, textiles, foodstuffs and many other similar materials. Normal tap water is pressurized at ultra-high pressure levels, and forced through a small precious stone orifice to form an intense cutting stream, the jet stream moves at a velocity of up to 2.5 times the speed of sound, creating the ability to cut at very high feed rates. The rates vary according to the material being cut-refer to the table below.



## ➤ Abrasive Cutting

For your hard materials that cannot be machined with water only the water nozzle nut is replaced with the Active IDE abrasive cutting head the high velocity waterjet creates a vacuum which pulls the abrasive in to a mixing chamber producing a coherent, **extremely energetic abrasive jet stream**. This process is ideal for cutting intricate patterns in sheet metals, composites, decorative stone, synthetic ceramics, glass etc.

## ➤ Main Benefits of Waterjet Cutting

- Extremely fast transition from drawing to cutting
- Faster setup - low tangential forces often eliminate the need for clamping
- high accuracy - eliminates secondary cutting.
- Fast cutting speed
- Eliminates the need to sharpen tools.
- Safer for operators and the environment - Avoids vapor, dust and smoke and does not require expensive coolants
- Cold cutting process - eliminates heat-affected zones, hardened material and material stresses
- Clean finished product eliminates secondary cleaning operations.
- Burr-free finish - eliminates any need for secondary surface finishing for most applications.
- Small kerfs.
- Ideal for quick prototype, flexible production and proven for high volume production.
- Optimum material utilization with MOST2D CAD/CAM software.
- Customized system solutions.

## ➤ Advantages over traditional cutting / machining methods

### Advantages of waterjet cutting over laser cutting

- Can cut many materials laser can't
- Give the same or better tolerances / accuracy
- Can cut thicker materials
- Makes uniformity of materials less important

### Advantages of waterjet cutting over EDM cutting

- Is much faster
- Is able to cut wider range of materials
- Makes uniformity of material less important
- Does not heat the surface.
- Creates no heat-affected zone

### Advantages of waterjet cutting over Plasma cutting

- Produces a better edge finish
- Does not heat the part.
- Is more precise

### Advantages of waterjet cutting over flame cutting

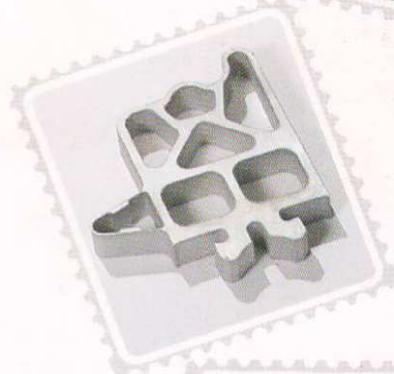
- Produces a nicer edge finish
- Does not heat the part.
- Is more precise

### Advantages of waterjet cutting over milling cutting

- Needs no tool
- Can cut brittle, pre-hardened and difficult materials
- Can produce more parts out of same material

### Advantages of waterjet cutting over punch press cutting

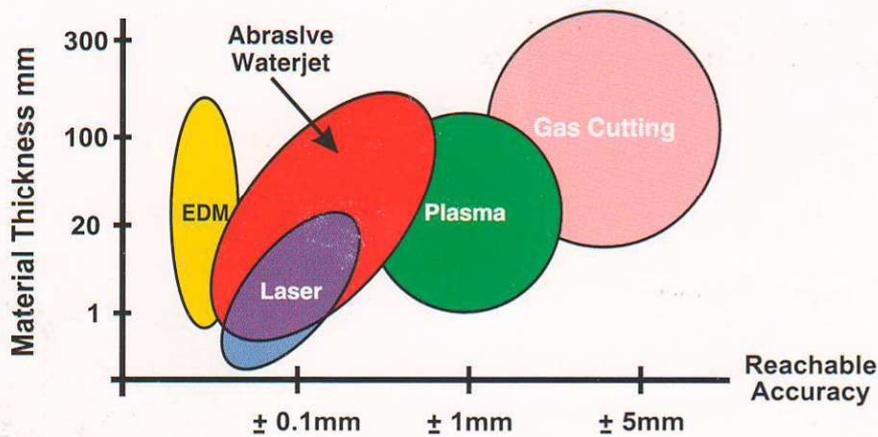
- Is better on thick materials
- Is better on brittle materials
- Is better on hardened materials



## ► Customer Benefits

- Cold cutting without thermal influences.
- Flexible processing of virtually all materials with consistent quality.
- Material saving production due to reduced cutting width and the nesting of several parts on a single sheet
- Maximum degree of material utilization thanks to the smallest of part separation distances (partially free of burrs) and part-in-part production.
- Tension free processed parts due to minimal cutting force.
- Environmentally friendly and clean production without poisonous gases
- Good access to the work area of the waterjet system.
- Optimization of the cutting parameters to meet individual requirements.
- It is possible to indentify the cut parts using waterjet engraving
- High economic efficiency due to narrow bridges or ribs.
- No tool manufacturing and tool storage costs.
- high productivity through waterjet cutting systems and multi layer cutting

## ► Waterjet vs other cutting technologies



  
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