



Ultra High Pressure Pumps



Abrasive & Water Only Cutting Nozzles



Abrasive Systems



PSC (Precision System Components) High Pressure Valves, Fittings & Tubing

*Interested in purchasing your own waterjet system? KMT and their system integrators will deliver a turn-key waterjet system specifically designed for your application and production requirements.*

**800-826-9274**

(ask for contract cutting services)

**www.kmtwaterjet.com**

**e-mail: cut-it@kmtwj.com**

### **What we need to cut your product:**

- **Material Specification** (type & thickness)
- **CAD Drawing** (dxf, jpg & bitmap accepted)
- **Quantity**
- **Tolerance**
- **Date Needed** (typical lead is about 2 weeks, however we are flexible)

Manufacturing history was made in 1971, when KMT Waterjet Systems Inc. (then Ingersoll Rand) installed the first waterjet cutting system at an Illinois cardboard box manufacturing facility. Today, KMT is globally known as a leading manufacturer of reliable, high pressure pump systems and extreme precision cutting nozzles. KMT also supplies high quality parts and components to integrate and facilitate most every cutting application.

The ability to hold a tolerance of .005", permits KMT Waterjet Systems to be used in a wide range of industries from medical equipment to steel & stone manufacturing and food processing.

Keeping the focus on intelligently developing systems and parts for ease of use and reliable operation, along with continual investment in research and development, has made KMT the largest network of system integrators in the world.

KMT waterjets are sold worldwide with offices in Brazil, Canada, China, France, Germany, India, Italy, Korea, Mexico, Poland, Spain, United Arab Emirates and the UK.

Advancing Waterjet Technology  
Worldwide Sales & Support Network  
ISO 9001:2000 Certification; CSA & CE Certified  
Trained, Certified Technicians



## **KMT Waterjet Contract Cutting. Your Way to Cut Production Costs.**

- **Contract Waterjet Cutting Services**
- **Ultra High Pressure Pumps**
- **Waterjet Cutting Nozzles**
- **Abrasive Systems**
- **High Pressure Parts**



**KMT Waterjet Systems Inc.**  
635 West 12th Street  
Baxter Springs, KS 66713



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- For more than 30 years, KMT has been in the forefront of developing methods for effective waterjet cutting - from the world's first test application, to today's modern, high performance applications and techniques.
- Virtually any material can be cut, from the softest plastics and finest foods to stoneware and high strength steel without deformation or heat impact.
- Waterjet cutting is environmentally friendly, produces no fumes, has no heat impact and it allows cutting or perforation even in soft or fragile materials.
- Large and small cutting jobs are done in the KMT cutting lab located in Baxter Springs, KS using state-of-the-art, extreme pressure waterjet systems.

### Pure Water Cutting

This cutting method is primarily used for cutting soft materials such as rubber, composites, leather, carpet, textiles, foam, food and similar materials. Normal tap water is compressed at ultra-high pressure levels and forced through a small precious stone (sapphire, ruby, diamond) 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. reducing costs and increasing production runs.

### Abrasive Cutting

For your hard materials that cannot be cut with water only, the water nozzle nut is replaced with the Autoline II™ or IDE™ abrasive cutting heads. The high velocity waterjet creates a vacuum which pulls the abrasive (usually garnet) into a mixing chamber, producing a coherent, extremely energetic abrasive jet stream. This process is ideal for cutting intricate patterns in sheet metals, composites, granite and etc. The rates vary according to the material being cut. See reference table below for common material cutting speed rates.

### How KMT Waterjet Cutting Service fits with your application:

- Can handle hard to cut, low volume, short run pieces or prototypes
- Capable of cutting any 2D drawing (dxf, CAD, jpg & bitmap preferred)
- Precision to within .005"
- Very narrow cutting kerf "blade" (± 0.033")
- You can provide materials (or specify the materials and we'll take care of the rest)
- Environmentally safe, price competitive & economical

### Why KMT Waterjet Cutting Service fits with your application:

- "No Heat" clean cutting eliminates heat affected zones
- Reduces or eliminates secondary operations
- Quick proto-typing
- Can cut up to 8" thick material (depending on material)
- Opportunity to watch material being cut to ensure quality
- Can cut, but not limited to, steel, titanium, brass, aluminum, castings, cardboard, untempered glass, rubber, composites, ceramics, Kevlar, stone, tile, granite, leather, carpet, textiles, foam, food and more!\*



Motorcycle luggage rack cut in the KMT Waterjet Cut Lab (Baxter Springs, KS)

\* Materials to avoid are tubes, tempered glass, and inconsistently dense material, such as foam sandwiched between layers of titanium.

### Abrasive Waterjet Cutting Speeds

Approximate Inches per Minute

At 60,000 PSI (4.137 Bar)

Material	Material Thickness	Orifice Diameter			
		0.007"	0.010"	0.012"	0.014"
Aluminum	0.25" (6mm)	12 - 19	23 - 34	30 - 47	38 - 58
	0.50" (13mm)	6 - 8	11 - 15	13 - 21	17 - 26
	0.75" (19mm)	3 - 4	5 - 7	6 - 10	8 - 12
Stainless Steel	0.25" (6mm)	4 - 6	8 - 12	10 - 16	13 - 20
	0.50" (13mm)	2 - 3	4 - 5	5 - 7	6 - 9
	0.75" (19mm)	1 - 2	2 - 3	2 - 3	3 - 4
Titanium	0.25" (6mm)	5 - 7	9 - 13	12 - 19	15 - 23
	0.50" (13mm)	2 - 3	4 - 6	5 - 8	7 - 10
	0.75" (19mm)	1 - 2	2 - 3	2 - 4	3 - 5
Marble	0.25" (6mm)	14 - 17	22 - 31	28 - 44	36 - 54
	0.50" (13mm)	6 - 8	10 - 14	13 - 20	16 - 25
	0.75" (19mm)	3 - 4	5 - 6	6 - 9	7 - 11
Glass	0.25" (6mm)	20 - 31	39 - 56	49 - 79	63 - 96
	0.50" (13mm)	9 - 14	18 - 25	22 - 35	29 - 43
	0.75" (19mm)	4 - 6	8 - 11	10 - 16	13 - 19
Abrasive Flow Rates Used (Pounds/Minute Medium-Fine Grade)		0.4 - 0.6	0.7 - 1.0	0.9 - 1.5	1.3 - 2.0

