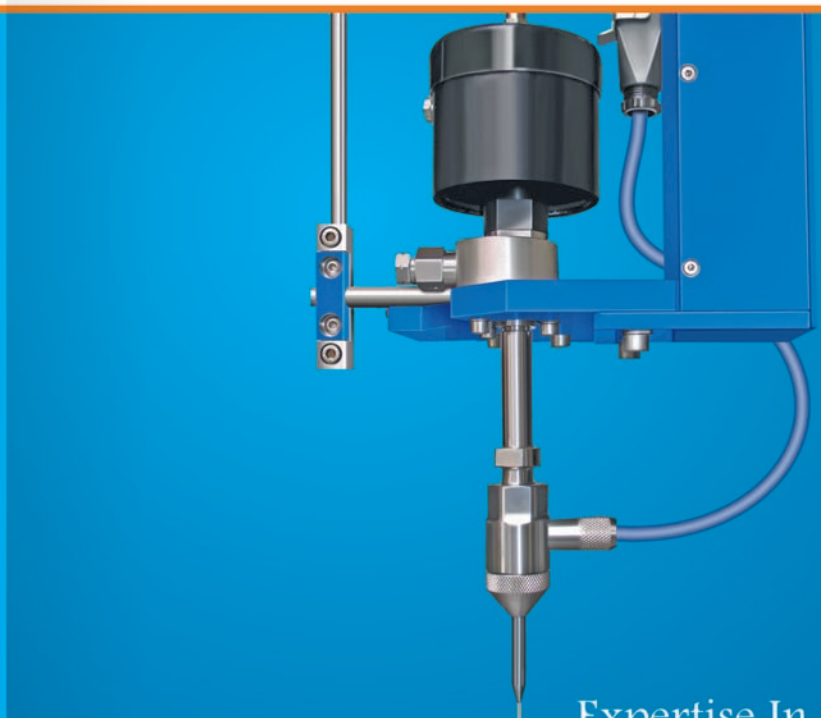
Ainnovative International Ltd.

METAL

STONE

GLASS

CERAMICS



Expertise In Waterjet Cutting

www.ainnovative.in

Ainnovative
WATERJET CUTTING MACHINE

» COMPANY PROFILE

» With the passage of the 20th century, the dawn of the new millennium brought in a sea change in the development of industries worldwide and the scale of new technologies. Anticipating the bright prospects that this era promises, we, A Innovative International Ltd., were established in 2000. Since then, we have never looked back and have steadily climbed the steps to success.

» Today, we have attained an excellent reputation as a Manufacturer, Exporter, Supplier, and Service Provider of specialized water jet machines and allied products all over the world. Our areas of technical expertise include CNC Water jet Cutting Machines and Ultra High Pressure Pump in the same discipline.

Visionary Promoters

» MISSION

» To achieve market leadership with customer satisfaction by providing innovative, cost effective, and high quality products in the domestic and international market with strong after-sale services.

» We work on our mission to provide high utility water jet equipments and strive to achieve excellence and growth through innovation and full application of modern technology. Our advanced quality control systems and expert management enable us to make international standard products and cater satisfactorily to our customers.

Designing Department

» VISION

» **To be known as 'The Father of Indian Waterjet Industry'.**

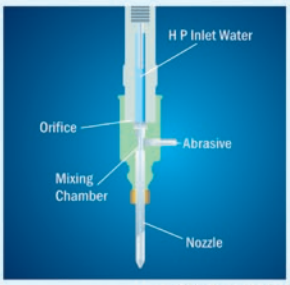
» In order to meet our set goals, we are committed to do 360° innovations in our products and services. We, at Ainnovative International Ltd., believe in accomplishing all that what can only be imagined. We operate on the principles of integrity, trust and teamwork in order to deliver valuable products to our customers.

» We can proudly say A Innovative International Ltd. is the company with core value essence of high quality products and perfect marketing network, occupying good position in the domestic and overseas markets.

» We are committed to provide our employees with challenging works, professional growth, a safe & enjoyable work environment, and rewarding compensations and benefits.

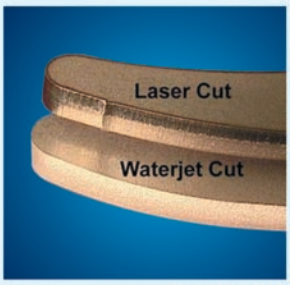
Laser Interferometer Calibration

Catering The World



Cutting Head


Lay-Out Plan



Comparison


Samples Of Abrasive Waterjet Cutting


Samples Of Pure Waterjet Cutting

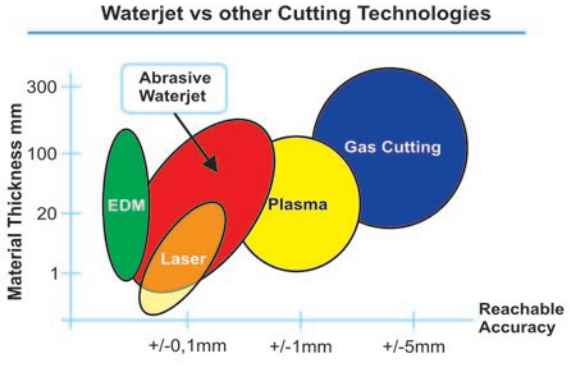
» THEORY OF WATERJET CUTTING

Waterjet machine uses cold supersonic abrasive erosion to cut almost any materials both metals and nonmetals. The highly pressurized water stream is forced through a tiny area resulting in formation of waterjet. Abrasive garnet is mixed to this jet in the mixing chamber making it an Abrasive Waterjet which erodes away the material.

» ADVANTAGES OF WATERJET TECHNOLOGY

» Cold cutting without thermal influences » Flexible processing of virtually all materials with consistent high quality » Material-saving production due to reduced cutting width and the nesting of several parts on a single sheet » Maximum degree of material utilization due 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 identify the cut parts using waterjet engraving » Close linking with the CAD/CAM programming system » High material savings due to narrow bridges or ribs » No tool manufacturing and tool storage costs » High productivity through multihead cutting systems and multilayer cutting » High-performance drive system, which permits high-precision production of parts as well as the highest of processing speeds » The combined production using waterjet cutting machines and milling centres guarantees economical processing. The parts can be prefabricated and nested and only high precision areas are postworked. » Fast setup and rapid programming » Minimal requirement of fixture

» WATERJET VS OTHER CUTTING TECHNOLOGIES



Particulars	Waterjet	EDM	Laser	Plasma	Gas Cutting
Thickness	+ +	+ +	-	+ +	+ +
Quality – Surface Finished	+ +	+ +	+	-	- -
Saving Finishing Operation	+	+ +	+	-	- -
Speed	-	- -	+ +	+ +	+
Universality	+ +	- -	+	-	-
Environmental Friendliness	+ +	- -	- -	- -	- -
Flexibility	+ +	-	+	-	- -
Heat Affected Zone	+ +	+ +	-	-	- -
Metalurgical Damage	+ +	+ +	-	- -	- -
Total Processing Time	+ +	+ +	+	-	- -
Operation Cost	-	+	-	+	++
Investment Cost	100%	60%	200%	80%	40%

» ADVANTAGES OVER TRADITIONAL CUTTING / MACHINING METHODS

» ADVANTAGES OF WATER JET CUTTING OVER LASER CUTTING

» Can cut many materials laser cannot » Gives the same or better tolerances / accuracy » Can cut thicker materials » Makes uniformity of material less important » Creates no heat-affected zone.

» 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.

» ADVANTAGES OF WATERJET CUTTING OVER PLASMA CUTTING

» Produces a better edge finish » Does not heat the part » Is more precise » Is able to cut wider range of materials

» ADVANTAGES OF WATER JET CUTTNG OVER FLAME-CUTTING

» Produces a nicer edge finish » Does not heat the part » Is more precise » Is able to cut wider range of materials

» 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

» CUTTING TABLE

» We are proud to introduce DWJ (Desire Water Jet) series table to satisfy the desire of CNC profile cutting in every industry.

» Size of the table can be selected as per the Length x Width of the material sheet.

DWJ14 Flying Arm Structure

DWJ15/20 Flying Arm Structure

» DWJ Flying Arm CNC Cutting table Series

Model		DWJ1425-FB	DWJ1313-FB	DWJ1520-FA/B*	DWJ1525-FA/B*	DWJ2020-FB	DWJ2025-FB	DWJ2030-FB	DWJ2040-FB	DWJ2060-FB	DWJ2080-FB
Cutting Area	X-axis	1400mm	1300mm	1500mm	1500mm	2000mm	2000mm	2000mm	2000mm	2000mm	2000mm
	Y-axis	2500mm	1300mm	2000mm	2500mm	2000mm	2500mm	3000mm	4000mm	6000mm	8000mm
	Z-axis	200mm	150mm	150mm	150mm	150mm	210mm	210mm	210mm	210mm	210mm
NC System		NC Studio PC Based Control System	Washing 320 W / Fagor / Siemens							Fagor / Siemens	
Positional Accuracy		±0.05mm	±0.04mm								
Repeat Accuracy		±0.05mm	±0.04mm								
Traverse Speed		20m/min max.	0-3m/min for (A), 0-15m/min for(B)								

* A : Stepper Drive | * B : A. C. Servo Drive

DWJ 15 Bridge Structure

DWJ 30 Bridge Structure

» DWJ Bridge CNC Cutting table Series

Model		DWJ1515-BB	DWJ1525-BB	DWJ1530-BB	DWJ3020-BB	DWJ3025-BB	DWJ3040-BB	DWJ3060-BB	DWJ3080-BB	DWJ46126-BB
Cutting Area	X-axis	1500mm	1500mm	1500mm	3000mm	3000mm	3000mm	3000mm	3000mm	4600mm
	Y-axis	1500mm	2500mm	3000mm	2000mm	2500mm	4000mm	6000mm	8000mm	12600mm
	Z-axis	210mm	210mm	210mm	210mm	210mm	210mm	210mm	210mm	310mm
NC System		Washing 320 W / Fagor / Siemens				Fagor / Siemens				
Positional Accuracy		±0.04 mm								±0. 05mm
Repeat Accuracy		±0. 04mm								±0. 05mm
Traverse Speed		0-3m/min for (A), 0-15m/min for(B)								0-20m/min

High Precision Ball Screw

Auto-Lubrication System

Good Quality Cable Carriers

Long Lasting L.M.Guide

CNC Controller (Siemens/Fagor)

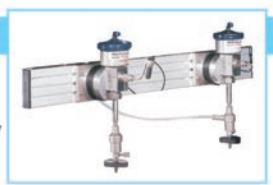
» CAM Software

» Smarter & Easier to use.
» Auto- transforming CAD files into G Codes and M Codes.
» This software has feature of Sharp Angle slow down to generate perfect profile.
» The CAD Module has library of various shapes.
» Software can simulate the track before cutting.
» The Nesting Module supports Auto and Manual Nesting with option of Move, Rotate, Mirror, Array operations with multi part selection facility.
» The CAD Module supports the definition of process data including Lead In, Lead-Out, Marker, drill, cut-style, stitch, corner loop etc.
» Open database can save the cutting parameters of different materials. Without inputting the parameter again, you can use them in your CNC programs only by a mouse click.
» It gives the total cutting length and the time needed for the job. This data will be useful to quote or estimate delivery schedule.

» OPTIONAL

MULTI CUTTING HEAD

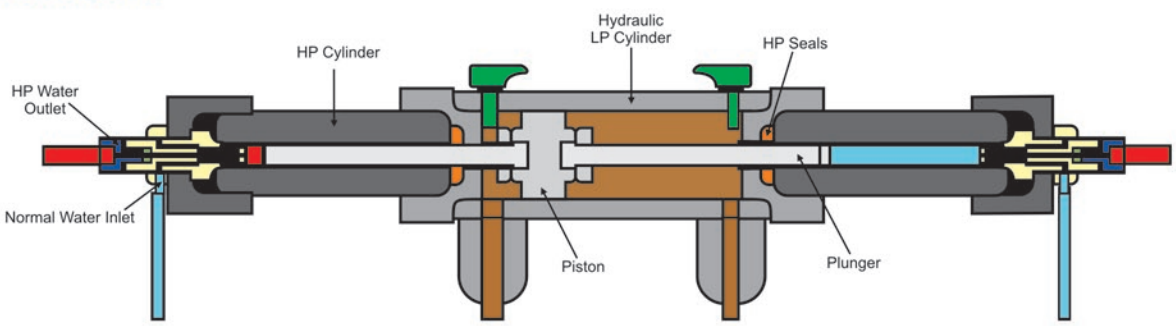
With multiple cutting heads, Waterjet increases the cutting efficiency which results in saving of time and thereby increases the production and decrease the production cost.



» ULTRA HIGH PRESSURE PUMP SYSTEM

» ULTRA HIGH PRESSURE PUMP can be selected as per the material, thickness and required cutting speed.

» Intensifire Diagram



» TECHNICAL PARAMETERS OF UHP PUMP SYSTEM

Parameter / Model	Max. Pressure (bar/psi)	Max. Flow Rate (l/min)	Orifices* Dia (mm)	No. of Nozzles (pcs)	Power (Kw / HP)	L x W x H (m)
DIPS6-2230	3000/40,000	3.1	0.25	1	22 / 30	1.6 x 0.9 x 1.2
DIPS9-3040	3800/55,000	3.7	0.30	1	30 / 40	1.7 x 1.0 x 1.2
DIPS7-3740	4136/60,000	3.7	0.25	2	37 / 50	1.7 x 1.5 x 1.4
			0.35	1		
DIPS9-6040	3800/55,000	7.4	0.30	2	60 / 80	1.5 x 1.2 x 1.6
			0.45	1		
Power supply : 3 Phase 220/380 / 415 VAC, 50 / 60 Hz Or As Required						

» ULTRA HIGH PRESSURE PUMP SYSTEM

» ULTRA HIGH PRESSURE PUMP can be selected as per the material, thickness and required cutting speed.

JETLINE JL-I

STREAMLINE SL-V CLASSIC

STREAMLINE SL-V PLUS

PRO-I 125D

» TECHNICAL PARAMETERS OF UHP PUMP SYSTEM

Parameter / Model	Max. Pressure (bar/psi)	Max. Flow Rate (l/min)	Orifices* Dia (mm)	No. of Nozzles (pcs)	Power (Kw / HP)	L x W x H (m)
Jetline JL-I 30	3800/55,000	2.3	0.25	1	22/30	1.7x0.9x1.2
Jetline JL-I 50	3800/55,000	3.8	0.25	2	37/50	1.7x0.9x1.2
SL-V-30 Classic	3800/55,000	2.3	0.25	1	22/30	1.7x0.9x1.2
SL-V-50 Classic	3800/55,000	3.8	0.25	2	37/50	1.7x0.9x1.2
SL-V-30S Plus	4136/60,000	2.1	0.25	1	22/30	1.7x0.9x1.5
SL-V-50S Plus	4136/60,000	3.6	0.25	1	37/50	1.7x0.9x1.5
SL-V-60S Plus	4136/60,000	4.2	0.25	2	45/60	1.7x0.9x1.5
SL-V-75S Plus	4136/60,000	5.4	0.25	2	56/75	1.9x0.9x1.5
SL-V-100S Plus	4136/60,000	7.2	0.25	3	75/100	1.9x0.9x1.5
SL-V-150D Plus	4136/60,000	9.1	0.25	4	112/150	2.3x1.7x1.7
SL-V-200D Plus	4136/60,000	13.6	0.25	6	149/200	2.3x1.7x1.7
PRO-I 60S	6200/90,000	2.4	0.25	1	45/60	1.7x0.9x1.5
PRO-I 125D	6200/90,000	5.5	0.25	2	93/125	2.4x0.9x1.5

* The maximum quantity of orifices installed can be increased or larger orifice sizes can be installed by reducing the working pressure. Please feel free to contact us for your individual calculation.

» OPTIONAL

» ABRASIVE MANAGEMENT SYSTEM

The three main components of the AMS III abrasive management system :

1. ABRALINE III abrasive storage and supply system
2. FEEDLINE IV abrasive metering system
3. ACTIVE AUTOLINE II or ACTIVE IDE I abrasive cutting head system

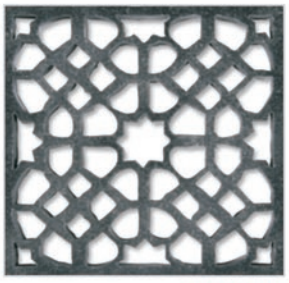
» AUTO ABRASIVE DELIVERY SYSTEM

» It has the capability of storing abrasive and deliver the abrasive to the hopper automatically. The design shows our continuous effort to improve efficiency and reduce labor requirements.

» High sensitive sensor gives indication to operator when the hopper is empty.

» With 170 liters abrasive storage capacity, system can supply abrasive for continuous operation of 500 to 800 minutes.

Foam



Stone Jali

Glass

Ceramics

Plastic

» WATERJET APPLICATIONS

» CERAMICS / STONES

» Floor Medallions » Tabletop Inlay » Wall Inlay » Metal Inlay » Outdoor Stone (Pool Decks, Custom Stepping Stones, Entryway Etc.) » Border Tiles » Artistic & Architectural Designs / Murals » Stone Furniture » Kitchens / Countertops

» GLASS/METAL ARTWORK

» Flooring Inlay » Tabletop Inlay » Wall Inlay » Metal Artwork (Outdoor, Theme Parks, Special Lighting, Museum Silhouettes, etc.) » Flat glass with numerous contours » Stained glass (Crafts, Church Mosaics, Llamp shades, etc.) » Bullet proof glass » Optical glass

» METALS, EXOTIC & NONTRADITIONAL MATERIALS

» Metals (Aluminum, Stainless steel, Mild steel, Titanium, Alloys, Brass, Inconel, Carbon steel, Copper, etc.) » Kevlar » Laminates » Phenolics » Wax - Plastics (high and low density)-Plexiglas » Acrylics » Leather » Wood

» AUTOMOTIVE

» Interior & Exterior Trims (Headliners, Carpets, Liners, Dumpers, Door & Instrument Panels, Seats, Composite Parts & Castings) etc.
» Robot waterjet can cut an automobile interior in any angles and separate scraps automatically.

» AEROSPACE

» Titanium bodies for aircrafts » Engine components (Aluminum, Titanium, Heat-resistant Alloys) « Aluminum body parts » Tough ceramics
» Interior cabin panels including soft plastics, Carpeting, foam & fabric for seats etc. » Most of the composites.

» ELECTRONICS

» Circuit boards (Populated and Unpopulated) » Cable Stripping (Insulation Coverings) etc.

» FOAM PRODUCTS

» Custom foam packaging » Dense foams (Sound Insulation, Vibration Isolation, Archery targets, etc.)

» FIBERGLASS

» Home insulation » Panel insulation (Typically 4' X 8' Sheets cut to fit specific applications) » Boat & Personal water craft bodies etc.

» GASKETS

» Gaskets of Asbestos, Rubber, Teflon, Copper, Titanium, etc. for end-users & O.E.M in industries like Automotive, Marine, Engineering, Aerospace and many more.

» SLITTING OPERATIONS / TRIM & HOLE CUTS

» Corrugated Box board & Paper (Where product wetting is not crucial) » Cement sheet » Food (Meat, Sea food, Bakery items etc.)

» INSTITUTES

» To teach waterjet m/c as an innovative cutting technology to students » Many of the larger size Institute that Offer engineering classes also have waterjet to provide job-shop services to other departments » To do R & D » To make projects.

» JOB & MACHINE SHOP APPLICATIONS

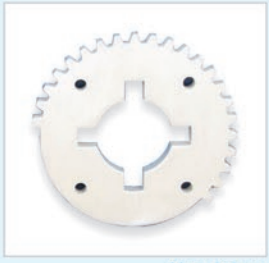
» Job and machine shops use the unmatched versatility of waterjets to expand their capabilities beyond what Is possible with machining centers, lasers, EDM or mills. When using Waterjet they can throw out pre-conceived Ideas which are traditionally Considered as a "Difficult Applications."

» MEDICAL/SURGICAL

» To blanking out surgical instrument from special steel alloys » Cutting artificial limb components » In manufacturing carbon braces and orthopedic implants » Making Prototype

Metal

Thick Metal



Aluminium

Titanium

Orthopedic Implants

Waterjet Grill

Evolution

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WJTA WaterJet Technology Association U. S. A. FIRST INDIAN MEMBER

AHMEDABAD MANAGEMENT ASSOCIATION

GUJARAT CHAMBER OF COMMERCE & INDUSTRY GCCI

Ahmedabad Foundry & Engineering Cluster

VCCI