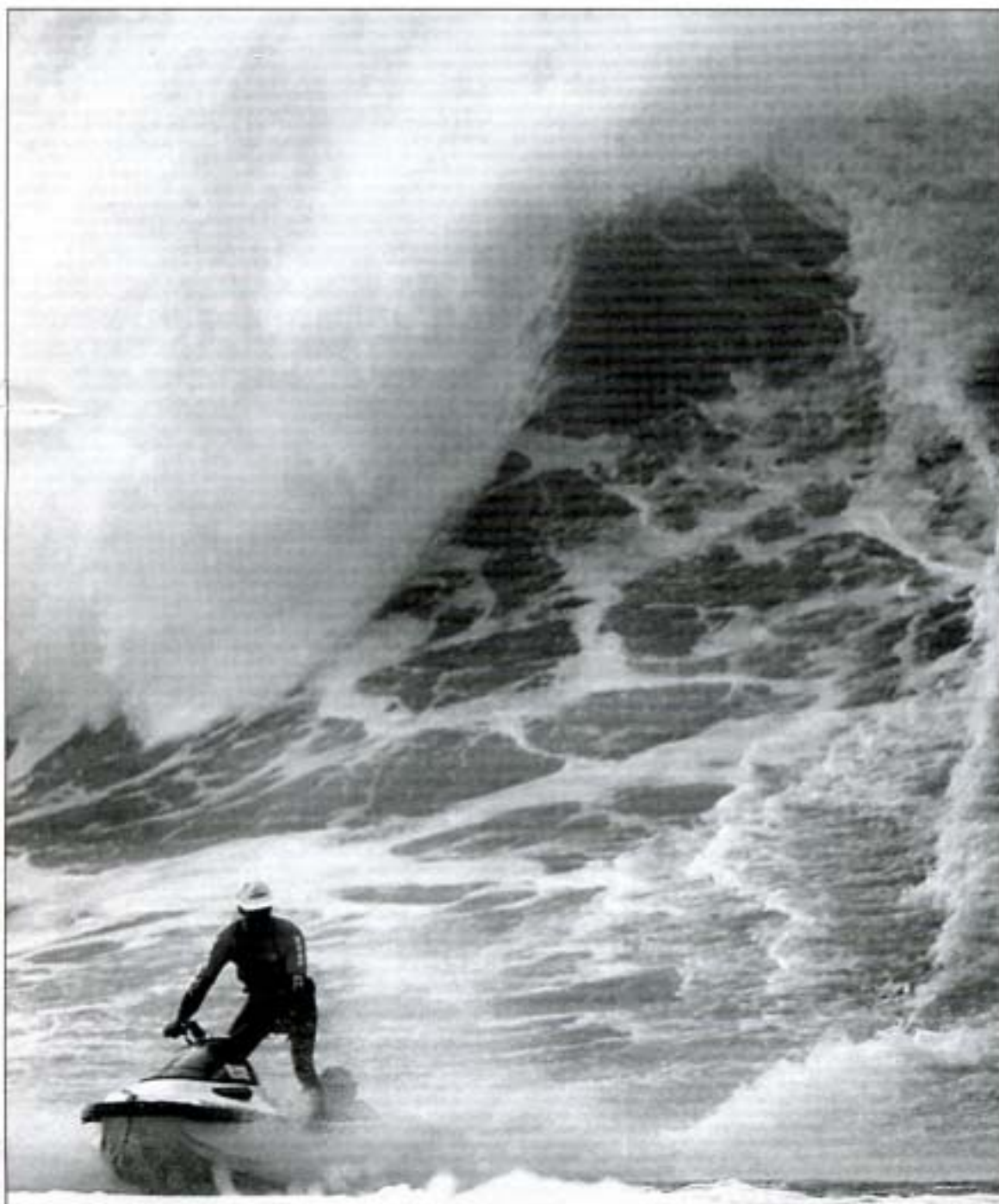




Lives Saved By Waterjet Powered Lifeguards

By Paul Rozycki



If you plan on a Hawaiian or Southern California surfing vacation, you may end up having a waterjet powered craft to thank for saving your life. Today lifeguards at the highest and most dangerous surfing beaches of the ocean's playlands are using waterjet powered personal water craft. The impact of this technology has been tremendous. Save rates are much improved, with industry estimates of people saved from drowning thanks to waterjet boats currently in the thousands.

This significant improvement in ocean life guarding happened when a lifeguard at Waimea Beach, one of the world's most famous surfing beaches, hit

(continued on
page 5)

Abstracts Due Now For 9th American Waterjet Conference

Authors who wish to present papers at the 9th American Waterjet Conference should submit abstracts immediately to ensure consideration. Although the deadline date for abstract submission has passed, abstracts will be accepted through December 30, 1996.

To submit an abstract(s) please complete the Abstract Submission Form enclosed and forward to the attention of the Conference Coordinator at the Waterjet Technology Association.

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Dear Jet News:

With reference to my article published in the December 1995 issue of the *Jet News*, page 7, titled, "Cutting Acoustical Fiberglass Panels," I wish to follow up on the statement concerning the expected increase in the longevity of our consumable jet components due to the lubricity of the Super-Water® additive to plain water.

As discussed in my previous article, Decoustics Limited is a leading designer/manufacturer of custom fabric, vinyl and spray coated architectural acoustical wall and ceiling panels, hanging baffles, screens and banners. Decoustics has, since 1988, employed a fully automated robotic ultra-high pressure panel cutting and marking system to ensure accuracy in panel size and identification.

The robotic cutting system, designed by Spar Aerospace Limited, consists of a Flow Systems Model 6X intensifier pump with an Instajet pneumatically actuated on/off valve with integral nozzle and a 5 foot by 12 foot cutting bed. The cutting speed of the system varies from 1 inch per second to 20 inches per second. The majority of acoustical panels are cut at 20 inches per second.

The custom sized panels are pre-nested and cut out of standard fiberglass sheet stock. Fiberglass sheets are composed of industrial insulation made up of inorganic glass fibers formed with a thermosetting resin into flexible rigid rectangular boards with a density of 6-7 pounds per cubic foot. Sheets are stocked in various thicknesses and sizes of 4 feet x 8 feet, 4 feet x 10 feet, 4 feet x 12 feet, 5 feet x 8 feet and 5 feet x 10 feet. The system is capable of cutting 10-15 patterns an hour more or less with a weekly panel output of approximately 1200+ units. Water usage by the system is 7-12 gallons per shift. Current estimates have shown that, on average, the water flow through the orifice is 5-6 minutes per work center hour and the valve on/off cycles vary from 1 cycle per pattern to 10 or more cycles per pattern depending on the panel optimization algorithm.

Purchases since 1993 indicate that there has been a significant increase in the longevity of our consumable jet components, particularly the intensifier high pressure seals.

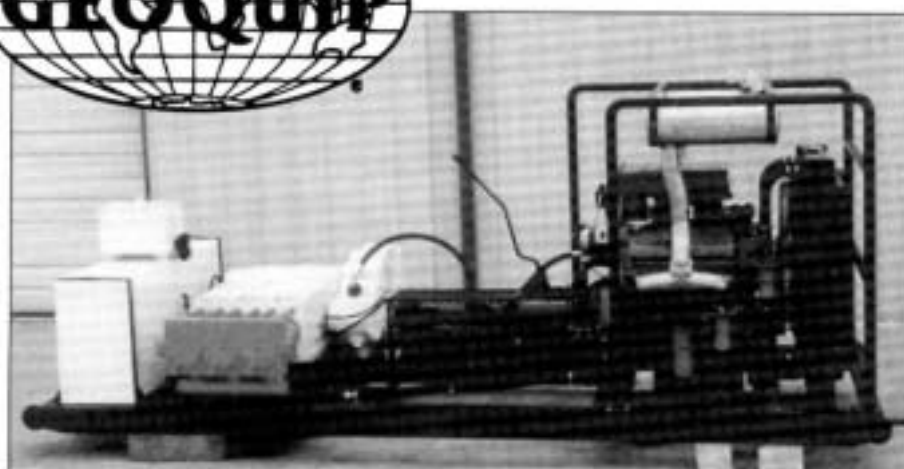
Operational costs are given below. The costs indicated are based on consumable jet components (i.e. Poppet Assembly & Seal Kits, Orifice Mount Sapphires, and High Pressure Seal Kits) per estimated water jet hour. Total waterjet hours is based on high-pressure water flow through the orifice.

| <u>Date</u> | <u>\$ Per Hour</u> |
|--------------------------|---|
| 1993 | \$11.12 |
| 1994 | \$10.19 |
| 1995 | \$10.48 |
| 1996 to date | \$5.70 |
| 1996 year end Forecast A | \$4.96 (adding one Orifice Mount Sapphire) |
| 1996 year end Forecast B | \$6.86 (adding one Orifice Mount Sapphire and one Poppet Assembly with Seals) |

(continued on page 11)



Waterblast Skid



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*Optional: Oil-less packing available.

Skid Performance: Engine RPM - 2100 • Max. Pump Rod Load - 62,850 lbs.
Input BHP - 325 • 100% VE; 90% M.E.

| Plunger Diameter | Gal Rev. | MAX PSI/GPM | MAX GPM/PSI |
|------------------|----------|-------------|-------------|
| 1 | .06 | 45,000/9.7 | 23/21,700 |
| 1-1/4" | .10 | 40,000/10.2 | 38/13,190 |
| 1-1/2" | .14 | 35,000/14 | 54/9284 |
| 1-3/4" | .19 | 25,000/19.5 | 73/6867 |
| 2 | .25 | 20,000/25 | 96/5222 |
| 2-1/4" | .31 | 15,000/32 | 119/4213 |
| 2-1/2" | .38 | 12,800/39 | 146/3433 |
| 3 | .55 | 8500/56 | 211/2376 |



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1997 WJTA Membership Directory Update Forms In The Mail

WJTA members should have received via mail the forms necessary to update your listing in the *1997 WJTA Membership Directory*.

To ensure that the *Directory* is a valuable guide for all members, please complete and return your update forms no later than **December 2, 1996**.

If you did not receive the update forms, contact Rhonda Stevens at the WJTA office by phone at (314)241-1445 or by fax at (314)241-1449.

Do You Have Photo- graphs Of Waterjet Applications To Share With Your Colleagues?

The Waterjet Technology Association is seeking black and white or color photographs or negatives of a variety of waterjet applications. Photographs will appear in literature promoting the 9th American Waterjet Conference and in the *Jet News*. Any photographs that are published will include a full credit line recognizing the contributing company or individual.

Possible applications include, but are not limited to, industrial cleaning, cutting and hydrodemolition in a variety of industries.

These photographs will be interesting and informative to your colleagues, but more importantly, they will help demonstrate to potential users the possibilities and advantages of waterjet technology.

For more information, contact LeAnn Hampton at the WJTA office.

New Products, Equipment, Supplies

Berkeley Chemical Research (BCR), Inc. announces that **Dosatron International, Inc.**, Clearwater, Florida, phone: 1-800-523-8499 (or in Europe: DSA, 33370 Tresses, BP 7, France, phone: 33 57 97 10 70) can provide their DI 16 system (for just \$400.00) to inject BCR's Super-Water® concentrated industrial water blasting additive as well as Super-Clean™ heavy duty industrial cleaner concentrate into waterjetting systems.

Jetting Systems & Accessories, Inc. has introduced a new line of jetting nozzles guaranteed to outlast carbide inserted nozzles (when used in the same service) by a factor of 3:1.

Carbide has been the premier orifice material in the waterjet cleaning industry for over twenty years. Experts have known that in fresh water applications, orifice wear occurs more from water leaching the binder out of the orifice material than from the physical forces of the application. However, other hard materials such as alumina ceramics have been too brittle for most industrial cleaning applications.

Jetting Systems' "Z-Jet" material offers the near impervious surface of ceramic with superior shock resistance. Additional information is available from Jetting Systems & Accessories, Inc. Call (713)939-0015, or fax your request to (713)939-7326.

Boride Products, Inc. has available a new brochure that shows how Boride Products' abrasive waterjet (AWJ) nozzles, made from a patented composite carbide material, help maintain optimum jet patterns and abrasive velocity to extend productivity and quality.

ROCTEC® 100 AWJ nozzles are made from composite carbides, a tungsten carbide based material that has been reaction-bonded with molybdenum carbide. This proprietary process combines the ceramic materials without the need for the soft metal binder required by tungsten carbide/cobalt using traditional sintering methods. By eliminating the metallic binder and maintaining an extra-fine grain, an extremely durable material is formed that resists abrasive and erosive wear, resulting in optimum nozzle performance.

The new brochure provides a revealing economic analyses comparing nozzles made of ROCTEC 100 versus nozzles of conventional tungsten carbide/cobalt. The brochure also discusses how nozzle material in AWJ cutting technology influences cutting speed, water and abrasive usage, and cutting precision.

For a free copy of the ROCTEC 100 AWJ nozzles brochure, contact Boride Products, Inc., 2879 Aero Park Drive, Traverse City, MI 49686, or call toll-free 1-800-662-2131.

(continued on page 6)



9th American Water Jet Conference

August 23-26, 1997

Hyatt Regency Dearborn
In Fairlane Town Center
Dearborn, Michigan, USA

Plan NOW to be there!

Lives Saved By Waterjet Powered Lifeguards, from page 1

on the idea to use a waterjet powered personal water craft. The guard, Brian Keaulana, was in trouble while surfing on 25-foot waves. A strong and experienced swimmer, he was diving under the huge breakers, coming up only long enough to get another gulp of air, and painstakingly making his way to safer waters. A friend appeared between breakers to offer moral encouragement, shooting the waves on a jet boat — something that no other craft would be capable of. Keaulana survived, and an idea was born. He invested \$5,000 of his own money to buy a Yamaha WaveRunner, a powerful, stable personal water craft.

Said Keaulana, "With my rescue tube, it can take 30 minutes to an hour for me to get out and get to you and get you to safety. But with my WaveRunner, I can get you in 30 seconds." "We did so many rescues in the surf," Keaulana says, shaking his head. "It's unbelievable. The thing is, when we started, we actually got tickets, because I'd be using the water craft for rescues in restricted waters, and the marine police would give me tickets. I rescued seven surfers at sunset, and the marine police gave a ticket."

The innovative lifeguard had to go first to court, where the judge threw out the ticket, then to the city council. He brought the council to the beach, and gave them a demonstration assuming a hypothetical scenario with multiple lives at risk. The educational session worked. The council agreed that only the waterjet powered craft could possibly make all the saves in the scenario. They immediately changed their zoning to accommodate jet boats. Today, jet boats are indispensable at the major surfing beaches.

The difference jet boats make is their speed, flexibility and power. Waterjet powered personal water craft, depending on conditions, can travel at speeds of 40 to 60 miles per hour, and can get to their destination five to seven times faster than any other life guarding method.

The boats are jet propelled and steered by jet power. The boats have impellers that draw water from an inverse hooded opening on the underside of the craft. Water is jetted out a tail pipe of about 6 inches in diameter, which also sits below the water line. For steering, the tail pipe can be moved from side to side by special marine-type cable connected to the handlebars. A second waterjet, originating from another, skyward pointing and smaller pipe, acts as a flagging device, shooting water up to 14 feet high so others are more aware of the craft's whereabouts. Engines range from 60 horsepower to 110 horsepower, depending on the model. Most lifeguarding is done with the bigger engine models which give greater speed, stability and power.

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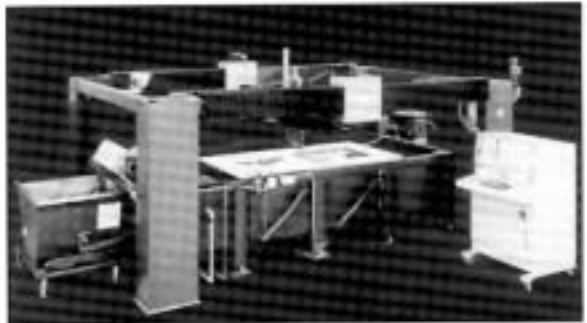


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Waterjet Cutting Advances From Ingersoll-Rand

Ingersoll-Rand Waterjet Systems, Farmington Hills, Michigan, has introduced a new-generation waterjet cutting system with an advanced moving gantry and programmable controller that sets new standards for accuracy, reliability, and flexibility in waterjet cutting operations. Designed for use with Ingersoll-Rand's newly designed Streamline™ SL-IV intensifier, the new HS-1001 waterjet system also offers dramatically reduced maintenance requirements for more cost-effective production.



Moving Gantry and Controller

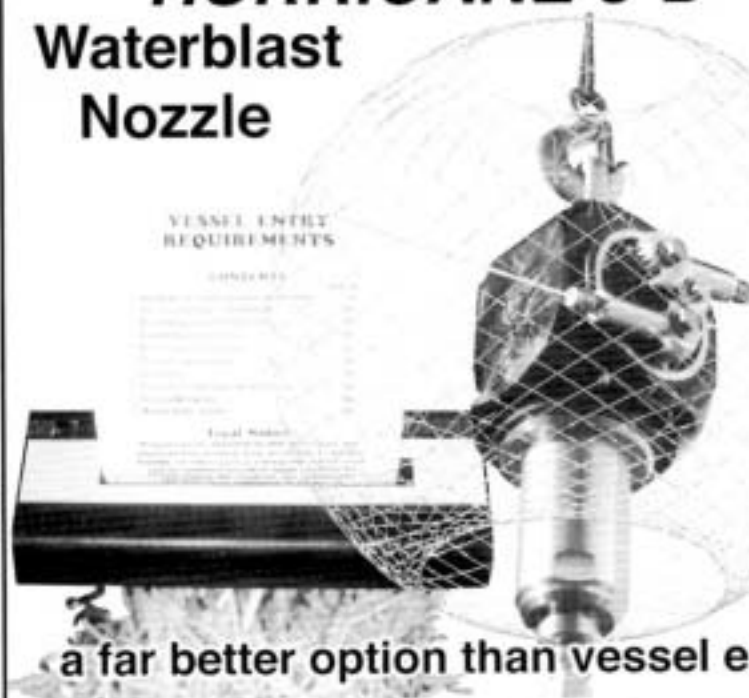
The three-axis moving gantry of the waterjet cutting system manipulates the motion of the waterjet cutting head to produce the desired cut profile. The high-rail system in the new HS-1001 system is designed to allow easy access to the cutting area for part handling. For added reliability, all gantry ways and drive mechanisms are fully protected by sealed accordion-type covers. In addition, linear guide bearing systems used on all axes are now preloaded as standard to provide precise, friction-free motion. A closed-loop servo motor system can be selected as an option to ensure maximum performance accuracy.

The three-axis gantry in the new HS-1001 system is driven by a PC-based programmable controller that provides added flexibility by combining capabilities for excellent contouring accuracy with full control of the system's water and abrasive functions. The controller is equipped with a user-friendly, menu-driven interface that now comes with a larger 14 inch color display. Cutting programs are written with the widely known RS-274D NC programming language to minimize operator training requirements. They can be downloaded to the controller via a standard communication program, and are easily edited on-screen.

Intensifier

The HS-1001 system incorporates Ingersoll-Rand's newly designed Streamline™ SL-IV intensifier, which uses variable-displacement, pressure-compensated hydraulic technology to generate new high levels of 60,000 psi water pressure and 55,000 psi effective cutting

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(continued on page 7)

New Products, Equipment, Supplies, from page 6

pressure. The SL-IV intensifier is also extensively redesigned for maximum reliability and maintainability, incorporating a wide range of improvements over both existing competitive intensifiers and Ingersoll-Rand's own earlier-generation SL-II intensifier.

Ingersoll-Rand has also introduced Autoline™, a high performance, prealigned abrasive cutting nozzle for its waterjet cutting systems. This new nozzle eliminates misalignment, reduces operator setup time, and provides a sharp effective cutting stream.

The Autoline nozzle has a prealigned orifice-to-focusing-tube design that allows the nozzle and orifice to be easily replaced on the machine while maintaining the tool center point. With Ingersoll-Rand's patented hand-tightening feature, the orifice and focusing tube can quickly be replaced without the use of tools. This greatly reduces change out time as well as the risk of cracking the orifice. In addition, Autoline offers a unique, non-galling orifice mount that prevents leakage and delivers repeatability and precision alignment.

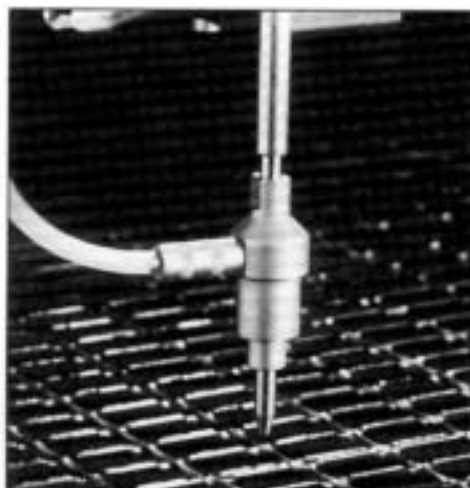
Ingersoll-Rand is the only company in the industry to offer a diamond orifice as a standard feature. For higher system efficiency and reduced downtime, the new diamond orifice technology is designed to extend orifice life up to twenty times, compared to the best sapphire and ruby orifices available.

The entire cutting nozzle weighs only five pounds allowing for flexibility with multiple cutting head systems. In addition, the orifice, mixing chamber and focusing tube are all made of long-life materials reducing overall operating costs and increasing uptime.

Ingersoll-Rand's Autoline is one of the most efficient nozzles on the market for Hydrabrasive cutting. It also has a unique clamp-on bracket that ensures an accurate tool center point, as well as many other state-of-the-art features that help to reduce operating costs through higher efficiency and increased reliability.

For additional information, contact Ingersoll-Rand Waterjet Systems, 13629 Industrial Park Drive, Farmington Hills, MI 48335, call toll-free (800)286-2971, fax: (810)471-9113, regarding Ingersoll-Rand products.

(continued on page 8)



Waterjets Cut Kevlar®

Vulcan Waterjet Cutting Services' CNC controlled abrasive waterjet recently carved out 20 unique Kevlar® panels for firearm targets. The bullet resistant panels are central to the production of interactive targets being fabricated by Liberty Sales and Engineering Corp. of Waukesha, Wisconsin.

The very properties that make Kevlar ideal for bullet resistant targets also make the material cost prohibitive to cut using traditional methods. Carbide band saws were ruled out after a single blade was only able to cut about seven inches before becoming too dull for further use. The saw also left a rough edge along the cut.

Vulcan Waterjet's abrasive jet cuts through the 1/4-inch thick Kevlar at more than 25 inches per minute. Not only is this cut rate substantially faster than that of the carbide blades, the supersonic waterjet erosion process leaves a clean, smooth, burr free edge that requires no further machining. Close nesting software ensures that material usage is maximized, especially important with materials as expensive as Kevlar. Vulcan Waterjet also organized straight cut lines for common line cutting where feasible to further enhance cost savings on the targets.

The targets, when complete, consist of a steel frame and the Kevlar panel which only weighs about one pound. Previously, targets were made of heavy plate steel, and tended to weigh more than 30 pounds each. The targets are suitable for both police and military training, and will soon be in use throughout the United States.

WJTA New Members

Individuals

Ben Baron

Charisma Design Studio
Sylmar, CA

Frank Beleglow

Arcadia Supply Inc.
Albany, NY

Robert J. Hunt

Barnes Environmental International
Waterdown, Ontario, Canada

Bryan Smith

WCCI
Idaho Falls, ID

New Products, Equipment, Supplies, from page 7

New Vulcan Waterjet Dual Head Capability

Vulcan Waterjet Cutting Services has announced greatly expanded capabilities with the recent addition of a second waterjet cutting head. The new dual head configuration of Flow International's Paser 3 System will dramatically enhance productivity.



"This modification will result in significant savings that will be passed on to our customers," stated Kelly Halverson, Vulcan Waterjet Cutting Services Manager. "It will be especially beneficial to companies that are price sensitive at high volumes," she continued. The modification was a sound investment and perpetuates the ongoing objective of providing increased value to each of Vulcan Waterjet's accounts.

Since Vulcan Waterjet specializes in contract manufacturing, most projects can be successfully cut with dual heads. The robotic dual heads double the output of the waterjet, maximizing both set up time and cutting time. To determine if a job will benefit from dual head cutting, two conditions must be met. First, the part being cut must be less than 36 inches in length. Second, the material being cut must be large enough to yield two parts.

For more information about Vulcan Waterjet Cutting Services, call (414)645-2040 or (800)932-5323.

A System For Precision Controlled Borehole Drilling

The technique, originally termed "Vertical Positioning System for Drilling Boreholes Including Section Milling and Underreaming Apparatus" was developed by Mr. Mark Gronseth (recently deceased), an employee of Imperial Oil Resources Ltd. Imperial Oil Resources Ltd. has assigned the rights and responsibility for this technology to University Technologies International Inc., Calgary, Alberta, Canada, to bring about the technology transfer and commercialization of a field tested system for precise control of a jet drilling nozzle.

Specifications are as follows:

Potential Areas of Application:

- Precise slotting wellbore casing
- Removal of a vertical section of casing by abrasive slurry jetting
- Enlargement (underreaming) of a borehole
- Programmed remote control of position, motion or load on downhole tools
- Control of jet nozzle advancement in ultra-short radius jet drilling

Main Advantages:

- Remote control away from high pressures carried by tubulars
- Programmable, precise control of position, movement rate and load
- Dependability — method has been fully prototyped and tested
- Can be adapted easily for a range of speeds, loads and position ranges
- Easily adapted for data recording of position, speed and load by a data acquisition system
- Can be operated in a hazardous environment

Stage of Development:

- Technology has been developed in response to operational requirements unfulfilled by current technology
- Successfully employed for section milling, underreaming and accurate placement of boreholes

Further Research and Development:

- Method has been fully prototyped and has been employed in the field in operational conditions

Patent Status:

- US patent applied for, international patent applications pending

For more information, contact **Geoff Moon, Manager, Technology Transfer**, phone: (403)270-7027, fax: (403)270-2384, e-mail: moong@cadvision.com. Specify reference number UTI208.1.

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Waterjet Cutting — A Tool For The Artist

Her silky robe seems to sway with her gentle, gliding movements. She is graceful and delicate in her all-flowing motion.

It's difficult to imagine that the unique work of art depicted here began as a large, unwieldy chunk of 3/4-inch plate glass, heavy and hard to handle.

Kathleen Eggert, a Milwaukee area artist, has for the past five years been concentrating her creative efforts on the design and development of a series of these faceless, spirit-like figures. The figures, which take shape first in her inner vision, eventually embody her interpretation of the costume, ritual and myth of several cultures.

Creation of the figures involves several intricate steps, and is very time consuming for the artist. The vivid colors are enamels, fired in the studio kilns. There may be several layers of color, more than one round of masking and remasking, and many firings to achieve the desired intensity and depth of the color. Sandblasting and etching form some of the details of the artwork.

In the design shown here — the "Pond Keeper," — the figure wears a sterling silver mask, also worked by Ms. Eggert. The characters, while actually faceless, have detachable masks that may be worn as jewelry by the owner. The dragonfly pendant, crafted of "found" objects and beads is also removable and can be worn.

(continued on page 13)



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WJTA 1997 Conference Hotel: Hyatt Regency Dearborn, Michigan

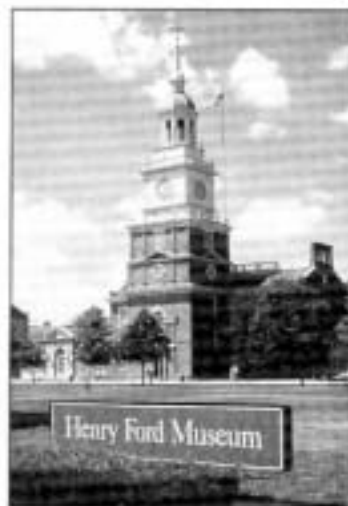
The Hyatt Regency Dearborn, site of the 1997 Water Jet Technology Association Conference, offers excellent service and accommodations. At the hotel entrance, a majestic 16-story atrium towers over the lush garden lobby. Hotel rooms and suites are luxuriously appointed. Specially designed business plan rooms come equipped with everything you need to increase business productivity. Four restaurants offer everything from casual classics to the cuisines of Japan, France and Italy. The revolving rooftop lounge offers spectacular panoramic views and is an ideal spot to relax. An indoor pool, a sauna, and a whirlpool and a fully equipped exercise facility are also available.



Make your hotel reservations early to take advantage of the special WJTA Conference rates. Use the convenient form on page 15, or call the Hyatt reservation system toll-free at 1-800-233-1234, or dial the Hyatt Regency Dearborn direct at (313)982-6880. Be sure to request the special group rate for the 1997 WJTA Conference.

Points of Interest

- The Fairlane Town Center Shopping Mall, located directly across from the Hyatt, features over 230 specialty shops, stores and restaurants, five major department stores, and ten movie theatres.
- Greenfield Village, where over 240 of America's most treasured buildings are preserved in pristine condition, including Thomas Edison's laboratory, Noah Webster's home, Firestone's farm and the Wright Brothers Bicycle Shop.
- The Henry Ford Museum, where hundreds of antique automobiles and thousands of 19th and 20th century machines are on display.



Dear Jet News, from page 2

If anyone is interested in reviewing the data, I am willing to share the raw data from which the above information was derived.

An approximate 0.1% Super-Water® solution has been used for our cutting environment since July 1995 at a revised cost of 90 cents per hour. An injection system supplies a timed injection of Super-Water® when the on/off valve is actuated. Cost per hour does not include injection system components. Since its introduction the need for sanding the acoustical panel edges has been reduced, average cutting speed increases of 30-200 percent have been obtained with acceptable striations and an increase in the longevity of our consumable jet components has been demonstrated.

Best regards,

Renato Lombardi
Decoustics Limited
Etobicoke, Ontario M9W 1M2
Canada

1996-97 Calendar Of Events

November 20-22, 1996: Canadian Window and Door Manufacturers Association (CWDMA) Win-Door '96, Toronto, Ontario. Contact: Shield Associates Ltd. at (416)444-5225 or fax (416)444-8268.

February 19-21, 1997: GlassLat '97, Monterrey, Mexico. Contact USGlass magazine at (540)720-5584 or fax (540)720-5687.

May 10-16, 1997: American Society for Surface Mining and Reclamation 14th Annual Meeting, Austin, Texas. For more information, contact the North American Coal Corporation, 14785 Preston Road, Suite 1100, Dallas, TX 75240, fax: (214)387-1051.

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Waterjet Cutting — A Tool For The Artist, from page 10

"The use of the waterjet has really opened up artistic possibilities for me," stated Ms. Eggert recently in an interview. "It removes the limitations of size from my designs. With the band saw I was using, I had a fairly small working radius."

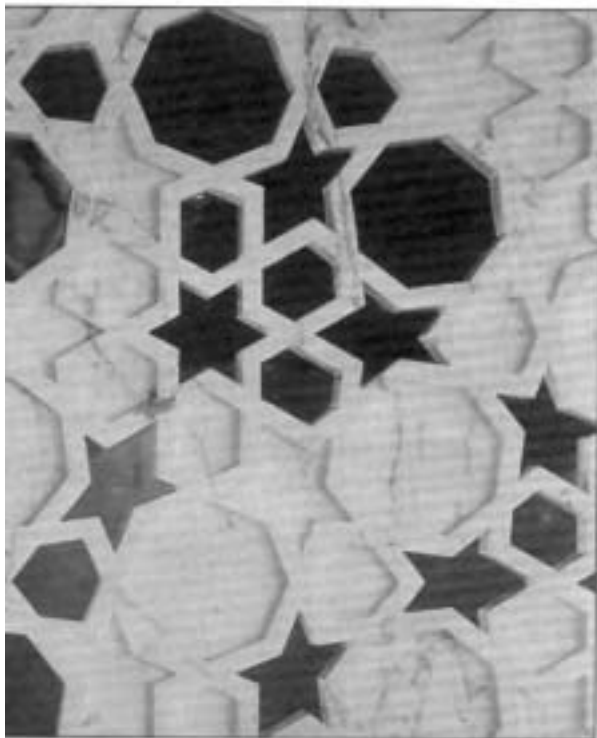
The use of the waterjet has been a real labor saver, in more ways than one. Cutting the silhouette is more mechanical than artistic, because the design is already complete, and is extremely time consuming for the artist whose time can be spent more productively on other tasks. The other benefit of utilizing the waterjet is the weight reduction of the glass pieces being handled.

Formerly, cutting the actual shape from the heavy plate glass with a band saw was the last step in the process. Now all the waste material has been cut away, resulting in a weight decrease of about one-third. That's a noticeable difference when even the cut piece may weigh close to 20 pounds, and be moved in and out of the firing kiln and to work areas multiple times.

Vulcan Waterjet, Milwaukee, Wisconsin, becomes involved in these works of art beginning with the artist's penciled sketch. The sketch is scanned, scaled, and converted to machine code before actual cutting begins.

The "Pond Keeper," is about 24 inches tall, about 18 inches wide, and stands on a separate corian-like base. To date this is the largest character available.

Article and photograph reprinted from *Jet Lines*, courtesy of Vulcan Waterjet Cutting Services.



A 230-foot (70 m) marble screen wall was cut by waterjet, and interior areas were polished by hand. Screen wall fabricated by Italian stone producer, Savema. Reprinted with permission from *Stone World* magazine, 1 Kalisa Way, Suite 205, Paramus, 107652, telephone: (201)599-0136, fax: (201)599-2378, mail: stoneworld@aol.com, internet: <http://www.stoneworld.com>.



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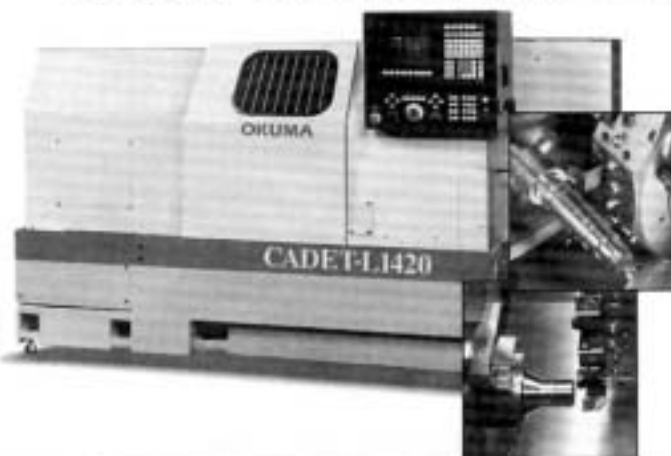
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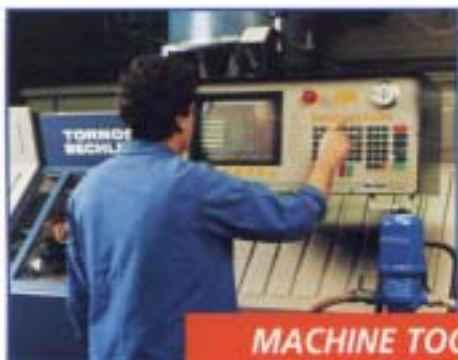
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- Just turn on the water
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- Solutions are mixed continuously as water flows through the unit
- The dose of concentrate is proportional to the water flow
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PRECISE DOSING CONTINUOU

proportional dispensers Industrial applications around the world

HERE'S HOW IT WORKS:

Installed directly in the water supply line, the dispenser operates without electricity, using water pressure as the power source.

The water activates the dispenser, which takes up the required percentage of concentrate directly from the stock solution container. Inside the dispenser, the concentrate is mixed with the water, and the water pressure forces the solution downstream.



The dose of concentrate will be directly proportional to the volume of water entering the dispenser, regardless of variations in flow or pressure which may occur in the main line.

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Volumetric injection is the key to constant, precise dosing. The dose of concentrate injected is proportional to the volume of water coming through the water line, regardless of flow and pressure variations.

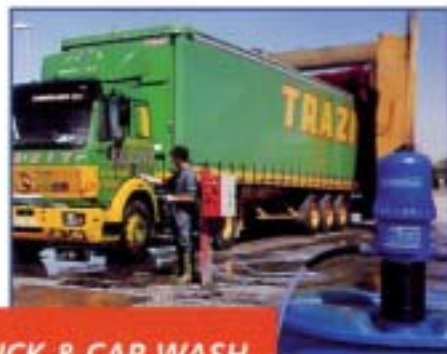
PVDF units are available for dosing corrosive or acidic materials



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|---------|-----------|--------------|--------------------------|------------|---------------|------------|--------------|
| D 200RE | 7 GPM | 5-400 GPH | 10 PSI | 7-70 PSI | 1:500 to 1:50 | 0.2 to 2 | 256 to 2.56 |
| D 400RE | 7 GPM | 5-400 GPH | 12 PSI | 7-70 PSI | 1:200 to 1:25 | .5 to 4 | .64 to 5.12 |
| D 310RE | 7 GPM | 5-400 GPH | 14 PSI | 7-70 PSI | 1:33 to 1:10 | 3.0 to 10 | 3.88 to 12.8 |
| DI 16 | 11 GPM | 2.64-660 GPH | 13 PSI | 4.3-85 PSI | 1:500 to 1:64 | 0.2 to 1.6 | 256 to 2 |
| DI 150 | 11 GPM | 2.64-660 GPH | 13 PSI | 4.3-85 PSI | 1:100 to 1:20 | 1.0 to 5 | 1.28 to 6.4 |
| DI 210 | 11 GPM | 2.64-660 GPH | 13 PSI | 7-65 PSI | 1:50 to 1:10 | 2.0 to 10 | 2.56 to 12.8 |
| DBR | 40 GPM | 2.2-40 GPM | 10 PSI | 2-110 PSI | 1:500 to 1:50 | 0.2 to 2 | 256 to 2.56 |
| DB 210R | 40 GPM | 2.2-40 GPM | 10 PSI | 2-85 PSI | 1:50 to 1:10 | 2.0 to 10 | 2.56 to 12.8 |
| D205 | 100 GPM | 5-100 GPM | 8 PSI | 2-120 PSI | 1:500 to 1:50 | 0.2 to 2 | 256 to 2.56 |

NOTE: All models include: Self priming up to 13 ft. vertically • Ratio adjustments are external • Maximum water temp 104° F.

RECOMMENDED INSTALLATION:



Dosatron International's corporate headquarters are located in Tresses, near Bordeaux, France. North American headquarters, sales and service are located in Clearwater, Florida, USA.



For more information, contact your local distributor or call

Phone 813/443-5404 Fax 813/447-0591

Customer service, call 1-800-523-8499

7 GPM

3 models available:

D 200 RE
D 310 RE
D 400 RE

PVDF units available for corrosive materials

11 GPM

3 models available:

DI 16
DI 150
DI 210

PVDF units available for corrosive materials

40 GPM

2 models available:

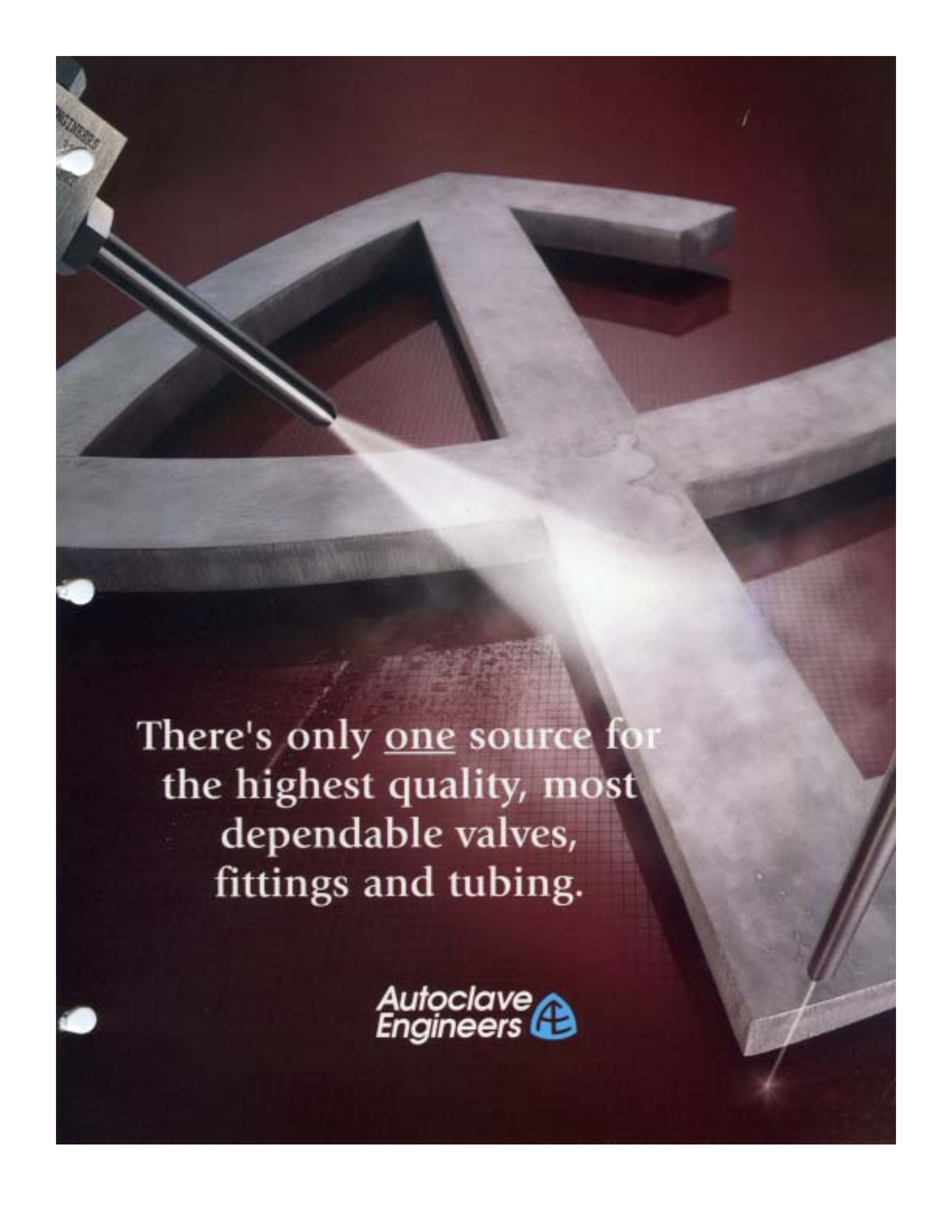
DB 210R
D...

100 GPM

1 model available:

D205

EXPRESS WARRANTY: 1. DOSATRON INTERNATIONAL, INC. will provide for replacement of all parts shown to be defective in material or workmanship during a period of twelve months from the date of purchase by the original purchaser. 2. In the event of replacement of a part, the part must be returned to the Distributor, and thereafter recognized as defective after examination by our technical service. The unit must be sent to the Distributor period, but will be returned free of charge if found to be covered by the warranty and repairs are made. 3. This warranty is void if the defects are found to be due to the product misuse, lack of maintenance or defective installation or environmental accidents or corrosion, or damage to unit caused by foreign bodies and/or liquids found within or in proximity to the unit. The warranty and "10" rings are not covered under warranty, nor is damage to the unit caused by impurities such as sand. A 1/2" (10) meters or less must be in front of the unit for the warranty to be valid. DOSATRON INTERNATIONAL, INC. does not accept responsibility if unit is used under conditions outside its operation as indicated herein. 4. This warranty gives you specific legal rights. You also have other rights which vary from state to state, but any implied warranty or merchantability or fitness for a particular purpose applicable to the product is limited in duration to the time period of this written warranty or any implied warranty. DOSATRON INTERNATIONAL, INC. shall not be liable for incidental or consequential damage, such as any economic loss, resulting from breach of this written warranty or any implied warranty. There are no warranties which extend beyond those described above. Specifications are subject to change.

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