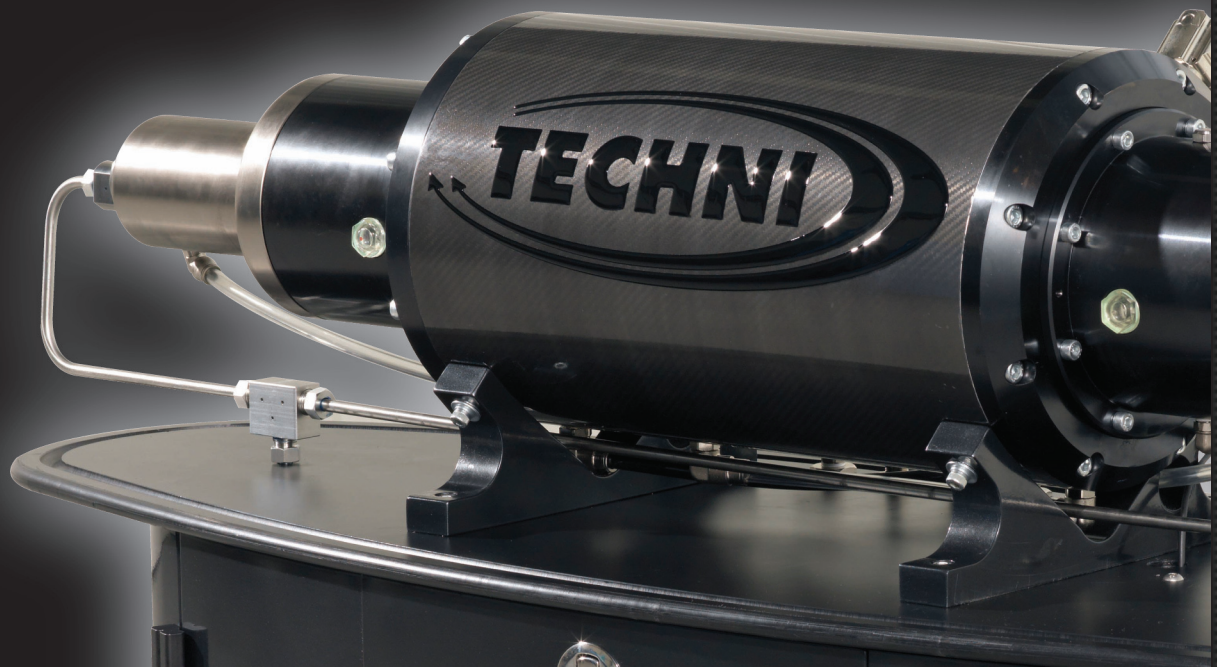
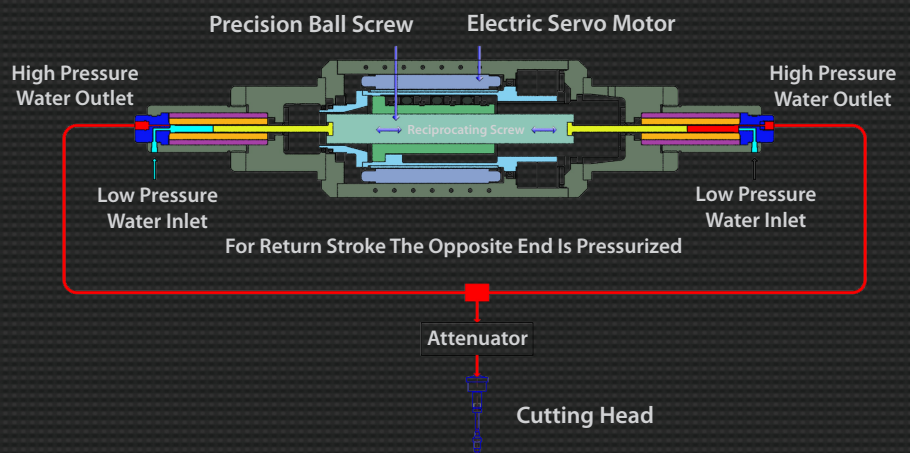




TECHNI Waterjet™ announces its new range of Waterjet Cutting High Pressure Pumps and has introduced it at the recent Fabtech International Show in Chicago, IL USA. After almost 3 years of Research and Development, and more than \$2M in expenditure, the Quantum Electric Servo Pump, or **Quantum ESP™**, is ready for sale. The feedback from Chicago was extraordinary, with industry leaders expressing comments like "... this (the **Quantum ESP™**) represents the greatest change in the waterjet industry in twenty-five years" and "... this (the **Quantum ESP™**) is the greatest innovation at the show..."

The new **Quantum ESP™** High Pressure Waterjet Pump is set to revolutionize the waterjet industry. It was inspired by NASA's program to replace hydraulic cylinders with direct servo linear actuator technology. The **Quantum ESP™** uses the same concept NASA used on it's space shuttle program when replacing all hydraulic cylinders with the more compact, precise, controllable and reliable, direct servo linear actuators.



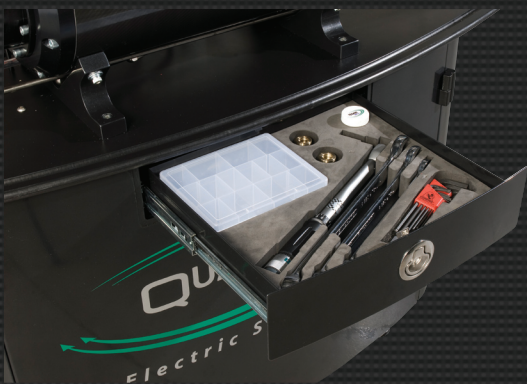
www.techniwaterjet.com

The **Quantum ESP™** incorporates a servo motor that directly envelopes a high-load, precision ball screw, which house ceramic plungers that reciprocate back and forth. This creates a pumping action, similar to what a hydraulic cylinder does on an intensifier pump. The combination of the servo motor's infinite control and the ball screw's precision, yield a high level of accuracy in regard to output pressure and the volume of water displaced.

"The **Quantum ESP™** is breakthrough technology for the Waterjet Industry, representing the greatest change in the Industry for more than 25 years" says Darren Reukers, Managing Director of **TECHNI Waterjet™**. "We have breakthrough technology because it doesn't rely on an inefficient hydraulic system, but instead uses the servo motor to directly drive the plungers, resulting in significantly less power to operate – up to 60% - in most cases. The water consumption is also greatly reduced as the high efficiency servo motor requires minimal cooling. These two factors, as well as the reduced size, noise, and oil requirements, make the **Quantum ESP™** an environmentally friendly solution".

According to Mr. Reukers, companies can save more than 32,000 kilowatt hours and about 290,000 gallons of water (1.1 ML) per year by using a **Quantum ESP™** on a single-head waterjet cutting machine for one shift over the course of a year. Additionally, the high pressure waterjet cutting pump can help make a significant reduction in CO2 emissions. It also has a smaller footprint overall and reduces noise pollution.

"The pump's physical dimensions are 5' (1.6m) long x 2' (0.5m) wide x 3' (0.9m) high", says Mr. Reukers. "The typical hydraulic, old-fashioned units are much bigger—they're typically five to six times that size. So it's smaller, and it's quieter. This pump will run at 68 decibels, whereas a typical hydraulic pump will be 78-80 decibels".



Furthermore, the **Quantum ESP™** comes standard with diagnostic software, which facilitates the speed at which users can detect leaks and remedy them. Accordingly, the program reduces maintenance and increases productivity. High-pressure seals, dump valve, and orifice or cutting head are among the common fault conditions the diagnostic control will help determine.

The **Quantum ESP™** uniquely combines the benefits of intensifier pumps and direct drive crank shaft pumps, while also able to set varying output pressures, flow rates and power usage. But unlike the existing technology, it uses just the power required for any given pressure and flow rate.

"The electric servo motor also enables the **Quantum ESP™** to be much smarter and much more controllable, giving the ability to only use the power that's required at the cutting head, as opposed to a traditional pump, which uses its power from the time you turn it on", says Mr. Reukers. "Whether you're cutting or not cutting, an older machine is using the majority of its power simply to run its hydraulic system".



Mr. Reukers states that the driving force behind the creation of the **Quantum ESP™** came from the desire to develop the next generation of waterjet pumps. "As with all technologies, as they go forward, they become smaller, they become more efficient, and they become smarter," says Mr. Reukers "...and just like computers which continue to get smaller and more intelligent, the **Quantum ESP™** is the next generation technology for the waterjet cutting industry".

The **Quantum ESP™** can cut a wide range of materials, including stainless steel, aluminium, glass, stone, rubber, titanium, just to name a few. It also has the incredible power that enables it to cut up to 6" thick Stainless Steel, and the very fine control to cut paper thin materials.

The **Quantum ESP™** is offered in three models, each with a maximum noise level of 68 decibels and a cooling requirement of only around one gallon per minute (5 lpm) at 72 degrees Fahrenheit (22C).

The **ESP55** has a maximum output pressure of 55,000 psi (3722 bar) and a maximum output volume of 1 gpm (3.8 lpm). The **ESP66** offers 66,000 psi (4550 bar) and 0.8 gpm (3 lpm) and the **ESP77** offers 77,000 psi (5308 bar) and 0.7 gpm (2.8 lpm).

The **Quantum ESP™** made its international launch in November 2009 at the Fabtech International & AWS Welding Show in Chicago USA. For more information, click on the links below.



Darren Reukers, Managing Director and Inventor of the Quantum ESP™, with the first batch of Electric Servo Pumps

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Innovation Through Passion