



## Is Waterjet a Solution?

*By Rich Ward, Founder of WARDJet*

Where does waterjet fit into soft goods fabrication/converting and is cutting with single or multiple heads on multiple sheets, at speeds up to 7000 inches per minute (177 M/min), while being able to stack materials and eliminate convex/concave edges intriguing?

While traditional processes abound, waterjet could be key to dramatically adding to your profits and you would not be alone in your discovery.

Once a company adds water-only waterjet to their stable, it is likely additional systems will follow and every location will have one.

Waterjets built specifically for the water-only environment are versatile and scalable and, when combined with automated loading and unloading, marking / printing, cameras, sensors, nesting, multiple heads and 5-axis capability, they quickly become vital to production.

So what changed? Many have tried the process only to be frustrated with slower production speeds, wetting of the product, poor quality edges and handling issues. Sound familiar? What most do not realize is traditional waterjets are built for cutting hard materials such as steel and alloys all of which need abrasive and absolute control at very slow speeds. Most abrasive machines need to be able to move at 0.1 ipm if they are to produce quality parts in hard materials.

On the other hand, the soft goods industry might call for a small prototype run to hundreds of thousands of parts, all in the same day, requiring accurate, flexible, fast, easy-to-program reliable systems.

Waterjets built specifically for the soft goods industry are very different to abrasive units. We need to accelerate and decelerate to the target speed as quickly as possible while being able to cut the desired shape consistently and accurately. Support of the material to limit splash-back and wetting with draw



down drafts built into the tables need consideration. Cutting on stainless steel sloped floors to drain the sludge away with filters to remove and reuse the water in closed-loop wash-down systems are important.

Being able to add multiple heads and literally double, triple or in some cases, go to 16 heads per machine, increases production while still offering the ability to do those one-off prototypes.

Smaller volumes can be loaded by hand onto a system with the option to upgrade to as much automation as desired. Automated loading including synchronized pinch feed rollers and the ability to pull from rolls or take sheets from a stack are common. Sensors to locate the materials prior to cutting paired with various off-loading mechanisms, some analogous to automatically advancing the finished product at your grocery checkout, are common.

The technology to build high-speed systems has taken many years to develop. It is important to lean on experience when cutting at high speeds while constantly changing direction and cycling on and off. Being able to extend the life of the high-pressure tubing and components along with the structural design and build of the system should be checked out. Be sure you are not looking at a standard abrasive waterjet system, just without the abrasive being turned on!

The bottom line is waterjets specifically designed for the soft-goods industry are different animals to traditional abrasive units. The ability to easily program a single prototype or automatically nest parts for huge runs is a reality being enjoyed by many.

If waterjet has been overlooked, or your present waterjets are underperforming, take a little time to dig deeper. You might be pleasantly surprised!

WARDJet builds waterjets specifically for water-only applications with a vast selection of options.

