

BIG NEWS IN HYDROCUTTING



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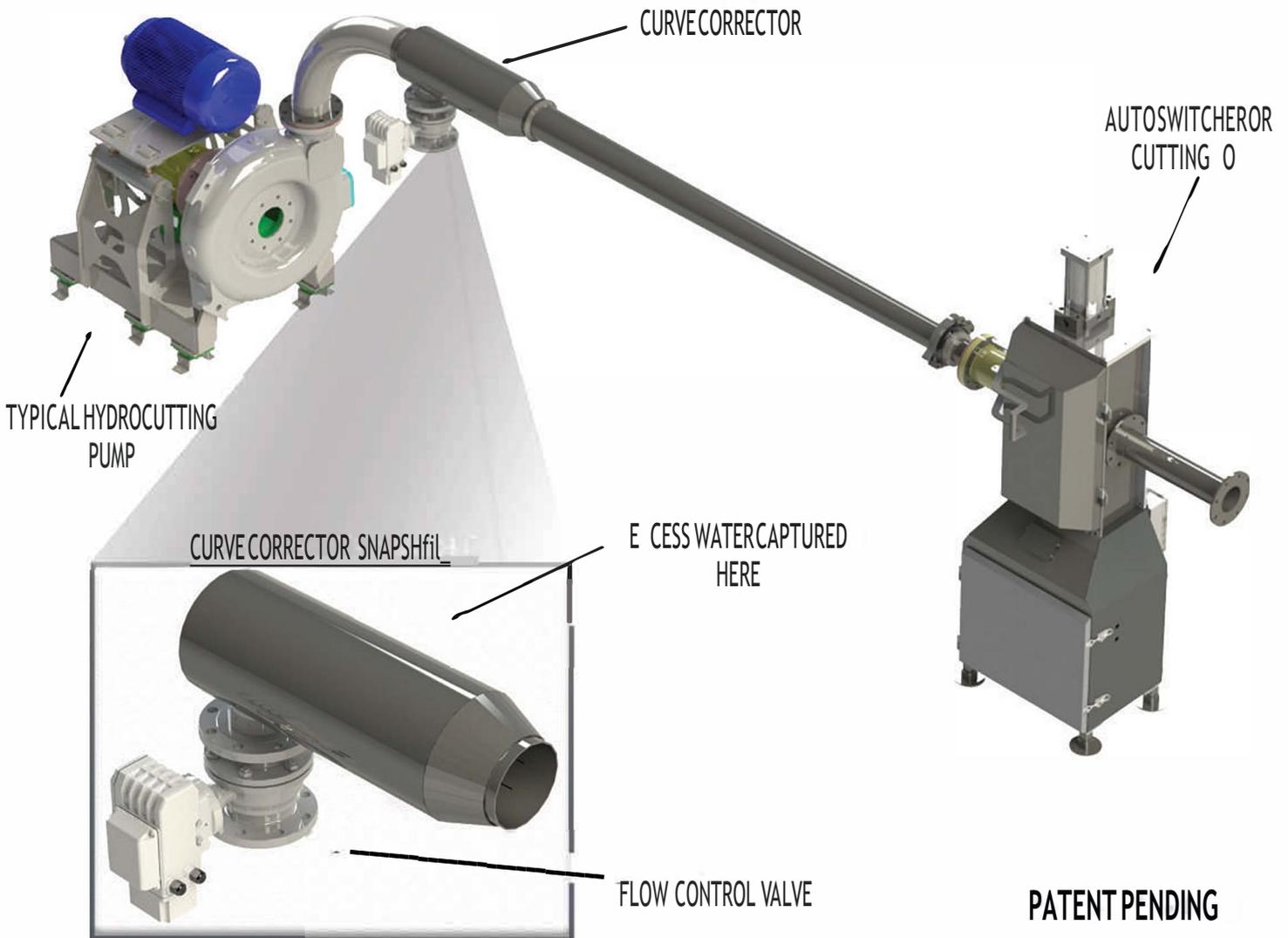
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Benefits:

- Keeps the pump running under the original pump curve and specs .
- More consistent pump discharge pressure
- Reduces plugging.
- Higher water volumes help product spend less time in pump which reduces pump damage.
- Less cavitation.

CURVE CORRECTOR

Contact us to find out how to significantly improve cut quality and productivity .



WHY IT MATTERS

In Hydro-Cutting a water pump is needed to move the product to the water knife cutting system. In order for the pump to operate correctly there must be a certain amount of water moving through it at all times. Once the water and product have left the pump it is piped into a much smaller pipe in order for the product to be singulated and aligned correctly with the knives.

We then release the excess water via the Curve Corrector allowing water to flow freely through the pump. This eliminates product damage in the pump while retaining the velocity needed to move the product through the knives. This water release is controlled with a manual or automatic valve.

There is not a pump manufactured currently that is purpose built for Hydro-Cutting. Raw material handling pumps are rated by product size and volume of water needed to move X amount of product per minute or hour. The tapered accelerator tube, used in hydro-cutting, drastically restricts the water pumping capacity of the pump. This process, plus the extra restriction from the blades, throws the original pump curve out of spec. The pump then has to operate under conditions that are unknown and have negative effect on its efficiency. Some of these effects include cavitation, low pump pressure, and vibration. To work properly, the pump, needs a higher water to product ratio.

To remedy this we have designed a unit to release water after the pump and before the accelerator. The unit perforates the pipe so that water can be released. The water is released into another sealed containment and the extra water is returned to the pump. This allows the pump to work as it was designed to.

PERFORMANCE TEST

To test performance we used hard plastic dowells, shaped as product. Those dowells were then numbered and pumped through a controlled "Hydro-Cutting System" with the blades removed.

First, the test samples were run through the system without the Curve Corrector. The time for each sample to complete the course from pump to dewatering was recorded. Also, the order in which the numbered sample entered the pump and exited was recorded.

The results of this test showed that the samples never exited the system in the same order as they entered. The second concerning result, was that the samples would linger in the pump up to 60 seconds. After running the sample, we discovered that because of the use of hard plastic, we could hear the sample "rattling" in the pump.

The same test was then performed with the Curve Corrector turned on. Time after time, the product not only exited the pump in the order in which it entered, but the product completed the pumped course in less than 5 seconds.

Conclusion:

Product spending less time in the pump= Less pump damage.

More pumped water= Higher efficiency/ more consistent pump pressure.

BETTER CUTS AND LESS WASTE.