Biodiesel Cavitation

World Energy Agrees to Market Hydro Dynamics' SPR Unit

More than 400 million gallons of annual reactor capacity of the ShockWave Power Reactor (SPR) BD50 have been installed.

World Energy, Boston, MA (706-766-6936), through its WMG Services, LLC business unit, has agreed to market the ShockWave Power Reactor (SPR) technology of Hydro Dynamics, Inc., Rome, GA (706-234-4111) to the biodiesel industry.

Greg Hopkins, director of manufacturing services for World Energy, said that the agreement calls for World Energy to sell the SPR technology, which has been used at World Energy's US Biofuels plant, a 15-million-gallon-a-year (MMGY) biodiesel facility in Rome, GA, since 2005.

Doug Mancosky, director of application development for Hydro Dynamics, said the partnership means customers will receive the combined expertise of the two companies. "This partnership represents what we are looking for," said Mancosky. "We bring expertise in the SPR technology and World Energy brings its expertise in biodiesel transesterification."

Terms of the agreement were not released.

Multiple Uses

Mancosky said that the SPR cavitation equipment can be used in multiple industries, including food, petroleum, consumer products, and others. "We're looking for established companies to market the equipment in various industries," he said. "World Energy will market the SPR to the biodiesel industry."

Hopkins said World Energy is a believer in the cavitation technology provided by SPR. "It has convinced us that it is the best there is," he said. World Energy also provides other services to biodiesel plants, offering upgrades, redesigns, improving production, and increasing sales.

Cost of the SPR depends on the size of the plant. "It can be designed for a 1-MMGY plant or less and as large as a 150-MMGY plant," Mancosky said.

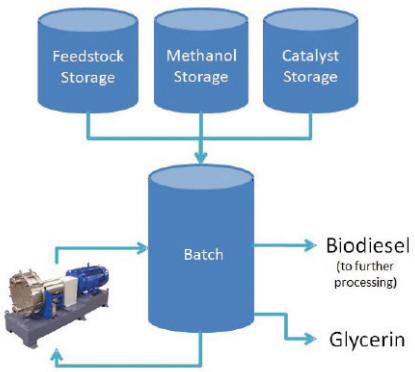
Hopkins said one biodiesel plant that bought the SPR had a six-month payback based on reducing catalyst use alone. Depending on how the increase in production is figured, the payback could even be faster, he said.

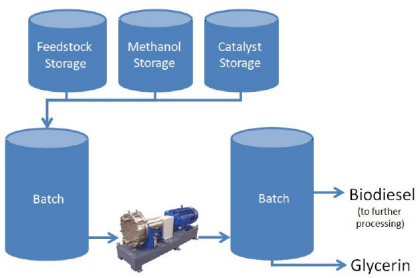
The SPR biodiesel reactor drives the transesterification reaction to completion in seconds, according to Mancosky. It works in true continuous or batch systems to give biodiesel producers greater feedstock flexibility and consistently superior quality, he said.

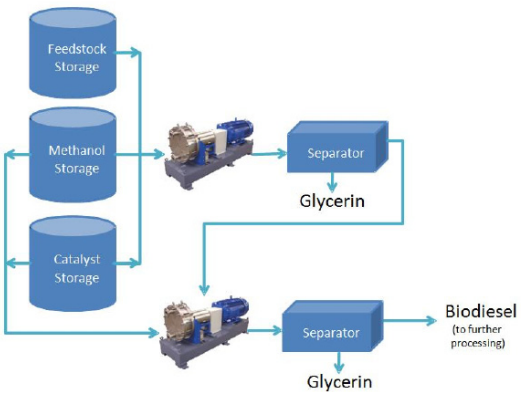
Hopkins said that biodiesel plants can use multiple feedstocks with higher free fatty acids (FFAs). "You name the feedstock and the SPR has run it," he said, including poultry, beef tallow, used cooking oil, corn oil from dried distillers grains, and palm oil.

"What we have seen are quality and productivity advantages," Hopkins said of the SPR use at its Rome, GA, plant. "With the tighter monoglyceride requirements and expectations from the market, we've been able to achieve 0.20% monoglycerides. Also, there is less catalyst used, a higher reactivity, and much easier clean up of the product on the backend because of a more complete reaction."

Jerry Perkins, editor







The SPR can be installed three ways: Left, the batch 1 method; middle, the semi batch method; and right, the continuous method.

Response No. 000