Full Cycle

Simple valve handles complex task of variable flow devices

By Thad Plumley

The swing of a golf club can rocket a ball down a fairway at the Quesnel Golf Course on any summer afternoon in Quesnel, British Columbia, Canada.

The ball will land on the plush, green turf, take a couple of quick bounces, and come to a stop. Lloyd Ingram couldn't be happier when it happens—and he doesn't golf.

However, the owner of Ingram Well and Pump Service installed the watering system at the course, and knows the difference two simple valves have made in its play. He knows because golfers who see him around Quesnel tell him all the time.

"Everyone in town tells me about the golf course," Ingram says. "They say you used to hit the ball, and it would roll and roll because the ground was so dry. But now when you hit it, they say it stops because the ground has moisture in it. Everyone's saying one year has made a big difference."

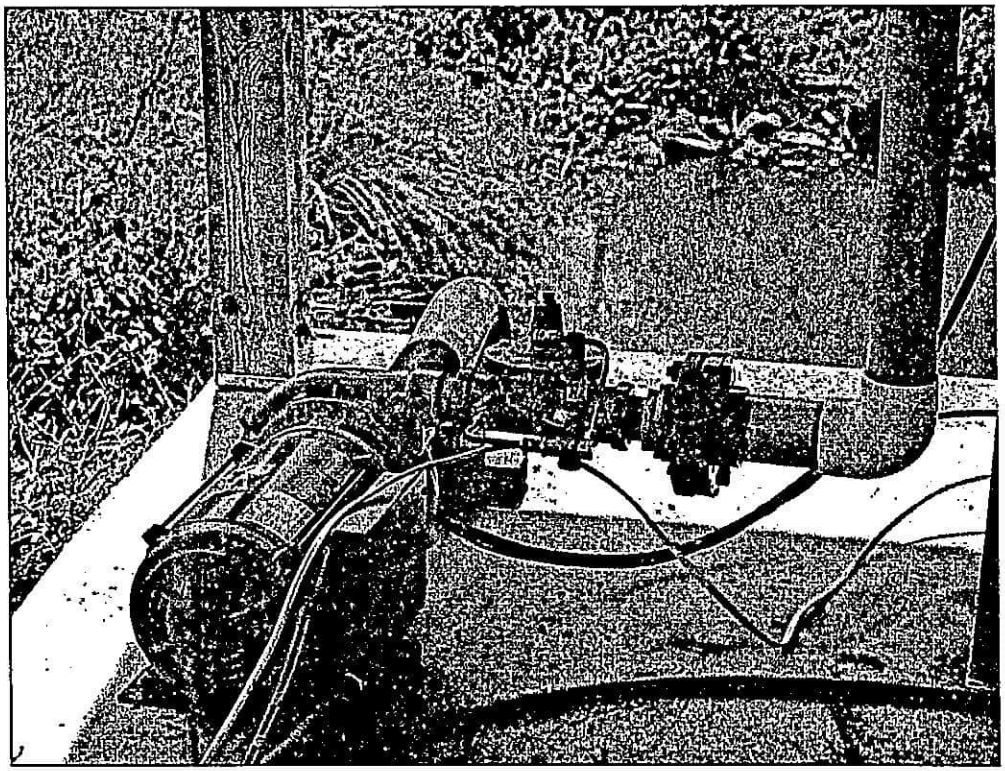
He thinks the difference is simple: the CycleStop valves he uses on nearly all of his projects. The valves, which received a patent in May, are pump-control valves that make variable-flow pumps out of any constant-speed pump. They attach to the discharge and automatically choke back the output to match the amount of water the user is requiring. In essence, they give large pumps small-flow capabilities without the need for huge pressure tanks, water towers, or other more complicated devices.

The valves come in sizes ranging from 1 inch to 16 inches. The smallest, the domestic Model CSV1, can handle flow rates of 1 to 30 gallons per minute (gpm), while the industrial 16-inch Model CSV3 will function with flow rates of 5 to 10,000 gpm.

Ingram has been using CycleStop valves for four years, and estimates he has installed more than 300. He has put them on pumps at golf courses, housing subdivisions, trailer properties, a prison, and an elementary school–community center facility.

According to Ingram, the valves saved his business. British Columbia is in a recession, and the lower cost of converting standard pumps using the valves has helped him win jobs over contractors offering more complex variable-flow devices (VFDs).

At the Quesnel Golf Course, he put a 2-inch valve on a 15 hp pump and a 4-inch valve on a 30 hp pump. They operate with a 30-gallon draw-down tank at 110 psi. He did another golf course that has the front- and back-nine holes at significantly different elevations. He used a 1-inch valve and two 3-inch valves with a 25-gallon



The CycleStop valve converts standard, constant-speed pumps into variable-speed pumps by choking back the output to match user requirements. (Photo courtesy of Joe Davidson, Berry Hill Irrigation Inc.)

drawdown tank, and it runs smoothly at 148 psi.

"I put one on, the customer loved it, and I've never looked back," Ingram says. "It gives you steady pressure. That's what people want. If they set it on 100 (gpm) they get 100. You can run 5 gallons or 500 gallons with one valve on one pump. And the customer can do the maintenance. They don't have to call anyone. They really like that."

CycleStop was born out of a bad shower experience nine years ago in Lubbock, Texas. Owner Cary Austin added a drip system to his garden, but it was causing his pump to cycle poorly, forcing him to put in a choke valve. However, that didn't leave much water for his house—hence the trickling shower. So he invented a correction for everything: the CycleStop valve. His wife, Karen, was so impressed that she told him to market it. Now the valves are international.

There are three CycleStop valves: the CSV1, the CSV3, and the CSV2, which is a high-pressure valve. The smallest is made of engineered thermoplastic, and comes in four preset discharge pressure settings: 30, 40, 50, or 60 psi. It works with a shut-off pressure of 150 psi.

The CSV2 comes in threaded 1-inch and 1¼-inch sizes. It features a bronze body with a stainless steel seat. The maximum pump shut-off is 300 psi. They have adjustment ranges of 25 to 75 psi and 5 to 120 psi.

The CSV3 ranges in size from 1½ inches to 16 inches. It is made of iron with stainless steel and bronze trim. It has an adjustable range between 2 to 30 psi and 2 to 300 psi. Standard, it is straight in-line globe style; however, flanged models can come in a 90-degree-angle design.

Joe Davidson, the CEO of Berry Hill Irrigation in Buffalo Junction, Virginia, has been using the valves for two years. Berry Hill specializes in irrigation work, and Davidson has installed the valves on water systems at vegetable fields, greenhouses, nurseries, and vineyards. He said one valve enables greenhouse workers indoors and outdoors to simultaneously accomplish their watering tasks.

He ran into an unusual predicament at Foster's Green House in Rocky Mountain, Virginia. The owner didn't have a well by the plant house located on a hill, and was using surface water from a pond at the foot of the hill. The water pressure was poor, but since Davidson installed a 1½-inch valve on a submersible pump, the system keeps constant pressure at 90 psi.

"The first time I saw them I was at a convention, and an engineer was saying they really work," Davidson says. "I'm really impressed with them. There's nothing electric, and they're easy to take care of. They do the job."

Steve Hougak, president and owner of Steve's Pump Service in Boring, Oregon, also discovered the valves at a show. Even with superlatives swirling around, he wasn't convinced; but he knew a market for the valves was there, so he tried them. After a few customers relayed more positives to him, he was sold. He says he regularly uses them and has worked with valves from 1 to 6 inches.

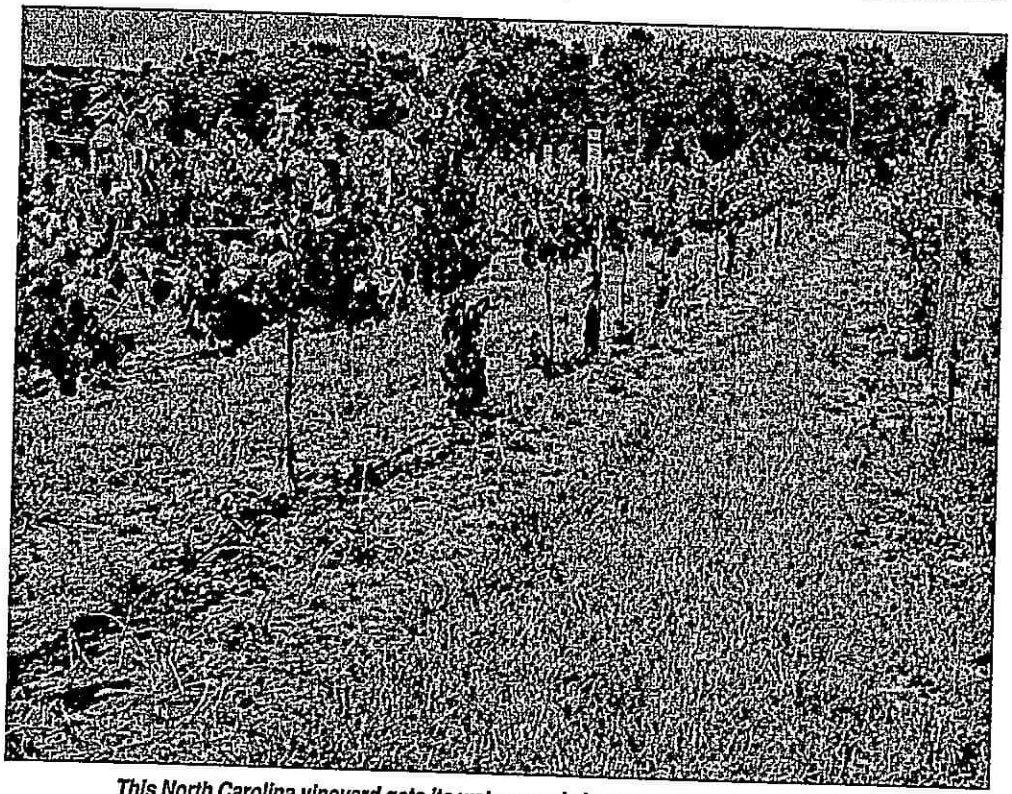
"I was skeptical," Hougak says. "Being a pump man, I'm from the old school and look at things differently when they're new. You think, 'Why try something when you already have something that works?' But it caught my eye, and I knew there was a market for it. I went out on a limb and tried it; people liked it, and I've been using them since."

Hougak says the only drawback he has heard from customers is from those who felt the valves didn't work as well with deep-well submersible pumps. However, he thinks the complaints of the pump constantly running are usually due to leaks elsewhere in the water system, not the valves.

Davidson says it can also be tough talking a customer who has always had a constant speed pump and a pressure tank into paying more for this system upgrade. Davidson also says that sometimes customers simply don't realize they need the valves.

"I had someone who had a hand well in a garage," he says. "I could hear it clicking on and off, and sent him one of the small (domestic) valves (to try for free). I ended up selling him two of the bigger ones."

"I try to use them every day," Hougak adds. "They do what they say. All in all, if they're set up right they work perfectly for people." ✦



This North Carolina vineyard gets its water supply by a system equipped with CycleStop valves connected to standard pumps. The pressure remains constant, enabling the system to run all of its watering operations. (Photo courtesy of Joe Davidson, Berry Hill Irrigation Inc.)

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