

GOLFCAR

A D V I S O R

MAY/JUNE 2006

PRO-FILL™

ON-BOARD BATTERY WATERING SYSTEM

by **FLOW-RITE**

**Water your batteries in
30 seconds or less!**



Flow-Rite Proudly Announces Approval by

Club Car

COVER STORY

THE FLOW-RITE PRO-FILL™ BATTERY WATERING SYSTEM WATERS BATTERIES IN 30 SECONDS OR LESS!

It used to be that watering batteries was the most time consuming and therefore costly function in maintaining electric golf cars. Flow-Rite Controls, of Grand Rapids, Michigan changed all that several years ago with their innovative Pro-Fill™ battery watering system. This on-board, single point system waters a set of batteries in 30 seconds or less. That's a tremendous time and money savings. Plus the battery watering system is so quick and easy to install.

How It All Began

Flow-Rite Controls, Ltd., an ISO 9001 registered company, was founded in 1981 by a group that included businessmen experienced in international manufacturing, patent attorneys, and an engineer with an interest and background in fluid mechanics. The business plan was to develop lines of fluid control products based on the technology of fluidics. Fluidics is the branch of fluid mechanics in which sensing and control valve functions are performed by fluids using a minimum of moving parts. Flow-Rite's market focus was on those industries where conventional mechanical valves had proven to be unreliable. They developed a frictionless hydraulic control valve that replaced troublesome ball

cock type float valves. Their first products included automatic level



The new Flow-Rite plant includes an efficient assembly area (photo above) and state-of-the art injection molding equipment (photo below).

controls for commercial and residential swimming pools.

In 1985, Flow-Rite was asked by General Battery Corp. to apply their technology to the problem of industrial battery watering. Industrial batteries are most commonly used to power electric forklifts. Weekly watering can be a labor intensive task, particularly for companies with large fleets of forklifts. Battery watering is frequently poorly tended to, so battery life can be shorter than expected. Improperly filled battery cells can lead to shorter battery life or bubbling out of corrosive electrolyte, damaging equipment and

floors. Manually watering batteries is also hazardous; a single spark near an open cell can ignite explosive hydrogen gas causing serious risk of injury and damage to surroundings. The marketing department at General Battery wanted an automatic battery watering system that would simplify this difficult maintenance task. They felt a reliable system would allow their customers to easily and safely maintain their batteries. They also knew that customer satisfaction with their product would be much greater; fewer warranty claims would be a benefit also.



(Continued on page 88)

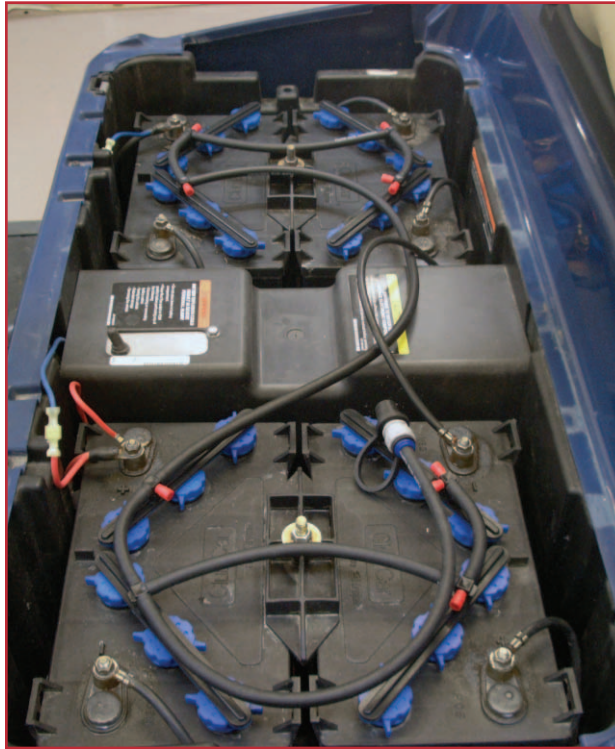
The Single Point Battery Watering System

The GBC marketing department wanted a “single point battery watering system.” This was to be an automatic system in which all the cells would be watered by making a single connection to the battery. Each cell was to have a level sensing automatic shut off valve and all the cells were to be interconnected with tubing, so they would all fill simultaneously when water was connected. Since each cell had its own refill valve, each cell would fill to the set level and then flow into the cell would be cut off. Filling was to be very rapid and accurate. Flow-Rite developed a prototype system meeting these specifications, which GBC tested and approved.

GBC marketed Flow-Rite’s system exclusively for two years, after which Flow-Rite expanded distribution to over 150 distributors and battery manufacturers throughout the United States, Canada, Mexico, Europe, Australia, New Zealand, Japan and Korea. For over 20 years

now Flow-Rite’s industrial single point watering systems have earned them a reputation for having the most advanced technology and superior customer service.

first single point watering system designed specifically for this application. They found that while there were many similarities to the industrial application, the golf monobloc battery watering system required a number of new features. One of the most important was the need for added safety. Unlike industrial batteries, golf monobloc batteries include special flame arrestors in the vent caps. Flame arrestors greatly reduce the chance that inexperienced maintenance personnel, such as those often employed by golf courses, could be injured in a battery explosion. Flow-Rite also learned that if they expected golf car manufacturers to install single point watering systems in their factories, they would have to be able to do it in a few minutes or less! That meant Flow-Rite’s system would have to have a minimum of parts to handle. It had to drop onto the batteries quickly and securely without interfering with battery cables and sit low enough on the batteries to avoid interference from golf car seat structure.



The Pro-Fill SPW system is shown mounted on a Club Car Precedent

Why Not Golf Car Batteries Too?

Golf car specialists may not be familiar with forklifts, but they may have recognized some similarities in battery maintenance requirements described above. It occurred to Flow-Rite also, that if the task of maintaining industrial forklift batteries can be improved with single point watering, then golf car maintenance can be helped too. About four years ago, Flow-Rite studied the special needs of golf car battery maintenance for the purpose of developing the

Club Car Approval

Flow-Rite is very proud of their development, Pro-Fill SPW, the only single point watering system developed for golf monobloc batteries. Pro-Fill SPW includes flame arrested refill valves and special manifolds to make installation fast and reliable. Their improvements in the product have paved the way for the Pro-Fill system to be the only system approved by Club Car Inc.

“Throughout development, Flow-Rite Controls has been able to respond quickly to customer-driven enhancements of the product. This has enabled Club Car to continue to meet the high expectations for Quality and Total Customer



The battery is watered by connecting a hose from the facility water supply. The hose end assembly includes a pressure regulator and flow indicator.

Satisfaction, which has built our reputation as the premier golf, utility, and transportation vehicle company in the world," said Jason Minton, Project Manager at Club Car; Ingersoll-Rand.

Remarkable Growth

Flow-Rite Controls has grown substantially over the past 25 years. From a humble start in the basement of one of the founders, to their new 47,000 sq. ft. state of the art manufacturing facility, they continue to see many opportunities for growth. As a vertically integrated company, they design and manufacture their own products. Flow-Rite's products are solely their own proprietary developments, protected by over three dozen U.S. patents and hundreds of international patents. Within Flow-Rite's facility they have their own mold making shop and state of the art plas-

tic injection molding operation. Their robot assisted injection mold machines allow them to operate their molding department "lights out" 24/7. They can meet their growing volume requirements without the need to go off shore for parts, as is so often the case with their competitors. This means Flow-Rite's Made in the U.S.A. label will continue to be the way they do it.

Flow-Rite Goes Global

Flow-Rite Controls markets worldwide. This expansion has given them a worldwide perspective of the battery watering needs of the international battery industry. As a result, over the past five years, they have made substantial improvements to their watering systems. These improvements are so significant and their technology so versatile, that they have created a number of new

systems, each for specific battery applications. Flow-Rite's industrial product is called Millennium SPW. Millennium SPW is the world's most versatile single point watering system. Millennium SPW meets all the watering needs of the worldwide industrial battery user. Pro-Fill SPW is, of course, Flow-Rite's golf monobloc product, designed to fit all brands of golf monobloc batteries. They also have Qwik-Fill SPW, the only watering system for 12 volt marine deep cycle batteries. All of Flow-Rite's products must meet their mission requirements, which are to develop, manufacture, and market the highest quality, best performing products in each industry they serve.

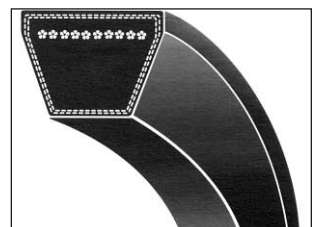
For more information on Flow-Rite Control's products visit their website: www.flow-rite.com or call (616) 583-1700.



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