

MG Scientific

Severn Trent Laboratories

MG High Purity Solvent Delivery System

Most laboratories that use high purity solvents face the major problem of keeping the solvents contaminant free yet conveniently available while still ensuring maximum employee safety. Bill Deckelmann found a way of solving these problems and more by permanently installing a solvent delivery system from MG Scientific. Deckelmann is the Lab Director at the St. Louis facility of Severn Trent Laboratories, the largest environmental laboratory company in the U.S., with 31 locations nationwide.

“We use methylene chloride as a solvent to analyze pesticides and herbicides,” begins Deckelmann. “If a bottle of methylene chloride breaks, we must immediately evacuate the entire building—all six laboratories—and call in haz mat. We must keep the labs closed for 24 hours to avoid risk to our employees. We also use acetone and hexane bulk chemicals throughout the lab, and both have fire and explosion risks.

“I was asking every salesperson I met if he knew of a solution. One of them suggested I talk to Jim McKeown at MG Scientific about the MG High Purity Solvent Delivery System. When we first heard about the system, we were immediately sold, because of all the positives that the product offers. Our first priority is safety and this product meets all our needs,” says Deckelmann.

Increasing Safety in the Lab

“The risk of bottle breakage is certainly eliminated with the MG Solvent Delivery System, and so is the risk of solvent contamination,” notes Mike Ridenhower, Safety Manager for the St. Louis facility.

With this system, MG delivers solvents to the laboratory in stainless steel containers that are picked up, refilled and returned to the lab, as often as necessary. The containers can be placed in individual labs or accessed by several labs through a system of stainless steel pipes that are configured and installed just like pipes for a lab’s high purity gas system. The containers are available in a variety of sizes, ranging from 4 liters to 1250 liters. Because the system is completely contained, there is no risk of solvent contamination until it is actually dispensed inside the fume hood.

Every solvent has unique hazardous characteristics. Dispensing the solvent within the hood area solves potential problems with fire or explosion. “Many lab employees lack the discipline to open and dispense chemicals exclusively in the hood area, where employee exposure is eliminated and the risk of fire or explosion is greatly reduced,” notes McKeown. “With the MG Solvent Delivery System, the solvents simply cannot be dispensed outside the hood area.”

“We don’t have to worry about inhaling any fumes because it goes directly into the hood which is great. Though inhalation isn’t an immediate danger—usually you have to inhale large amounts over a long period of time—but it is better to be safe,” adds Bob Dempsey, Organic Group Leader at the St. Louis facility.

The system is particularly suitable for high-purity and reagent grade solvents. Improper hook-ups are prevented with two color-coded, keyed Quick-Connects that automatically shut off solvent flow as soon as they are disconnected.

Type of Company:
Environmental Laboratory

Location:
St. Louis, MO,
with 31 locations
nationwide

Concerns:
Employee Safety

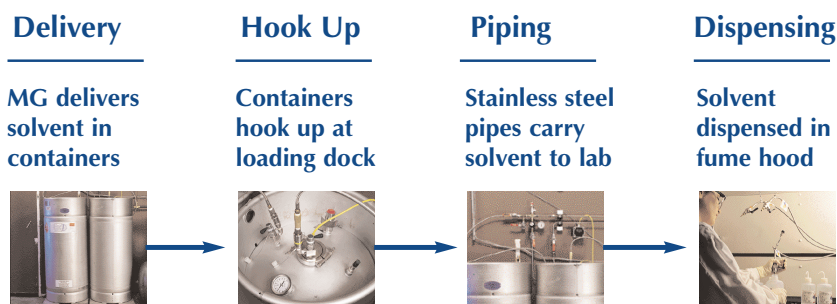
Solvent Purity

Technician Efficiency

System Installation

The first step of system installation is an on site survey by MG Scientific's experts. The volume and types of solvents used are reviewed, along with the physical configuration of the laboratory and loading dock areas. MG determines system requirements and recommends a specific system for the installation. A detailed diagram is developed showing solvent container location(s), piping and dispensing locations, along with the system cost. Once the plan and budget are approved, MG makes all arrangements for installation and supervises the entire process.

The Severn Trent St. Louis facility installed the MG Solvent Delivery System for three solvents—acetone, hexane and methylene chloride. The containers are delivered and stored at the loading dock from where pipes carry the solvent to the labs. The solvents enter the individual labs through a fume hood. This configuration is typical and is shown below.



"The brand of solvents we recommended for the Severn Trent labs in St. Louis is JT Baker's in their CYCLE-TAINER® system," comments McKeown. "Baker is a pioneer in the use of these containers."

"Key to the success of our installation was the expert guidance and continuing support from MG Scientific," confirms Deckelmann. "They had the CYCLE-TAINER® available when we needed it. We met with Jim [McKeown], and we really liked him and what MG had to offer. Once we had MG approved as a vendor on the corporate level, we placed the order. We have had no problems. Jim has been there every step of the way."

System Benefits

Benefits besides employee safety and avoiding solvent contamination include convenience, reduction in package waste and cost savings.

"Before I used to have to carry 10-12 cases of solvent a day from one end of the building to the other. Now all I do is press a button. This product is awesome," says Kevin Fitzwalter, a lab technician at Severn Trent.

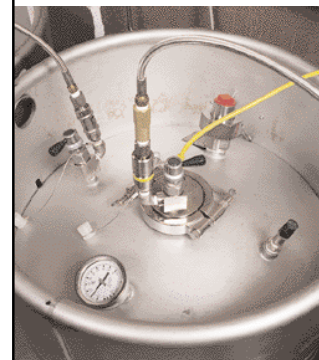
"The solvent typically comes in a case of four liter glass bottles, with four bottles per case. It weighs more than water, so it is very heavy. There is an awful amount of waste that goes along with those cases, too, like cardboard and Styrofoam®," adds Dempsey.

"Although safety is our primary concern, financial considerations were also a factor in deciding to purchase the MG Solvent Delivery System," notes Deckelmann. "The cost of installing the entire system was \$6,800, including \$5,000 for piping connections from the containers to the laboratories. MG monitors our solvent usage, delivers full containers and takes the empty ones to refill and return."

Bottom line, is Severn Trent Laboratories happy with the MG Solvent Delivery System? Bill Deckelmann responds quickly. "We're so pleased with the system that we've accepted a proposal to install the system into four other labs in the Midwest."



The Quick Connect feature facilitates an easy, safe connection from the CYCLE-TAINER® to the pipe system.



As a safety feature, solvent flow is automatically shut off when the valve is disconnected. The system carries an FM rating for fire.



Pipes are installed to run from the containers to each laboratory. One container can feed several laboratories.



Dispensing within the hood area with just the push of a lever is safe and convenient.



MG Scientific

Supplying laboratories since 1985

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