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# The Free-pour Days Are Coming To An End

## Chemical dilution control systems help save time, money and the environment.

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Historically, most cleaning professionals had two options when using chemicals: Ready-to-use (RTU) chemicals that typically come in quarts or gallons or employ the “free-pour” system with concentrated chemicals.

That's when users mix some chemical with some water and “hope for the best” — praying they mixed it properly for the cleaning task at hand.

Complicating the problem, end-users often over dilute, believing more is better, which is often not true and simply increases costs.

Then, a decade or more ago, some large facilities began installing chemical dilution and dispensing systems.

These facilities typically use huge amounts of cleaning chemicals.

Their managers found that, by installing dispensing systems, they were able to lower costs, improve chemical inventory control and lower potential exposure liability.

Instead of having several quarts and gallons of different chemicals in scores of different janitorial closets, they were able to limit the containers of chemicals.

Indeed, interest in dilution control and dispensing systems took a big step forward in the past few years when users realized the systems could play a big role in promoting sustainability through green cleaning.

With a dispensing system, dilution is accurate every time — just enough chemical is dispensed to perform the cleaning task without waste or excess, which could impact the health of the worker.

This is not typically the case when chemicals are “free poured” into sprayers, buckets and other cleaning tools.

Additionally, with heavily concentrated cleaning chemicals, packaging needs are reduced, as is the fuel necessary for transporting goods to the end-user.

Further, the concentrates are usually packaged in a “closed system” that helps prevent off-gassing, which can negatively impact indoor air quality.

Now, with the downturn in the economy and the greater concerns for controlling cleaning costs, the pros and cons of various dilution control and dispensing systems are being revisited.

This time, the systems' ability to help reduce cleaning costs is viewed as one of their primary benefits to building service contractors and facility managers.

**Unit Costs**

Large facilities were the first to realize the potential economic benefits of chemical dilution control and dispensing systems, and there was a key reason they were often the only ones using the systems: Costs.

Early systems tended to be large and came with prohibitive plumbing and mounting requirements.

Prices were often $300 or more plus the time and charges to install them.

Although the costs could be justified in a large facility such as a multi-story office building, a university or a hospital, they often were hard to justify for a small location.

However, several portable systems are available today that are compact, easy to install and much more cost effective compared to free-pour and RTU methods.

In fact, in some cases, the distributor may even provide the portable units at no charge in exchange for purchasing cleaning chemicals from that supplier.

Among the types of dispensers available are the following:

- Industrial systems, which are typically used to fill large autoscrubbers and can release up to 20 gallons of diluted cleaning solution per minute
- Large-volume wall-mounted systems, which can dispense four gallons per minute, have multiple dilution settings, offer low-flow or high-flow options and can be used to fill both trigger sprayers and buckets as well as autoscrubbers
- Small-volume systems, which have a relatively small footprint and can be used to fill bottles, buckets and autoscrubbers; may also be portable so they can be moved from one location to another
- Single-product dispensers, some with high-flow or low-flow settings, designed to dispense one chemical.

No matter which type of system they select, users are advised to look for such features as: Low-flow settings for filling sprayers and high-flow settings for filling buckets and autoscrubbers; easy-to-view chemical level displays; “closed” systems, which help reduce the amount of volatile organic compounds (VOC) and chemical fumes that can be released into the air, and one-hand bottle/bucket fill.

**Are They Really Cost Effective?**

In some ways, it might seem the most cost-effective system to use is not a chemical dilution system, but rather RTU chemicals discussed earlier.

Additionally, with RTU chemicals, concerns that the products are properly mixed are no longer an issue.

But, RTU systems can actually have a much higher cost because the user is paying for convenience.

Plus, there are the added packaging and shipping costs for selecting RTU chemicals, which must be worked into their price structure.

According to some estimates, an RTU quart of cleaning chemical can cost anywhere from two to three dollars.

The same amount of chemical using a dilution control and dispensing system would be in the neighborhood of 30 cents per quart in a large system and 90 cents per quart in a small system.

It is more difficult to estimate the cost savings when cleaning workers are using the free-pour system because the amount of chemical used is not always consistent or as per label instructions.

Instead, savings are often determined more by chance than exact measurement.

But, here, too, some cleaning experts suggest that the savings can be significant if a dilution control system is used, with cost savings ranging from 25 percent to 65 percent over free pouring.

Although the savings are there, it should be noted that the location of dispensing units in a facility can impact their cost effectiveness.

With the early, larger and more costly systems, units might not be located on every floor — especially in the case of a multi-story building.

This would mean that the cleaner would have to go to another floor to get more chemical, which could seriously hamper productivity.

Smaller, portable systems have helped rectify this problem; but, these, too, require some thinking.

The types of chemicals dispensed from the units should reflect the cleaning needs in their specific areas.

Is there carpeting or hard surface flooring; are there many or few restrooms nearby; is the area used for foodservice?

Answers to these questions will determine which types of chemicals should be provided with each dispensing system.

**Final Thoughts**

To truly appreciate the potential savings of a dilution control system, as well as its value in protecting worker health and the environment, building managers must make a commitment to the new system.

The facility manager or building service contractor needs to instruct workers on how to use the system and, more importantly, educate them on why the new system is being employed.

It's easy for cleaning workers to fall back into old habits and start free pouring again.

For greater buy-in, they must be informed that dilution systems are invariably healthier and safer to use, more sustainable for the environment and add another level of professionalism to cleaning.

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