



Personal Protective Equipment

Finding the Right Fit: 3M's Secure Click Respirator Makes Gearing Up Simpler

James Langford | Oct 06, 2022

As anyone who's ever worn a Halloween mask knows, you don't keep face coverings on very long when they're uncomfortable. The same holds true even when the coverings are workplace safety equipment like reusable respirators, despite the much higher stakes.

Which is a driving factor behind the continuous upgrades in respirators at St. Paul, Minnesota-based 3M, the manufacturer that produced the first reusable "Maintenance-Free" Half Facepiece Respirator in 1977.

During the past 50 years or so, 3M has added filter cartridges with a "swept-back" design that enabled better peripheral vision, a "bayonet-style" connection, nonwoven filters that enabled easier breathing, a full facepiece and a *quick latch* that simplified lowering and raising the respirator for workers moving back and forth between contaminated areas and safe spaces.

A pivotal innovation came with the introduction of the Cool Flow valve in 2002, which more readily allowed the release of exhaled breath from the respirator.

When Discomfort Means Dysfunction

3M's latest model, the *Secure Click™ half facepiece respirator* introduced in February, employs a quad-flow system, with two dual-flow cartridges on each respirator that create four airflow paths.

Component connection is also simpler, working just like a vehicle seat belt: Users can be sure they've added filters and cartridges to the facepiece correctly because doing so generates an audible click.

"We've come a really long way," says Jackson Hornbeak, a former safety sales specialist who works in the marketing unit of 3M's personal safety division.

Ensuring workplace respirators are worn correctly and function properly is critical for employers, who are required by the U.S. Occupational Safety and Health Administration, the nation's top workplace safety regulator, to provide the gear for workers exposed to harmful dusts, fumes, sprays or gases.

Manufacturers were fined **\$888,654** last year for violations of that rule, *OSHA Standard 1910.134*,

accounting for nearly a quarter of the fines imposed across all American industries.

“If it’s not sealing properly, if it’s not fitting the way it’s supposed to, it’s not going to give the respirator the chance to do its job and protect wearers from the hazards that are in the environment,” Hornbeak says.

Comfort may be even more crucial than fit, Hornbeak says, because users need to keep the respirators on.

“If the wearer needs to have it on for eight hours but it’s not comfortable, or their face starts hurting, then they may take it off,” he adds. “If they’re not wearing it properly or not wearing it at all, they’re not going to get any of the benefits and protection it offers.”

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The Secure Click™ HF-800 Half Facepiece helps increase comfort by adding a silicone faceséal and a flex-joint nose bridge, 3M says. Offering a wide field of view, it’s compatible with some welding and grinding shields, the company notes.

Next Generation of Respiratory Protection

A key feature allows seal checks—which wearers must perform before each use of a respirator to comply with OSHA regulations—to be performed much more simply.

Before the Secure Click™ HF-800, users conducted a negative-pressure check by covering the filters with their hands and attempting to breathe in. If the facepiece collapsed slightly, they knew the gear had been donned correctly.

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A positive-pressure check operated on the same principle in reverse: Workers covered the device’s exhalation valve and exhaled, which ideally would create a bulge in the gear rather than allowing air to escape around the edges.

Secure Click™ HF-800 lets users block the airways for that check by merely pushing a button and inhaling rather than having to line their hands up perfectly, Hornbeak says.

“We listened to our customers while developing the new Secure Click™ platform,” Dr. Nikki McCullough, 3M’s vice president for global application engineering and regulatory affairs, says in a statement. “This facepiece is the next generation in respiratory protection from 3M.”

The company didn’t stop there, however. 3M is introducing an addition to the Secure Click™ platform this month: a full facepiece version.

Since Secure Click™ uses different filters and cartridges than previous respirators, offering both the full and half facepiece models allows customers to use filters and cartridges interchangeably.

“It rounds out the portfolio,” Hornbeak says, “and for customers who want to standardize on just one set of cartridges and filters, these new facepieces give them that opportunity.”

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