IAFF and DHS Select MSA to Build Next-Generation SCBA Prototype

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Summary

After a competitive evaluation, MSA was chosen as the sole developer of functional SCBA prototypes using the widely-publicized **IAFF low profile** cylinder array.

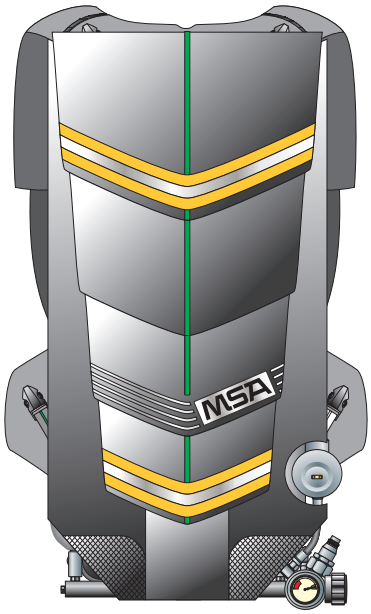
To date, MSA has created an initial design, built preliminary prototypes, had those prototypes evaluated in a first field test, and completed a redesign based on field test results. During the remainder of 2010, MSA is building a series of SCBA prototypes for field testing, testing against key NFPA requirements, and for input from the fire service through the IAFF. We are honored to be part of this important initiative to improve firefighter safety and effectiveness, and intend to work with the IAFF to widely communicate this project's progress.

It is important to note that this project will result in functional prototypes only, and **not** a saleable production-ready SCBA. While the prototype SCBA will be subjected to key NIOSH and NFPA tests to show that it can be certified, the prototype SCBA will not be certified as part of this effort. Market availability is uncertain at this time.

What is it?

The low profile cylinder array is a new compressed air storage technology that has been under IAFF development as part of a DHS program to improve the weight, comfort, and profile of SCBA to benefit firefighters. The pressure vessel array development has been contracted by the IAFF to Vulcore Industrial LLC. The array will be pressurized to 4500 psi, with a rated minimum service life of 45 minutes. This new pressure vessel technology is based upon a high temperature thermoplastic elastomer liner, braided with a para-Aramid ballistic fiber and filament wound with pre-impregnated carbon fiber. The new technology has been found to be non-fragmentary, with performance demonstrated to a relevant ISO standard as accepted by DOT through a Special Permit that was issued in early June 2010. The final stage of proving the technology's effectiveness is to build and test a series of complete SCBA using this new technology.

FRONT



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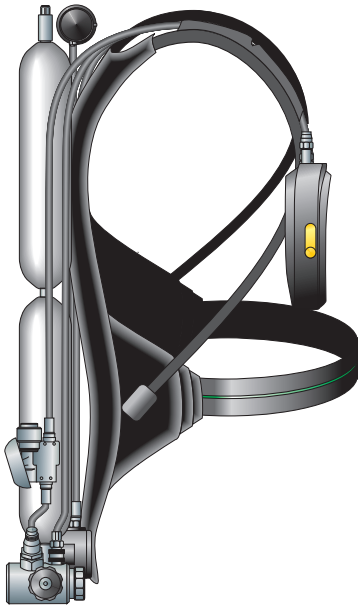

SIDE

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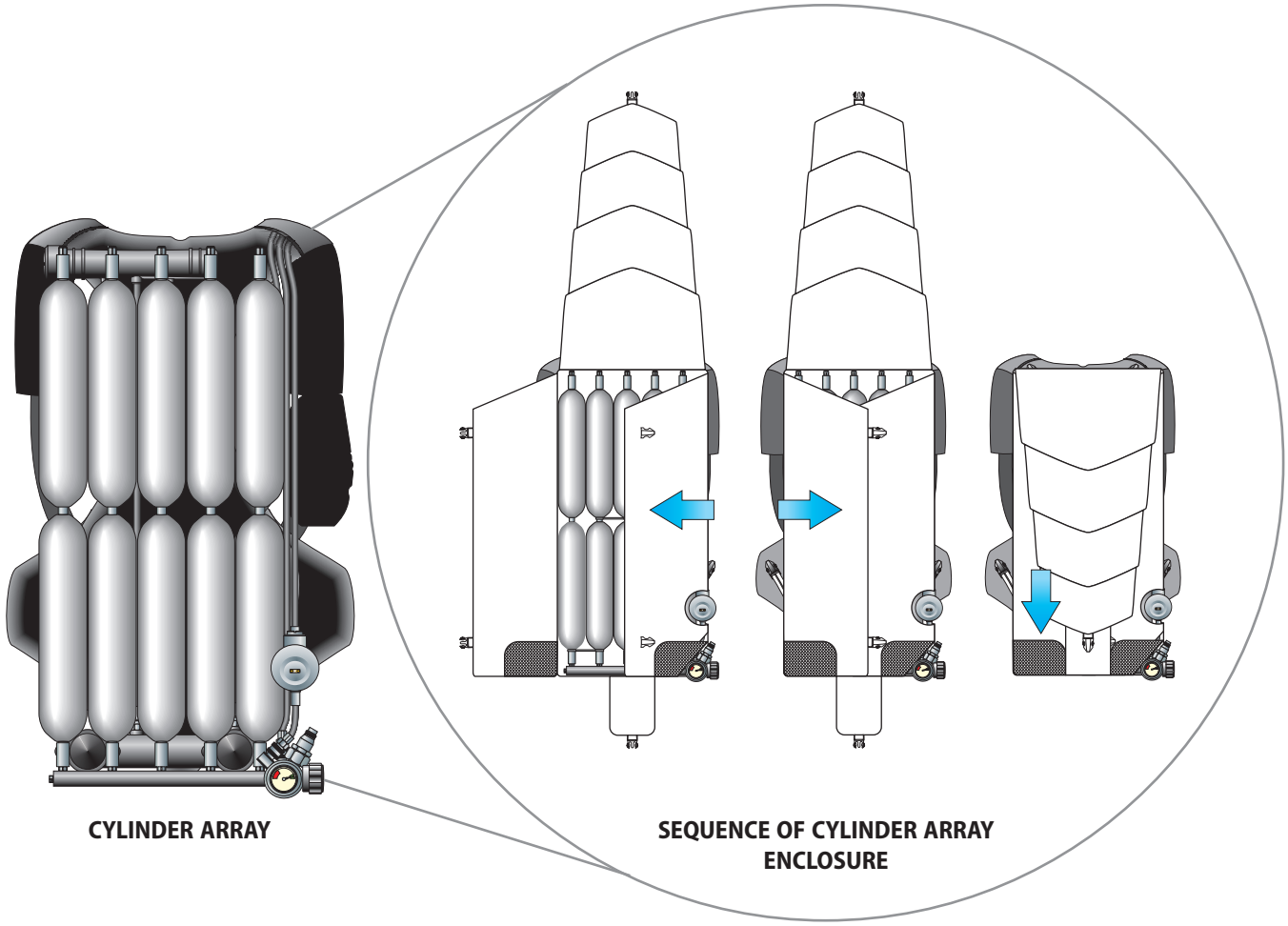
What is MSA's role in the development?
MSA has designed and is building a series of SCBA prototypes, complete with integrated PASS, for field testing, testing against key NFPA requirements, and for input from the fire service through the IAFF. A Technical Advisory Committee (TAC), consisting of representatives from 14 different fire departments and two law enforcement organizations, has been established by the IAFF to provide advice to the project team in the development and testing of the technology.
This work will result in an SCBA prototype that demonstrates the feasibility of the low profile cylinder array and its potential benefits to firefighters.

When can I buy this new technology?
This project will result in functional prototypes only, and not a saleable production-ready SCBA. Commercialization of new SCBA using the low profile cylinder array will require cooperation from many fire service industry entities in areas such as cylinder manufacturing, filling equipment, and SCBA storage. This is expected to be a significant undertaking, which is not part of this project, therefore market availability is uncertain at this time.

How can I stay up to date on the progress?
Fire departments should not yet plan on the availability of this product for their SCBA programs. However, we understand the importance of advance planning and will be sure to provide frequent updates on this exciting technology!

Visit MSAnet.com/IAFF and IAFF.org for the latest news and information.



CYLINDER ARRAY

SEQUENCE OF CYLINDER ARRAY ENCLOSURE

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August 2010 Status Update

In May 2010, the first field evaluation of the next-generation low profile SCBA prototype was completed at the Prince George's County Fire / EMS Training Academy with fire fighters and law enforcement officers from the surrounding areas, including the Prince George's County, Fairfax County, and D.C. Fire Departments, as well as the Montgomery County Fire Rescue and the Prince George's County Police Department. The field evaluation was facilitated by the IAFF with support from the DHS, NIOSH-NPPTL, MSA, and International Personnel Protection, Inc.

The field evaluation was conducted using exercises from the IAFF's Fire Ground Survival Program, including: Wall Breach with Low and Reduced Profile, Disentanglement Maneuvers, Low Profile Ladder Escape, SCBA Confidence Maze and Roof Operations.

After the evaluation, the participants provided feedback. Measurements were also made on the donning time and ergonomic aspects of the new prototype compared to each participant's current SCBA. MSA then used this valuable input to improve the design for the working prototypes that will be used in the forthcoming second field evaluation.

The overall consensus was that the MSA low profile SCBA felt lighter and more comfortable than conventional SCBA. MSA's design also reduced the number of entanglements going through the wire maze and made it easier to complete the wall breach exercise. Quantitative measurements also show some improvements in the mobility of the test participants.

Stay tuned to www.msanet.com/iaff for more exclusive updates on this groundbreaking project!

Wall Breach with Low Profile

Wall Breach with Reduced Profile

Disentanglement Maneuvers

Low Profile Ladder Escape

SCBA Confidence Maze

Roof Operations

Note: This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.

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ID 0100-10-MC / Aug 2010

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