



Badger Fire Protection
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A UTC Fire & Security Company

TECHNICAL BULLETIN #112-0110

Date: March 2003

Subject: Removal of Air Valve from Stainless Steel (Water Type) Fire Extinguishers

Badger has received several requests for additional information relating to the proper pressurization of stainless steel water type fire extinguishers.

The fire equipment industry has recently begun to phase-out and eliminate the utilization of the Schrader™ style air pressurization valves on water, foam and wet chemical types of stainless steel fire extinguishers. There are several good reasons for this action, but the primary reason is for the safety of untrained personnel who might attempt to pressurize and charge them without using the proper safeguards or equipment.

The 2010 edition of the NFPA-10 portable fire extinguisher standard contains various extinguisher pressurization requirements calls for the connection of the manufacturers pressurizing adapter and the utilization of only calibrated and regulated pressurization sources set no higher than 25 PSI over the intended charge pressure. NFPA specifically requires the regulated pressurization source pressure gauge to be calibrated at least annually for accuracy. (Reference Paragraphs 7.4.4.2.1.1, 7.4.4.2.1.2 and 7.4.4.2.1.3)

The basic rationale for the NFPA requirements is to prevent personnel from improperly pressurizing fire extinguishers, which could cause them to ultimately rupture violently. Unfortunately, the lack of proper training and use of improper charging equipment has resulted in serious injuries when attempting to pressurize extinguishers.

To help discourage and prevent untrained personnel from utilizing improper pressurization sources (like those commonly found in vehicle service stations) the removal of the Schrader™ style air adapter from these extinguisher valves was necessary.

Besides ensuring compliance with various safety codes, the removal of these valves also helps increase the operational reliability of these fire extinguishers. One of the most susceptible tamper points on the stainless steel (water type) fire extinguishers was the permanently installed air valve. Besides being a potential slow pressure leakage point if any contamination had accumulated on the seating surface, vandals could easily bleed down an extinguisher's operating pressure through them. Unlike the pull pin which has a visual tamper seal that breaks if tampered with, the fixed air valves installed on fire extinguishers could never display evidence of tampering.

The industry method preferred for pressurizing stored pressure fire extinguishers has typically always been through the valves discharge outlet. This pressurization method passes the clean gaseous expellant charge over valve stem seating surfaces and through the siphon tube, further ensuring such areas are kept clean, clear and functional.

When desired, properly configured extinguisher pressurization sources can still utilize the same style of tank air valve Schrader™ connections to pressurize these water type extinguishers by simply adding them onto the end of the Badger charge adapter P/N-04795.

To address extinguisher hardware modifications personnel can refer to Badger technical bulletin #102 explaining various extinguisher material compatibility issues associated with the use of improper agent additives and Badger product bulletins #206 and #212 which also reference these pressurization hardware changes.

From a liability standpoint, personnel responsible for the sale, placement or distribution of life safety equipment (like fire extinguishers) within the workplace must fully consider the many negative implications associated with ignoring such common sense life safety recommendations.

For any questions or additional information please feel free to visit the Badger web site at www.badgerfire.com or contact Badger at (434) 964-3200.