

FIRE INDUSTRY



**TECHNOLOGY ADVANCEMENTS
IMPROVE THE
CLEANING PROCESS**



xeros[®]
POLYMER CLEANING

XEROS POLYMER BEADS DELIVER A MORE EFFECTIVE CLEANING SYSTEM

FOR YOUR PERSONAL PROTECTIVE ENSEMBLES

As a firefighter, your life and health depend on the ability of your Personal Protective Equipment (PPE) to shield you from exposure to both physical and health hazards. That is the mission of your turnout gear. However, if you fail to properly clean the protective ensemble, this mission can be compromised. Protective ensembles that are not clean tend to absorb heat, can ignite, and may not be able to self-extinguish once ignited. Soiled protective ensembles can also expose apparatus, facilities, personnel, and the public to numerous contaminants that have been identified as health hazards.

Due to the different soil types and concentrations often deposited on firefighters' PPE, cleaning this turnout gear is a much tougher prospect than cleaning home laundry. It is complex industrial cleaning which requires advanced technology, processes, and safeguards.

Xeros has invented a revolutionary new process that fundamentally changes laundry. By replacing water with polymer beads as the primary means of removing stains from fabrics, we have made the first real innovation in washing machines – and the wash process – in over 60 years. The Xeros polymer bead cleaning system maximizes all of the cleaning elements – from water level, wash temperature, detergents, and mechanical action – to more effectively and uniformly clean firefighters' protective clothing.



SUPERIOR CLEANING

Recyclable polymer beads gently wash while absorbing stains, stray dye, and soil carrying them away from fabrics

XEROS USES A SYSTEM APPROACH THAT LEAVES A LOW CARBON FOOTPRINT, YET IS EFFECTIVE ON CLEANING FIREFIGHTERS' PROTECTIVE ENSEMBLES.

At the Heart of this System is Polymer Bead Technology and a Custom-Blended Detergent Package.

The basics of cleaning consist of water level, water temperature, chemistry, contact time, and mechanical action. The mechanical action generated by the Xeros polymer bead cleaning system is generated through "lift and drop" and is enhanced by adding millions of small polymer beads to the wash bath. The polymer beads replace much of the water in the machine and spread out to cover a large surface area of the fabric resulting in increased mechanical action. The beads absorb soils and are much gentler than traditional methods of cleaning, which helps the materials and fabrics used on outer shells, moisture barriers, thermal liners, hoods, station uniforms, technical rescue clothing, and wildland clothing last even longer.

In addition to the polymer bead technology, the Xeros system uses a custom-blended detergent package that is compliant with the pH requirements of NFPA 1851 and developed to work with low water levels and wash temperatures at or below 105° F as required by NFPA 1851. Also, the detergent package is diluted and flushed into the sump before being dispensed into the wash load so that cleaning chemicals are never in direct contact with fabric or the stainless steel.

While cleaning protective ensembles is a complex process, the various cycles and formulas used in the Xeros polymer bead cleaning system come pre-programmed and pre-packaged, making the Xeros machine fully automated and extremely easy to use. Most commercial front-load washers have a weight requirement; the Xeros system uses technology that allows for variable loads.

In addition to delivering a more effective clean that is gentler on your turnout gear, Xeros is better for the environment. The Xeros washer uses up to 80% less water, 50% less detergent, and 50% less energy than most commercial wash systems. It can effectively clean in ambient temperature water, which reduces energy costs. The polymer beads are also eco-friendly and can be used hundreds of times before being recycled and reused by other industries.



SUSTAINABILITY
Process laundry with less water, energy, and chemicals to preserve the environment



XEROS SBEADYCARÉ® PROVIDES A TURNKEY SOLUTION FOR YOUR TURNOUT GEAR

Xeros Sbeadycare is a fully-integrated, all-inclusive program that provides a stress-free solution to your laundry operation.

Laundry Solution That Is All-Inclusive

Depending on the program you choose, you can receive:

- NFPA and OSHA compliant training that is instructor led by qualified staff trained in occupational safety/health and cleaning processes.
- NFPA and OSHA compliant safety manual covering exposure control and the safety of apparatus, facilities, and personnel.
- Process guides detailing every step of the cleaning process for all firefighters' protective elements including those not able to be cleaned by the Xeros system.
- Polymer Beads
- Custom-blended Detergent Package
- Maintenance, Service, Support, and Training
- Intelligent Monitoring with Sbeadycare CONNECT (our IOT platform)
- All Warranties



A TOTAL LAUNDRY SOLUTION THAT INCLUDES TURNOUT GEAR DRYING.

We also offer Xeros cabinet dryers that are engineered specifically to safely dry firefighters' protective ensembles in a matter of hours.

Drying Cabinet Designed for Turnout Gear

Manufacturers of firefighters' protective ensembles all agree that air drying in a controlled environment is the best way to dry all protective elements. While NFPA 1851 does allow for the use of mechanical dryers, they are known to damage some fabrics and materials such as hook & loop, reflective trim, and moisture barriers, due to either their temperatures or mechanical action.

The Xeros XFC series of cabinet dryers allow for temperature controlled air drying. They are designed to accommodate not only the jacket and trousers but all personal protective equipment types such as the helmets, boots, and gloves. The Xeros XFC dryers come in two sizes which can hold either three or six complete ensembles.

Features:

- Stainless Steel Cabinet
- Cabinet Capacities up to 6 Complete Ensembles
- Directed and Controlled Airflow
- High 1200 cfm of Airflow
- Internal Temperature Does Not Exceed 105°F
- Adjustable Shelf For Drying Flat Goods
- Approximate 60 Minute Cycle

"I found that the Xeros machine was easy to use and its production and quality are great."

- Lt. Hilliard Gibbs, Atlanta Fire Rescue



GARMENT LIFE
Gentler cleaning action at lower temperatures means less damage from cleaning



Lieutenant Gibbs with
City of Atlanta Fire Station 1

THE XEROS SYSTEM IS COMPLIANT WITH NFPA TECHNICAL STANDARD 1851 FOR CLEANING PERSONAL PROTECTIVE EQUIPMENT.

Top-load machines should not be used to clean turnout gear. The center post agitation is more damaging to ensembles and ensemble elements. [NFPA 1851 A.7.3.6(1)]

Xeros is a front-loading washer.

The washer's water temperature should not exceed 105° Fahrenheit. [NFPA 1851 Chapter 7.3.7(4)]

The polymer beads have been proven to eliminate the need for hot water. The Xeros washer is highly programmable to provide superior cleaning at lower temperatures.

A mild detergent that has a pH of no less than 6.0 pH and not greater than 10.5 pH should be used. [NFPA 1851 Chapter 7.3.7(5)]

With Xeros you get a custom-blended detergent package that is developed for cleaning the fabrics and materials used in today's protective ensembles.

The drying basket shall not exceed 105° Fahrenheit. [NFPA 1851 Chapter 7.4.3(4)]

The internal temperature of the Xeros drying cabinet does not exceed 105° Fahrenheit.

As recommended by Section A.7.1.9 of the 2014 edition of NFPA 1851, Xeros has submitted samples for laboratory testing to evaluate the effects of cleaning agents and cleaning procedures using the NFPA 1971-2013 performance testing requirements. Testing was conducted by Underwriters Laboratories (UL) and included flame resistance (NFPA 1971 Chapter 8.2), heat resistance (NFPA 1971 Chapter 8.6), tear resistance (NFPA 1971 Chapter 8.12), seam breaking strength (NFPA 1971 Chapter 8.14), and cleaning shrinkage resistance (NFPA 1971 Chapter 8.24). These tests were performed on various outer shell fabrics, thermal liner fabrics, and moisture barrier fabrics representing technologies currently in use.

XEROS SM3560

Capacity: 9.6 Cubic Feet

Cylinder Size: 31.9"x 20.5"
Cubic Content: 71.9 gal.
Water Inlets: (2) 3/4" BSPT
Drain Pipe: 2.25"

Drive System: Inverter

High Extract: Up to 810 RPM
G-Force: Up to 294* G
Extract Motor: 10 h.p.
Circuit Breaker: 30 amp

Control: 7" Touch Screen

Programs: Up to 50

Dimensions

Width: 45.3"
Depth: 56.1"
Height: 60.6"
Net Weight: 2,425 lbs.
Shipping Weight: 2,503 lbs.

Options include:

215/60/3 and 400/50/3

Consult Xeros for other available voltages including low-voltage options.

*Programs can be customized to extract no higher than 100 G.

XEROS SMV90

Capacity: 17.9 Cubic Feet

Cylinder Size: 35.9" x 25.9"
Cubic Content: 134 gal.
Water Inlets: (2) 3/4" BSPT
Drain Pipe: 3.5"

Drive System: Inverter

High Extract: Up to 750 RPM
G-Force: Up to 312* G
Extract Motor: 10 h.p.
Circuit Breaker: 30 amp

Control: 7" Touch Screen

Programs: Up to 50

Dimensions

Width: 52"
Depth: 61"
Height: 86"
Net Weight: 4,344 lbs.
Shipping Weight: 4,422 lbs.

XEROS XFC-3

Capacity: 3 sets of turnout gear

Width: 31"
Depth: 34.75"
Height: 86"
Electric Heating: 12 kW
Exhaust Diameter: 6"
Outlet Airflow: 1200 cfm
Max Temperature: 105° F

XEROS XFC-6

Capacity: 6 sets of turnout gear

Width: 61"
Depth: 36"
Height: 86"
Electric Heating: 12 kW
Exhaust Diameter: 6"
Outlet Airflow: 1200 cfm
Max Temperature: 105° F

Electrical options:

208-230V/60HZ/ 1 - or 3-Phase



POLYMER
CLEANING
TECHNOLOGY
REPLACES
UP TO 80%
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WITH A
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FIREFIGHTERS'
PROTECTIVE
TURNOUT GEAR

**AN INNOVATIVE SOLUTION
WHOSE TIME HAS COME.**

Xeros is the first real innovation in the laundry industry in over half a century.

With Xeros, you get an all-inclusive system that includes the equipment, materials, service, support, training, process guides, and is compliant with NFPA 1851.

To get all the information on Xeros polymer cleaning and to watch our videos demonstrating the process, visit us at:

XEROSCLEANING.COM



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