



Trusted above all.™

# Trusted protection for Lithium-Ion Storage Spaces



# Complete protection for Lithium-ion Fire Scenarios

Lithium-ion batteries power a wide range of devices, from smartphones and laptops to electric vehicles and renewable energy systems. Their compact size, high energy density, and “re-chargeability” make them an essential — albeit a potentially dangerous — part of modern life. Lithium-ion batteries can overheat, catch fire, or even explode if damaged or misused. *Thermal runaway* (the term for rapid, uncontrolled release of heat energy from a battery cell) can often be the ignition source for larger, challenging battery fires.

**Tests have concluded that water is the most effective fire suppressant for controlling these challenging fires. With Viking’s innovative and robust range of fire sprinkler options, customers can rest assured they’re well protected with the most simple suppression element: water.**

**There are NO specific approvals or listings for sprinklers protecting Lithium-ion cells or modules.** However, Factory Mutual provides guidance on protection in FMDS 8-1 and 8-9 using FM Approved storage sprinklers.

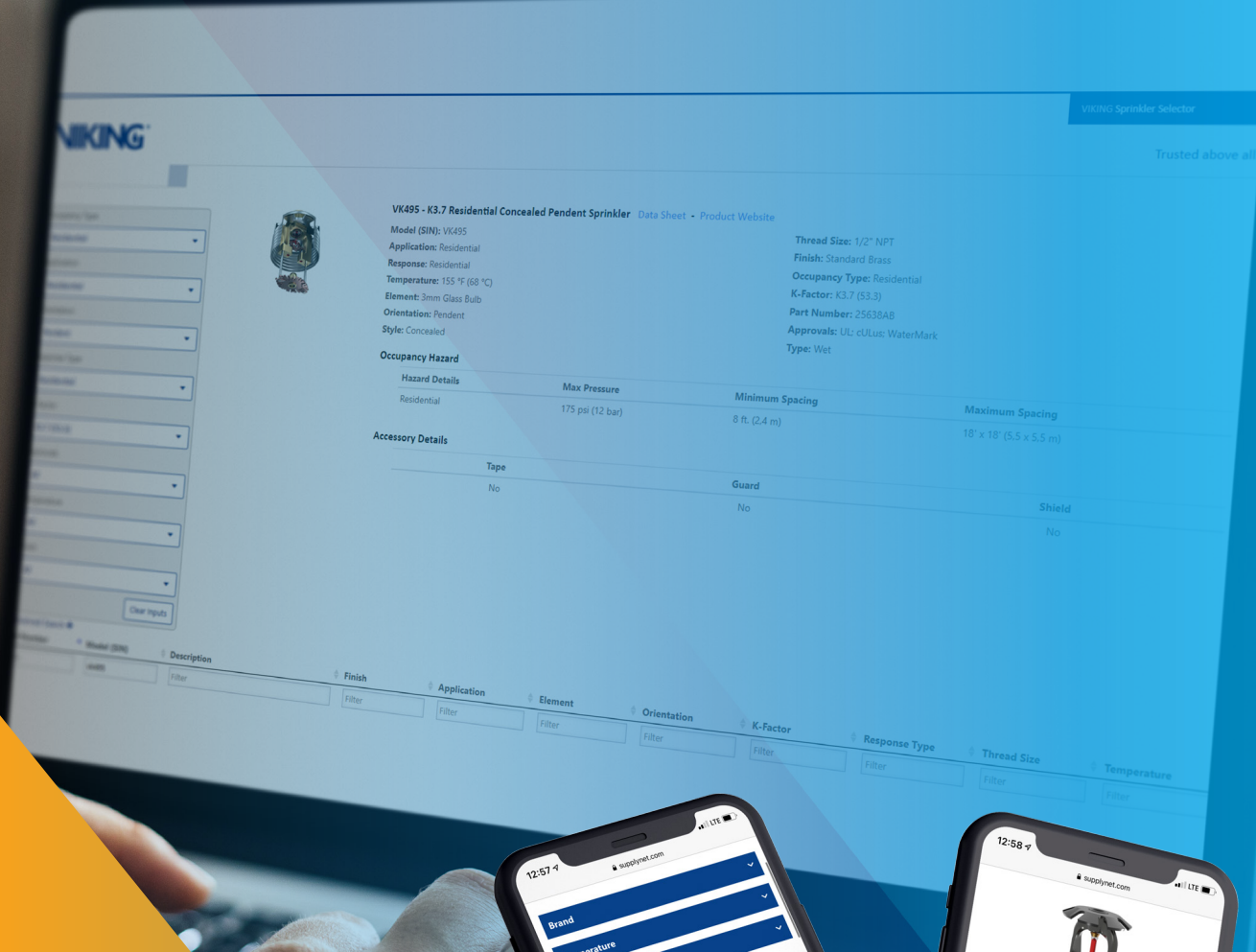
Viking offers FM Approved sprinklers capable of meeting all design requirements in FMDS 8-1. Review the table below for more information.

FMDS 8-1 Table 2.4.2.1

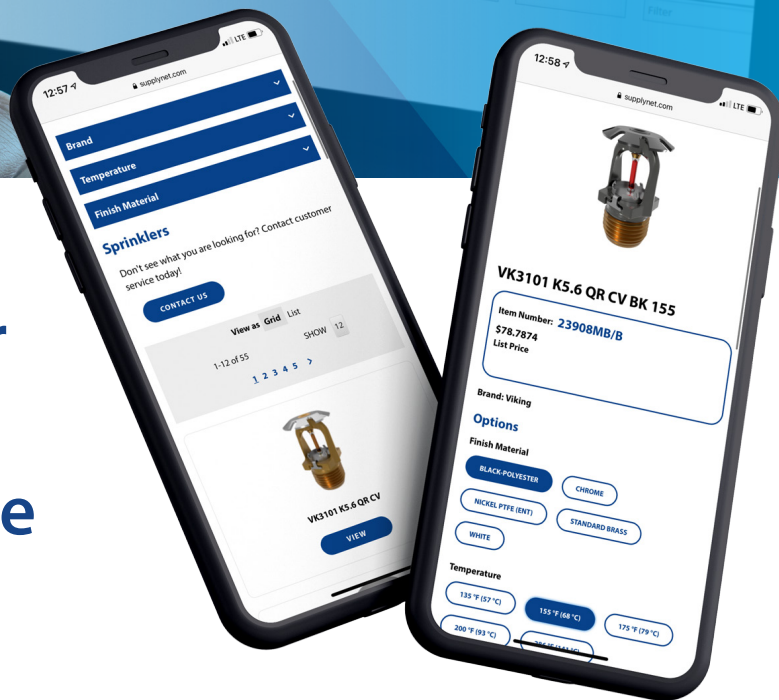
**Viking Options**

State of Charge	Ceiling Height	Storage Height	Storage Arrangement	Packaging	Ceiling Protection (QR Sprinklers Only)	In-Rack Protection	Open Rack	Piled
≤60%	≤40 ft	Maximum 3 levels of storage up to a total height of 15 ft	Open-frame rack, solid-pile or palletized	Wood crate, metal encased or corrugated carton with cellulosic and/or unexpanded plastic internal packaging only	K22.4 & K25.2 12 @ 35psi	N/A	VK506 VK510	VK506 VK510
				Corrugated carton with expanded plastic internal packaging	CEP per 8-9	N/A	<b>Pendent</b> VK377 VK500 VK503 VK506 VK510	<b>Pendent</b> VK377 VK500 VK503 VK506 VK510
				Plastic external packaging	UUP per 8-9	N/A	<b>Upright</b> VK531	<b>Upright</b> VK531
		N/A	Open-frame rack	Uncartoned	Per surrounding occupancy	See Section 2.4.2.2 FMDS 8-1	<b>In-Rack</b> VK352 VK353 VK377 VK566 VK567	N/A
	>40 ft			Cartoned or Uncartoned	Per surrounding occupancy	See Section 2.4.2.2 FMDS 8-1	<b>In-Rack</b> VK352 VK353 VK377 VK566 VK567	N/A
>60%	N/A							





The Sprinkler Selector is the easiest way to filter Viking's entire fire sprinkler catalog.



Explore part numbers, K-factors, orientations, temperatures and more

