

# High-Pressure Systems Suppress Fires in Seconds



**Marshall Space Flight Center**

**HMA Fire/Orbital Technologies Corporation  
(ORBITEC)  
Madison, Wisconsin**

## NASA Technology

- ◆ NASA has long partnered with ORBITEC to develop rocket and spacecraft propulsion design
- ◆ ORBITEC's innovations created higher-powered, lower-cost, versatile, and even reusable vortex hybrid rocket engines that effectively manage ultra-high pressure (UHP) flows

## Partnership

- ◆ HMA, a subsidiary of ORBITEC, took the design ideas from these advanced rockets and applied the technology to water delivery systems for firefighting
- ◆ HMA consistently drew from the advances of the NASA-ORBITEC partnership; for example, managing the flow of liquids to produce an energetic blanket of fine water droplets that can cover four times more surface area than other systems



## Benefits

- ◆ HMA has produced multiple suppression delivery systems, including hoses and vehicles
- ◆ In one test, HMA put out a fire 80 percent faster than a traditional system while using only 6 percent as much water
- ◆ HMA's system extinguishes cars fully engulfed by a hydrocarbon fire in 9 seconds