

SPRAYSAFE Autonomous Fire Suppression Extension Boom

Features

- When a flame is detected, the Programmable Logic Controller (PLC) autonomously extends the Autonomous Fire Suppression (AFS) Extension Boom and positions the AFS Robotic Monitor, which is mounted to the boom
- For optimal trajectory, the boom extends up to 4 m (13.1 ft) outside of the building's exterior in under 8 seconds
- Automatically returns to stand-by mode when flame is suppressed
- Concealed in the building when on stand-by mode
- Fully pre-assembled for simple installation with adjustable fixing points

Description

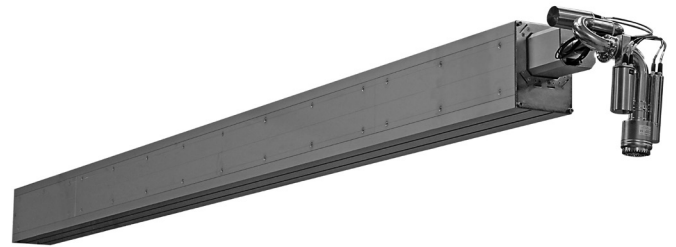
The SPRAYSAFE Autonomous Fire Suppression (AFS) System is installed in buildings and other structures to suppress fires. It typically includes a combination of robotic monitors, extensions booms, a PLC, water control valves and piping, and flame detectors.

The SPRAYSAFE AFS System uses two or more FV300 Array IR Detectors that are directly connected to the AFS PLC and constantly detect for the presence of flames. When a flame is detected, the system autonomously extends the boom outside the building and positions the robotic monitor to directly target the identified fire. The extension boom is installed within the building and can extend up to 4m (13.1 ft) outside the building in under 8 seconds.

After the flame is suppressed, the extension boom automatically retracts and returns to stand-by mode. The extension boom is supplied fully pre-assembled as part of the SPRAYSAFE AFS System.

The extension boom is a critical part of the SPRAYSAFE AFS System and serves multiple purposes:

- Carries pressurized water from the existing building fire water system to the robotic monitor mounted to the boom. This enables the usage of the existing building fire water system without the need for additional pressure or flow from the system.
- Provides a flexible conduit for all power and signaling information to the robotic monitor. This enables the continued operation of the robotic monitor even in adverse system conditions.
- Provides a rigid yet mobile mounting platform for the robotic monitor which ensures it stays in the position needed in order to accurately spray water on the identified fire.



- Concealed in the building and extends outside only during operation or testing. This ensures the boom and monitor is not exposed to harsh environmental conditions.
- Extension of the boom provides a better angle to fight fires on the building exterior even if the fire is within a recess on the building surface.

Application

The SPRAYSAFE AFS System can be installed within buildings and other structures to automatically respond and suppress fires on structure exteriors. The typical application is on the exteriors of tall buildings or complex structures. There are also a number of other applications for the system that require short response times and autonomous suppression.

Technical Specifications

Material	Extruded SAPA aluminum profiles
Dimensions of boom (without monitor)	5500 x 340 x 260 mm (216.5 x 13.4 x 10.2 in.)
Length of extension boom	4000 mm (157.5 in.) (extends fully in 8 seconds)
Outer profile dimensions	340 x 260mm (13.4 x 10.2 in.)
Extension boom profile dimensions	160 x 160mm (6.3 x 6.3 in.)
Weight	Approx. 500 kg (1102.3 lb)
Electronics	Fully integrated
Motor	400W BLDC motor cables connected
Waterway	DN80/PN16 connection flange 85 mm (3 in.) external pipe 63.5 mm (2 1/2 in.) internal pipe Material: 316L Stainless Steel

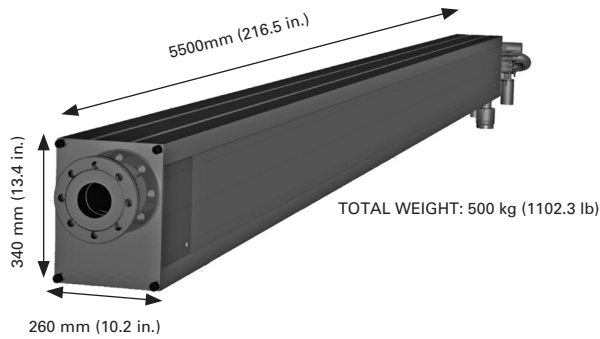


FIGURE 1
DIMENSIONS AND EXTERNAL VIEW

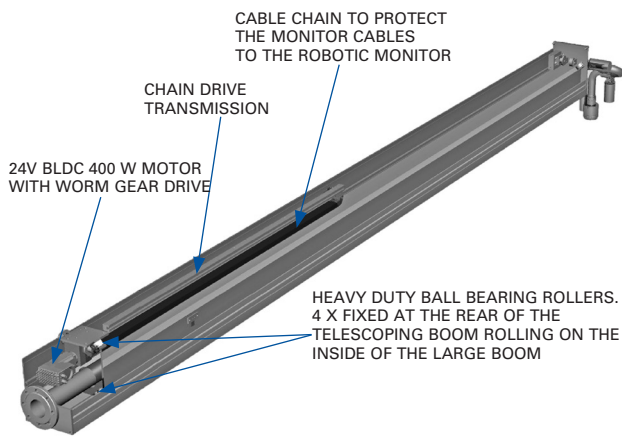


FIGURE 2
INTERNAL VIEW

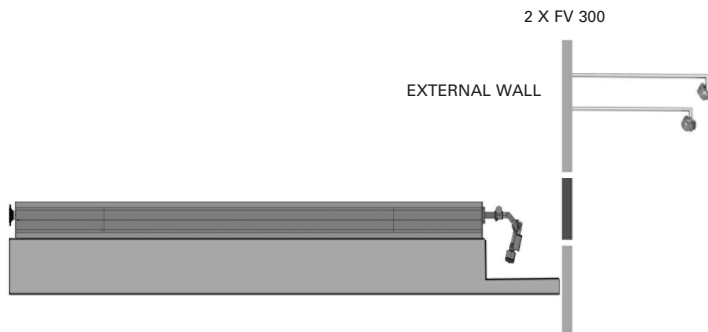
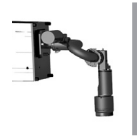


FIGURE 3
TYPICAL SYSTEM SET UP

Operation

The extension boom is installed within the structure of the building. When in stand-by mode, the boom is retracted and concealed within the building. When the system detects a fire the boom extends up to 4 m (13.1 ft.) in under 8 seconds outside of the building so that the robotic monitor can be positioned.



RETRACTED



FULLY EXTENDED

Installation

The extension boom, with the attached robotic monitor, must be firmly secured to a sturdy structure of the building using the provided mounting plates. It is critical to provide an obstruction free area at the front of the boom in order to provide clearance for the robotic monitor to freely rotate without issues, as shown in Figure 4. Additional space is required on each side of the boom in order to access the internal components of the boom for maintenance or servicing.

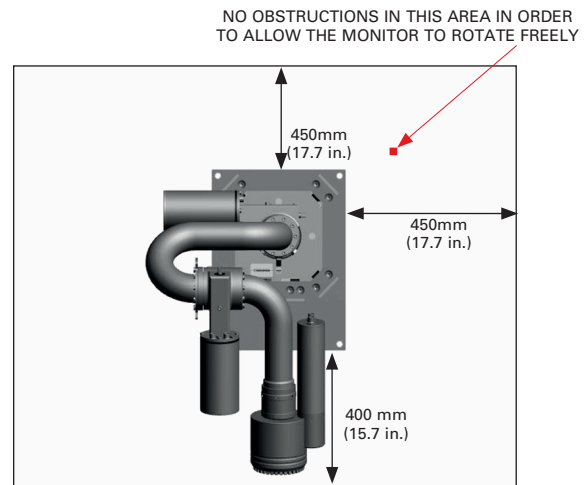


FIGURE 4
OBSTRUCTION FREE AREA

Ordering Information

Part Number	Description
AFS-1005	Extension boom (4 m) for SPRAYSAFE AFS
AFS-1004	Cable kit (12 x 10 m cables) for SPRAYSAFE AFS

Note: The converted values in this document are provided for dimensional reference only and do not reflect an actual measurement.

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