



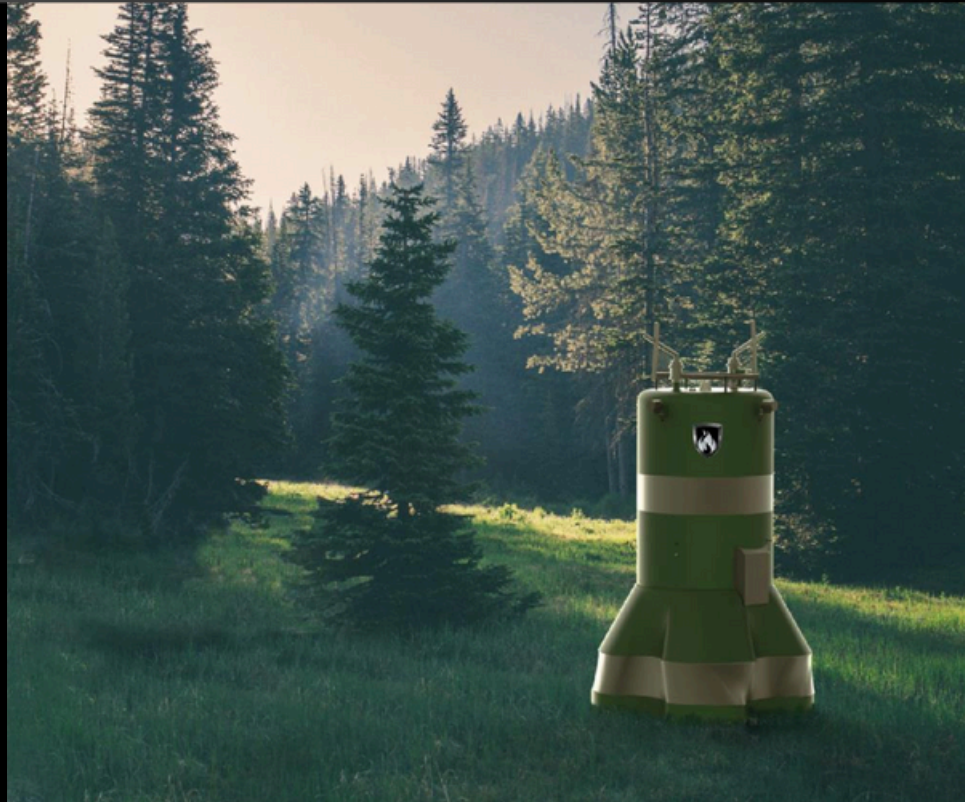
THE GUARDIAN SERIES

by
THE FIRE KNIGHT

The Guardian Series provides state-of-the-art fire protection and response systems designed to detect, alert, and suppress fires effectively.

We are proud to present The Guardian series, our revolutionary range of fire defence tools designed to protect both natural areas and community spaces. These products are meticulously crafted, combining the latest in fire detection with powerful suppression systems to provide superior protection. Our dedication to pioneering advancements is showcased in our sophisticated sensors and communication networks that deliver swift action and constant communication in even the toughest conditions.

Choose The Guardian series for your community's protection – a perfect blend of technological innovation and alertness that stands as a protective barrier against the unforeseen dangers of wildfires.



OUR RANGE IS UNMATCHED

The Guardian is an automatic fire detection and suppression system optimised for unattended operation in remote and rugged settings to protect high-value assets in extremely isolated locations.

Available in three sizes to suit the fuel cover expected in each location, The Guardian carries a large tank of fire suppressant of one, two, or three thousand litres.

SPECIALLY EQUIPPED DEVICES

Each device is equipped with an industrial-grade, infra-red flame sensor to detect approaching fires; along with American-designed agricultural grade spray heads to distribute the suppressant; and advanced electronics to orchestrate the performance.

The Guardian includes optional advanced satellite communications to enable manual intervention in the operation, advanced mesh radio communication to link the device to its neighbouring devices, and a GSM/GPS module to enable exact fire position reporting.



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ADVANCED PROTECTION

Every device is equipped with sizeable deep-cycle batteries and a photovoltaic collector for continuous charging, robust inverters to support the on-board 2.2 kW (3 hp) water pumps, and sophisticated protection logic to safeguard against faults, damage, or vandalism.

Each Guardian covers a 360-degree circle with a 30-meter radius. Typically, multiple devices are positioned in a circular or linear arrangement, spaced at intervals of 60 meters, to create a protective barrier against advancing fires. While the devices are not intended for indoor use, they can be customised for indoor applications through special order, by modifying components like spray heads, communications, and power supply.

FIRE SUPPRESSION SOLUTION

The Guardian has the capability to utilise any fire suppression solution that can be pre-mixed and pumped. Typically, units come pre-loaded with F-500 EA solution (explained below) for optimal fire knockdown performance, but upon request, customers can specify an alternative of their choice.

HOW THE GUARDIAN CAN ADDRESS THE WILDFIRE ISSUE

When The Guardian is positioned and installed in the designated area, when it's needed the system can be operational in as little as five seconds. Its presence ensures effective firefighting measures are in place before a disaster strikes.

Its rapid response helps to significantly reduce the risk of extensive loss or damage by containing the fire before it spreads uncontrollably.

To fulfill these critical functions, a fire suppression system must possess advanced capabilities that go beyond traditional firefighting methods.



WHAT THE GUARDIAN PROVIDES

The Guardian is a highly sophisticated commercial system equipped with satellite or LTE communications, a substantial supply of fire suppressant, and integrated pumps and sensors. It's specifically designed for installation in remote areas to safeguard against forest fires.

Offered in sizes of 1,000 litres, 2,000 litres, and 3,000 litres (264 gallons, 528 gallons, and 793 gallons) to match the fuel load present in the surrounding environment.

FLAME DETECTOR

The remote area systems of The Guardian feature a single, high-quality Infrared Flame Detector specifically calibrated to identify the existence of forest fires.



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Upon receiving an alert from the sensor, The Guardian promptly communicates with the Command Centre. The Command Centre can then notify the local wildfire responders, furnishing them with accurate details regarding the fire's location and intensity. If the detected fire intensity surpasses the predetermined threshold, The Guardian initiates action by releasing a substantial amount of advanced extinguishing agent to douse the flames.



SUPERIOR TECHNOLOGY

The Fire Knight systems come pre-loaded with a unique fire suppression agent called F-500 Encapsulating Agent. These systems consist of a 3% blend of F-500EA and water. F-500 Encapsulating Agent enhances the effectiveness of The Guardian fire suppression system, making it three to six times more efficient at extinguishing fires compared to water alone. A 45-litre F-500EA fire extinguisher underwent testing in accordance with Australian Standard 1850:2009 and received a rating of 10A when utilised on Class A fires.

MULTIPLE SPRAY NOZZLES

The Guardian systems are equipped with spray nozzles designed to distribute the suppressing agent effectively in order to attain the necessary coverage of the wetting agent.

The 1,000 litre system of The Guardian is equipped with two spray heads, each covering 180 degrees.

In contrast, the 2,000 litre and 3,000 litre systems of The Guardian feature four spray heads, with each responsible for a 90-degree segment of the circle. This configuration allows for a quicker application of a larger volume of suppressant, ensuring greater coverage.

Each nozzle is calibrated to deliver a flow rate of 190 litres per minute at a pressure of 4 bar (52 gallons per minute at 58 pounds per square inch).

HIGH PRESSURE WATER PUMPS

The Guardian models are equipped with internal pumps, each with a power of 2.2 kW: two pumps in the 1,000 litre system, and four pumps in the 2,000 litre and 3,000 litre systems.

The pumps in standard configuration deliver a pressure of 4 bar (58 psi) at the specified flow rate.

Each pump supplies a single spray head. With high bandwidth satellite communications enabled, a human operator at the command centre can activate each spray head individually as needed.

The operator can utilise the video surveillance camera to monitor the device's surroundings and direct the stream towards the advancing fire as necessary.

VIDEO SURVEILLANCE CAMERAS

The Guardian is equipped with a video surveillance camera that provides a 360-degree view of the surroundings and transmits a human-readable colour image to the command centre operator.

The camera operates in the visible light spectrum, in contrast to the flame detector which detects only infrared light.

For security reasons, the video feed must be requested by the command centre operator as it is not continuously active.

If The Guardian is equipped with video surveillance capabilities, the operator will also have the ability to individually control the pumps and spray heads on the device.

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BUILT-IN SMART LOGIC

Central to each Guardian system is a built-in 32-bit microcontroller responsible for executing all monitoring and alerting functions essential for creating a top-tier fire suppression system. This microcontroller facilitates programmable logic that can be updated on-site as needed, data logging for analysis and troubleshooting, and fault reporting in case of internal malfunctions.

Additionally, each system is equipped with a pressure sensor to verify the integrity of the fire suppressant storage tanks. If the pressure drops below the pre-set level, the system notifies the command centre, enabling them to deploy a technician to locate and rectify any leaks promptly.

BACK-TO-BASE COMMUNICATIONS

The Guardian systems are designed to establish communication with a command centre that operates round-the-clock, 365 days a year, offering human oversight and intervention when necessary. To facilitate this seamless connection, the system is equipped with an advanced communication module that utilises a variety of technologies to ensure consistent and reliable connectivity.

GSM/GPS CONNECTIVITY

The Guardian systems are equipped with both GSM and GPS modules that accurately determine and store their precise location. This information is utilised to report the current position in conjunction with alerts and alarms triggered by the device, allowing for prompt notification of emergency responders if necessary. Typically, local authorities are already aware of a wildfire by the time it reaches The Guardian's location.



For more details:

www.thefireknight.com