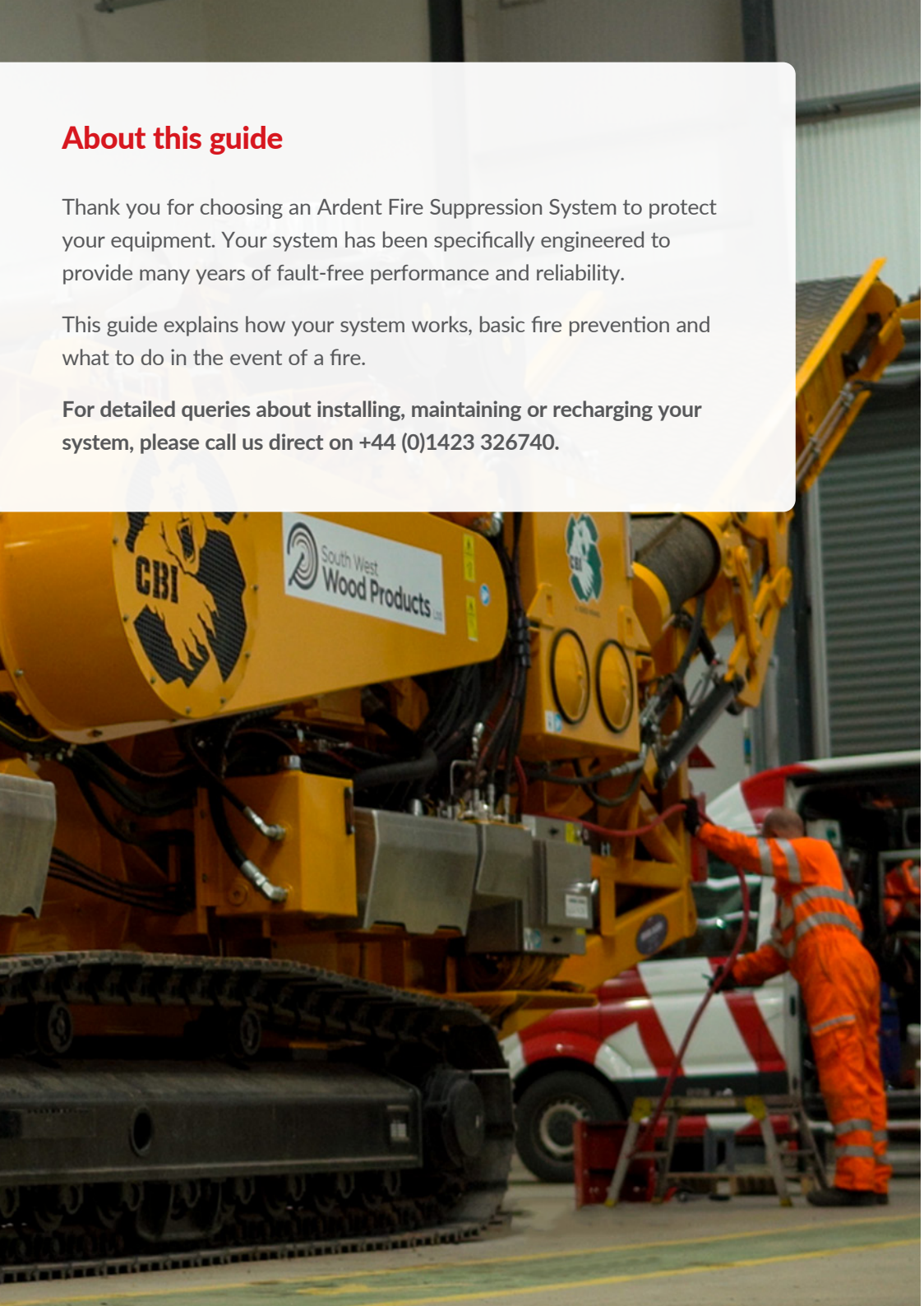
Your Fire Protection Manual

How to Ensure your Equipment Stays Protected

A guide to understanding your fire suppression system and basic fire prevention

Ardent®
First for safety

Revision 01.09/2022



About this guide

Thank you for choosing an Ardent Fire Suppression System to protect your equipment. Your system has been specifically engineered to provide many years of fault-free performance and reliability.

This guide explains how your system works, basic fire prevention and what to do in the event of a fire.

For detailed queries about installing, maintaining or recharging your system, please call us direct on +44 (0)1423 326740.

Nobody offers your people, equipment and business greater protection than Ardent.

First for safety.

In the event of a fire, even a minor incident can result in expensive repair bills, costly downtime and a delay in production. Worse still, the scale and complexity of some of the machines involved can often make escape difficult for operators.

At Ardent, we have a proven track record in keeping your people and equipment safe and offer solutions that deliver complete peace of mind.

Our reliable range of mobile and static plant fire suppression systems and hassle-free maintenance programmes provide maximum protection and 24/7 reliability to suit every piece of equipment and every situation. What is more, we specialise in analysing, identifying and minimising fire hazards. We oversee everything from installation to servicing and maintenance, so in the event of an emergency, your systems perform flawlessly.

We understand that training on how to operate your system and regular system maintenance play an important part in fire suppression success rates. That is why we are committed to providing the best training and service in the industry.

Designed and engineered to the highest international standards.

Your System

This equipment is fitted with an Ardent Fire Suppression System.

System Configuration

Dry Chemical Suppression Agent	☐	Engine Shutdown	☐
Wet Chemical Suppression Agent	☐	Electric Isolator	☐

System Discharge Delay

When the fire suppression system detects a fire, you can delay the system discharge for ___ seconds by pressing the delay button.

Once the delay period has ended, the system will discharge after ___ seconds.

Engine Shutdown

If your system is fitted with engine shutdown, this means the power to your machine will be shut off when the system discharges. This is to prevent the circulation of flammable liquids around the machine, minimising fuel for any fires on the equipment. It also stops any cooling fans, which increase oxygen and disturb the suppression agent flow into the hazard area.

Engine shutdown can be manually delayed by pressing the Silence Delay button on the control module to allow you to move the machine to a safe place and evacuate.

Electric Isolator

If your system is fitted with an electric battery isolator, the batteries will be disconnected 15 seconds after the system discharges.

The electric isolator reduces the chances of reignition of electrical fires.

Manual Actuation Points

Your system can be manually activated from the following points:

Control Module ☐ External Manual Actuators ☐

This equipment is fitted with ___ external manual actuation points.

These manual actuation points are located:

1. _____
2. _____
3. _____
4. _____
5. _____

In the Event of a Fire

Manually activating your Ardent system...

If an automatic detection and actuation system is installed, the system should activate automatically in the event of a fire, providing maximum reliability and effectiveness. However, the operator will always have the option to operate the system manually from the control module located in operator's cab or by triggering the manual actuator(s) usually located at the point(s) of egress.

1. Safely bring the equipment to a complete stop, setting the brakes and shutting down the engine where necessary

2. Locate and operate your nearest manual actuation point.
   See facing page to understand your manual actuation points.

4. Safely evacuate the vehicle.

5. Stand by with a fire extinguisher.

WARNING!

Extra care should be taken when attempting to extinguish a fire. Always use the fire suppression system(s) first.

Opening doors or bonnets in an attempt to tackle the fire by hand may result in growth of the fire.

Manual Actuation

Depending on the system fitted to your equipment, your manual actuation points may be different. Ensure you are aware of the location of your manual actuation points.

If your control module has an actuation button, your system can be activated from the control module or the manual actuator(s).

If your control module has no actuation button, the system must be activated using the manual actuator(s).

Control Module

1. Open the control module guard door, breaking the seal.

2. Press the **Release - Press to Actuate** button to activate the system.

Manual Actuator

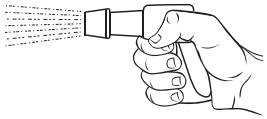
1. Pull the pin from the actuator.

2. Strike the knob firmly.

Fire Prevention

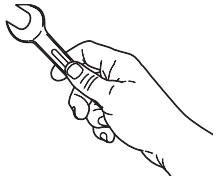
The best way to protect your people and vehicles is to prevent fire altogether. The following steps can help you to greatly reduce the risk of fire on your vehicle.

Your daily maintenance checklist:



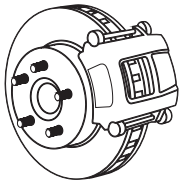
Engine bay

Does the machine need cleaning? Wash down the engine bay regularly, ensuring that any accumulated debris is removed.



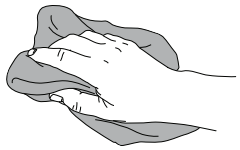
Loose connections

Are any of the oil, hydraulic, fuel line fittings, or electrical lines and connections loose? Report any issues in accordance with your company's reporting procedures.



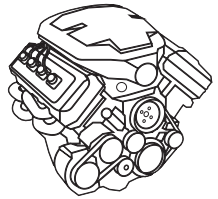
Braking system

Does the braking system need adjusting? Report any issues in accordance with your company's reporting procedures, especially if the brakes overheat when not engaged.



Combustible material

Is there any debris on the interior or exterior of the vehicle that may be combustible? This should be carefully removed.



Ignition points

Are the oil, hydraulic fluid and fuel lines adequately separated from superheated components such as turbo chargers, exhaust manifolds, and any other parts of the exhaust system?

Wear and tear

Can you see any wear or tear on the oil, hydraulic fluid and fuel lines, and electrical lines and connections? Report any issues in accordance with your company's reporting procedures.

WARNING!

Extra care should be taken during vehicle or equipment maintenance and cleaning.

If steam cleaning, ensure that the fire detection circuits of the fire suppression system are not subject to direct heat.

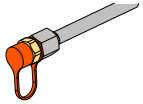
Cutting, damaging or heating the detection lines above 186°C (366°F) could activate the system and discharge the agent.

Do not pressure wash any components of the fire suppression system. Pressure washing the system may result in system faults and/or discharge.

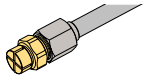
System Inspection

Frequent inspections are crucial to the performance of your Ardent system and the protection of personnel and plant.

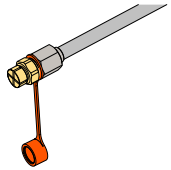
Nozzles



Are the blow-off caps in place?

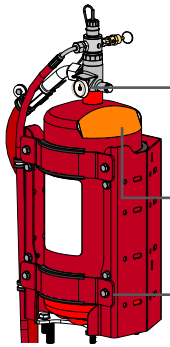


Are the nozzles blocked with dirt or debris?



Are the nozzle assemblies and bracket secured?

Agent Tank



Is the pressure gauge registering in the green segment?

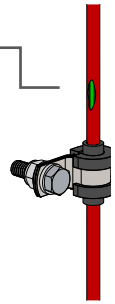
Can you see any signs of wear and tear or rust?

Are the mounts secured?

Detection or Power Wire

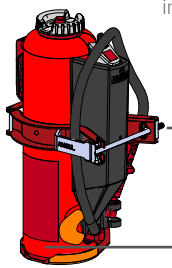
Is the cable cut, worn or kinked?

Are the cable fixings secured and the rubber sleeves still in place?



Portable Fire Extinguishers

Is the fire extinguisher within its inspection date?

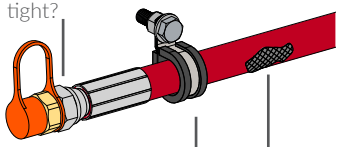


Are the mounts secured?

Can you see any signs of wear and tear or rust?

Hydraulic Hose

Are the fittings tight?



Are the hose mounts secured?

Is the hose cut, worn or kinked?

Control Module Indicators Ardent VCM

Is the green Power LED illuminated?

Is the yellow Fault LED illuminated?

Is the red Fire LED flashing?

Under normal circumstances, the control module will only illuminate the green Power LED.

Any fault indication may cause the fire suppression system not to function properly. Contact Ardent immediately for system service and support.

Detection and Actuation System Ardent VCM

Is the control module secured?

Is the control module guard door sealed?

Can you see any wear or tear on the cable harness or control module?

WARNING!

The Ardent Control Module draws primary power from the machine battery.

Do NOT disconnect power for extended periods of time.

If you have any concerns, please call Ardent on +44 (0)1423 326740.

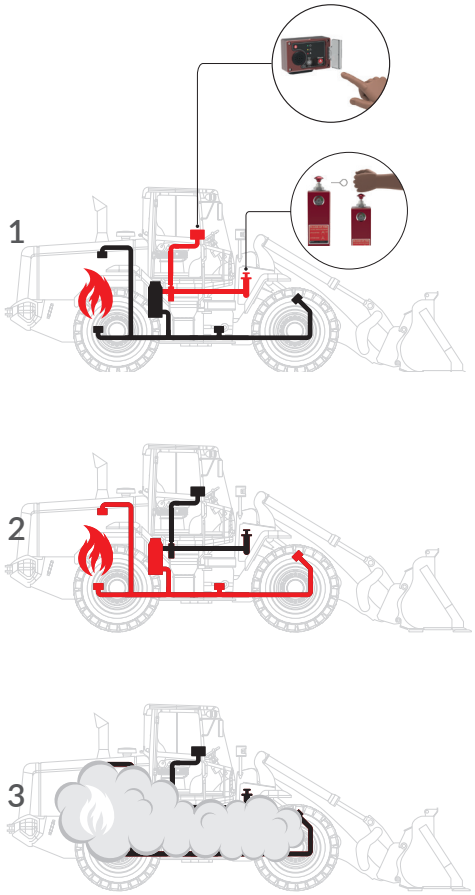
Manual Activation

Manual activation:

1. When the operator presses the **Release - Press to Actuate** button on the control module or pulls the ring pin and strikes the knob on the manual actuator, the Ardent system will activate immediately.

2. Compressed nitrogen propels the suppression agent through the distribution network.

3. The suppression agent is then discharged through fixed nozzles into the protected areas, suppressing the fire.



WARNING!

Once the system discharges, contact Ardent urgently to arrange a system recharge. We strongly recommend that the machine is no longer used until the remedial work is undertaken on the fire suppression system. We do not accept any liability arising from the use of the machine.

Automatic Activation

Automatic activation:

Electronic Detection and Actuation system.

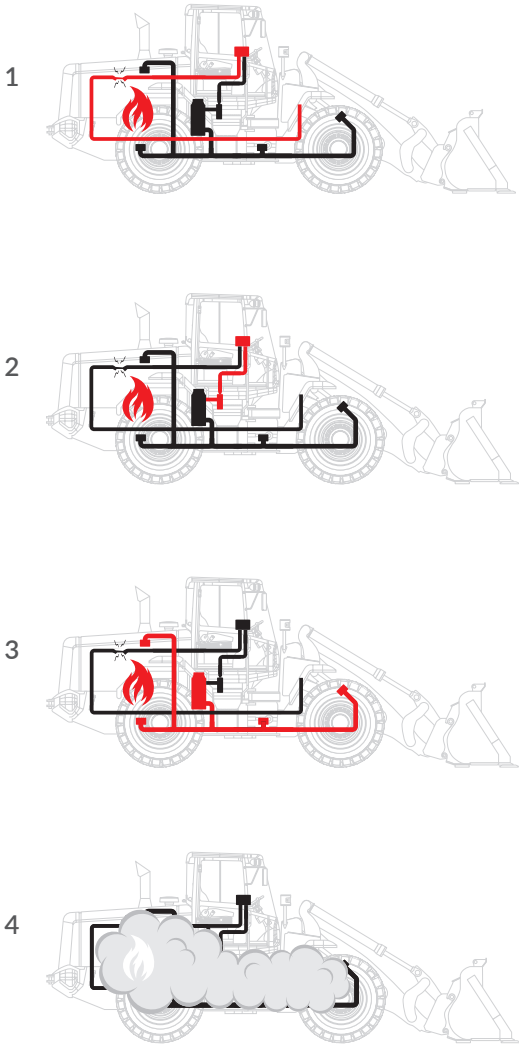
1. Linear or infrared detectors immediately signal and alert the system control module.

2. The control module activates the fire suppression system. Depending on the system specification, the control module can also isolate the vehicle power, shut down the vehicle and initiate auxiliary components such as beacons, strobes, etc.

3. Compressed nitrogen propels the suppression agent through the distribution network.

4. The suppression agent is then discharged through fixed nozzles into the protected areas, suppressing the fire.

Note: A delay button on the control module allows the operator to delay the discharge if required. Different time delays are possible, please be aware of the time delay programmed on your system.



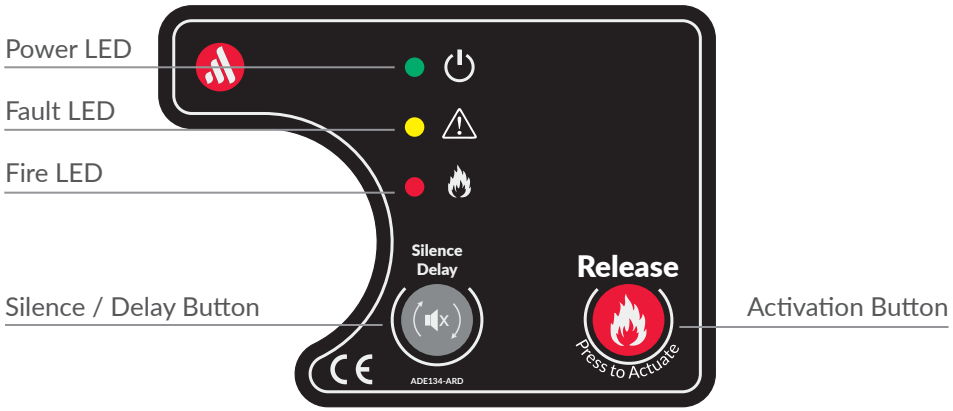
System Alarms

Important

Under normal circumstances, the only LED illuminated on the control module will be the green Power LED. Any alarms may cause the fire suppression system to not function properly.

Contact Ardent's Customer Service Delivery Team immediately on +44 (0)1423 326740 or at operations@ardent-uk.com if your control module is indicating any faults.

Ardent VCM Control Module



The control module is usually located in the operator's cab.

Fire Suppression System Automatic Activation

Stage 1 - Fire Detected

The red Fire LED flashes and the sounder beeps rapidly.

Stage 2 - Post-Discharge

The red Fire LED flashes once every other second and the sounder beeps slowly (unless silenced).

Power LED *Green*

The green Power LED should be illuminated, either constant or flashing.

Fault LED *Yellow*

If the yellow Fault LED is illuminated unexpectedly, please contact your service provider.

Fire LED *Red*

If the red and green LEDs are illuminated, a fire has been detected. If only the red LED is illuminated, the system has discharged.

Silencing the System

The machine can be silenced by pressing the Silence Delay button until the yellow LED is illuminated.

Delaying the System Discharge

The system discharge can be delayed by pressing the Silence Delay button whilst the red Fire LED is illuminated.

Your Role in Protecting Your Equipment From Fire

As the owner of the fire suppression system, you are responsible for ensuring that this piece of safety critical equipment is kept in good working condition. Visual checks of the fire suppression system must be performed regularly, ideally at the beginning of every shift, as advised in your Owner's Manual. Please contact Ardent immediately if you notice any problems or have any concerns.

In addition to the regular visual checks, it is critical that your system is serviced regularly by an Ardent specialist. Ardent fire suppression systems need to be serviced at 6-monthly intervals to give maximum assurance that they will operate effectively and safely when they are needed the most.

Important to Remember

Your Ardent fire suppression system has been designed for reliability and manufactured to the highest quality standards. However, as it is the case with all fire suppression systems, it is not intended to extinguish every fire in all circumstances. In the event of a fire involving large amounts of combustible materials and oxygen, it is vital to have alternative firefighting equipment to hand. Ardent offers a range of hand-held fire extinguishers and wheeled bowser units. Please contact us for more information.

Your Ardent system has been designed and installed specifically for your piece of equipment. If the equipment is modified in any way, or the system is disconnected for any reason, it is important to have the system inspected by an Ardent specialist.

As a rule, we always recommend automatic fire suppression systems, as this provides the fastest response to fire and reduces the chance of injury to operators or other employees when attempting to suppress the fire by hand.

Automatic systems can also be activated manually. If a manual only system has been supplied, or the automatic fire detection and activation has been disconnected for any reason (e.g., when the system is on isolate mode), system discharge will only occur if the system is activated by hand via the manual actuators.

With the adequate level of maintenance and care, your Ardent fire suppression system is built to provide years of protection for your machinery, personnel and business against the risk of equipment fire.

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