CSIRO Verification Services
Clayton, Victoria, Australia
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Certificate of Conformity

Certificate num.	Registration date	Version Number	Version Issue date	Valid until	
afp - 2810	21-Mar-2013	18	21-Apr-2026	30-Apr-2027	Page **1** of **5**

Product designation

AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression system

(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

AFEX Fire Suppression Systems
6031 Oak Forest Dr, RALEIGH, NC, UNITED STATES, 27616

Registrant

AFEX Fire Suppression Systems
6031 Oak Forest Dr, RALEIGH, NC, UNITED STATES, 27616

Producer

AFEX Fire Suppression Systems
6031 Oak Forest Dr, RALEIGH, NC, UNITED STATES, 27616

Conformance criteria and evaluation

The AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression system has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian Standard AS 5062:2022, 'Fire prevention and protection for mobile and transportable equipment'.
2. CSIRO Technical Specification TS-019, Version 1,02-Apr-2024, 'Conformity Verification of Fluorine Free Foam to Test No. 22 of Appendix D of AS 5062:2022'.
3. Approval Standard FM Class Number 5970, 'Approval Standard for Heavy Duty Mobile Equipment Protection Systems'.
4. Factory Mutual - Evaluation and approval, 'FM approval'.

Limitations/conditions of conformance

Limitations/conditions of conformance, where identified on this certificate, are derived from qualifications from evaluation(s) for conformity and/or other related technical documentation. All details with respect to design, assembly and installation instructions and restrictions should be checked against the producer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

i. System operating temperature range is -40 °C to 60 °C.

ii. The liquid agent is suitable for use on classes A and B fires.

This certification is issued within the scope of CSIRO Verification Services – Rules governing ActivFire Scheme and is valid only for the product(s) as submitted for evaluation and verification of conformity, subject to the following conditions.

- Reference to details, limitations and requirements, where documented as a schedule/enclosure with this certificate.
- The Registrant is responsible for their attestation of conformity and ensuring that on-going production complies with the conformance criteria defined in this certificate.
- This certificate will not be valid if any changes or modifications are made to the product which have not been notified and validated by CSIRO Verification Services.
- This certificate is subject to periodical re-validation upon verification that all requirements, as determined by the conformity assessment body, continue to be satisfactorily met by the Registrant.
- This certificate may only be reproduced in its published form, without modification and inclusive of all schedules/enclosures.
- Any changes, errors or omissions, must be submitted in writing and if necessary or requested, substantiated with relevant evidence.
- Any representations, such as advertising or other marketing related activities or articles shall reflect the correct contents of this certificate and conform with all relevant trade practices .and consumer protection legislation and regulations.
- Any terms or conditions of use as applicable to content and documentation as published or accessed through web sites administered by the CSIRO Verification Services.

Issued by

Kai Loh
Executive Officer – ActivFire Scheme

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This certificate remains the property of CSIRO and may be subject to amendment, suspension or withdrawal at any time.
The validity and authenticity of this certificate can be verified by the certification register located at https://activfire.csiro.au

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Producer's description

The AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression system is intended for protection of heavy vehicles and equipment. The installation of a fire detection and suppression system is essential to minimize the risk to both operator and equipment.

The AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression systems are designed specifically to cope with the harsh operating conditions experienced by mobile and transportable equipment. W Series consists of cylinders containing liquid agent, actuation devices to initiate discharge and a discharge network containing nozzles to direct the foam spray on the hazard. Once discharged, the foam is also effective in suppressing spill or pool fires which may result from the collection or leakage of fuel. The resulting foam blanket provides post fire securement.

The AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression system can be configured to provide protection for many applications. AFEX, W Series, liquid agent, pre-engineered, multipurpose fire suppression systems are suitable for, but not limited to, the following equipment and industries:

i. Surface Mining Equipment
ii. Underground Mining equipment
iii. Forestry Equipment
iv. Industrial
v. Road Transport

The liquid extinguishing solution in AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression systems is stored in liquid agent tanks. They are available in three sizes: 30 gal (113.56 L), 15 gal (56.78 L) and 5 gal (18.93 L).

At the time of discharge the tank is pressurised via a separate nitrogen cartridge. The agent is delivered from the agent container through a hydraulic hose / tube network and fixed-orifice spray nozzles onto the fire-prone surfaces / areas. The spray nozzles are located and aimed such that they provide direct droplet impingement and full coverage of selected fire hazards in the risk area protected.

Technical specification

The following details are a representative extract of the technical specification for the AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression system and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Schedule of variant designations

The following is a schedule of validated variant designations of the certified/listed equipment.

Variant	Description
W5	Liquid agent, 5 gal, 8 nozzles (max)
W15	Liquid agent, 15 gal, 9 nozzles (max)
W30	Liquid agent, 30 gal, 18 nozzles (max)

Schedule of components and/or assemblies

The following is a schedule of validated components and/or assemblies of the certified/listed equipment.

Drawing / Part No.	Revision Level	Drawing Title
A310015	001	CARTRIDGE-10OZ ALUMINUM
A350015	001	CARTRIDGE-15OZ ALUMINUM
A700100-SEA	002	SENSOR-SEA COMPLETE
A700105	003	SENSOR-ASSM 300F 2PIN
A708553X	001	ENGINE SHUTDOWN PACKAGE
A724021	003	SENSOR-EOL 4.7K INTEGRATED
A729031	003	SENSOR-EOL 100K INTEGRATED
A100000	R006-Mar 2023	Installation, Operation, Maintenance & Service Manual AFEX 2000 & W Series
A100001	Sept 2017	Owner Operator's Manual AFEX 2000 & W Series
A110070	001	WASHER - CARTRIDGE SEAT
A110080	001	ACTUATOR-SAFETY SEAL RED
A115045	001	SPACER-FIRING MECHANISM/SLAVE
A116000	003	ACTUATOR-FIRING MECHANISM
A116035	001	ACTUATOR-FIRING MECH PUSH ROD ASSM
A116055	001	ACTUATOR-PISTON ASSM
A200505	001	TANK-30LB COMPLETE
A200507	002	TANK-125LB COMPLETE W/AGENT

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Drawing / Part No.	Revision Level	Drawing Title
A200509	001	BASE RING-125LB/15GAL
A200510	001	BASE RING-30GAL
A200511	001	TANK-15GAL COMPLETE W/AGENT
A200513	001	TANK-30GAL COMPLETE W/AGENT
A200515	002	AGENT-AFEX LIQUID
A200522	003	GAS TUBE-30LB ASSM
A200523	003	GAS TUBE-60LB ASSM
A200524	002	GAS TUBE-20LB ASSM
A200525	002	GAS TUBE-125LB ASSM
A200527	002	GAS TUBE-5/15/30GAL W/FTG PACK
A200530	002	CAP-AGENT TANK ASSM
A200536	001	WASHER-FLAT RUBBER 3 IN ID
A200538	001	ORING-TANK CAP 2.75IN ID X 3IN OD
A200560	002	DISC-BURSTING 100 PSI
A200567	002	DISC-BURST 3/4 MPT X 3/4 FPT 150PSI
A200568	002	DISC-BURST 1.5IN 125PSI
A200690	001	DECAL-3.5 IN X 13.75 IN VERT AFEX
A200691	002	DECAL-2.5 IN X 8.5 IN VERT AFEX
A200694	001	DECAL-1 IN X 3 IN VERT AFEX
A200695	001	DECAL-1 IN X 3 IN HORZ AFEX
A200720	001	TANK-20LB COMPLETE W/AGENT
A201000	001	TANK-5GAL COMPLETE W/AGENT
A202000	001	TANK-60LB COMPLETE W/AGENT
A210010	001	BRACKET-20/30LB VM
A210020	001	STRAP-20/30LB ASSM
A211010	001	BRACKET-20/30LB HM
A213010	001	BRACKET-60LB/5GAL HM
A213040	002	STRAP-60LB/5GAL ASSM
A213510	001	BRACKET-60LB/5GAL VM
A220500	001	BRACKET-4IN UBOLT
A221000	001	BRACKET-6IN UBOLT
A225000	001	BRACKET-12IN UBOLT
A235000	002	BRACKET-UNIVERSAL SLAVE
A235020	002	STRAP-UNIV SLAVE ASSM
A245000	001	BRACKET-S
A246000	001	BRACKET-U
A248000	002	BRACKET-2OZ BOTTLE
A310000	003	CARTRIDGE-10OZ REFILLABLE ASSM
A310005	001	CARTRIDGE-10OZ ASSM
A315000	003	CARTRIDGE-10OZ PI CE ASSM
A320000	003	CARTRIDGE-1OZ ASSM
A330000	003	CARTRIDGE-25OZ ASSM
A350000	003	CARTRIDGE-15OZ REFILLABLE ASSM
A355000	003	CARTRIDGE-15OZ PI CE ASSM
A360000	003	CARTRIDGE-2OZ ASSM
A380000	002	CARTRIDGE-55OZ ASSM
A523000	001	TEE-4 WAY
A523009	002	TEE-5 WAY 1.5 X 3/4IN
A523010	001	TEE-5 WAY 3/4 X 1/2IN
A551000	001	NOZZLE-CONE SPRAY
A551700	003	NOZZLE-LIQUID 18IN PATTERN
A601000P	001	HOSE-1/4IN
A602000P	001	HOSE-1/2IN
A602200P	001	FTG-1/2 HOSE X 1/2 MPT
A602400P	001	FTG-1/2 HOSE X 1/2 FJIC
A603000P	001	HOSE-3/4IN
A603200P	001	FTG-3/4 HOSE X 3/4 MPT
A603400P	001	FTG-3/4 HOSE X 3/4 FJIC
A604400P	001	FTG-1/4 HOSE X 1/4 FJIC
A609000	001	HOSE-1.5IN
A609200	001	FTG-HOSE 412-24-24S MIP
A609400	001	FTG-HOSE 4411-24S FJIC
A700100	001	SENSOR-ASSM
A700300	002	CONNECTOR-PLUG 4PIN
A700310	001	CONNECTOR-RECEPT 4PIN

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Drawing / Part No.	Revision Level	Drawing Title
A700320	002	CONNECTOR-SOCKET
A700330	002	CONNECTOR-PIN
A700340	002	CONNECTOR-PLUG WEDGE 4PIN
A700350	001	CONNECTOR-RECEPT WEDGE 4PIN
A700360	001	CONNECTOR-PLUG 2PIN
A700370	002	CONNECTOR-RECEPT 2PIN
A700380	002	CONNECTOR-RECEPT WEDGE 2PIN
A700390	002	CONNECTOR-PLUG WEDGE 2PIN
A700655	002	CONNECTOR-PLUG 2 WIRE PKG
A700660	001	CONNECTOR-RECEPT 2 WIRE PKG
A700710	001	CONNECTOR-SENSOR 4 PACK
A703000	004	SENSOR-LINEAR WIRE 356F
A703100	001	SENSOR-LINEAR WIRE 100K EOL ASSM
A708500	002	SWITCH-PRESSURE SPDT
A709500	003	ACTUATOR-ELECTRIC 1.2A PACKAGE
A724020	001	SENSOR-EOL 4.7K
A724061	002	FUSE-HOLDER AUTO
A729000	003	CONTROL UNIT
A729011	002	TADIRAN 7.2v X 19aH w/CONNECTOR
A729030	001	SENSOR-100K EOL
A729200	001	CONTROL UNIT-BASIC HARNESS PKG
A729400	001	CONTROL UNIT-ADVANCED HARNESS PKG
A905000	002	VALVE-CHECK 1/4NPT
A910500	002	ACTUATOR-SLAVE ASSM
A910510	003	ACTUATOR-SLAVE BODY
A915035	001	ACTUATOR-PUSH KNOB
A915040	001	PIN-REMOTE SAFETY
A915060	002	COVER-DUST
A915500	002	ACTUATOR-REMOTE ASSM
A915520	002	ACTUATOR-PIERCING ROD
A981350	003	ACTUATOR-REMOTE W/2OZ BRACKET
A981550	002	ACTUATOR-REMOTE W/S-BRACKET
A981750	002	ACTUATOR-UNIVERSAL SLAVE W/BRACKET

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Supplementary information

Schedule of relevant articles

The following schedule is an extract of articles significant and/or related as evidence of conformity.

Reference		Title / description	Date issued (or date validated)	Source
Ident. type	**Ident.**			
Report.	CSBA0061/R1.1	Evaluation for Conformity of the AFEX, W Series, pre-engineered, liquid agent, multipurpose fire suppression system to the requirements of AS 5062:2022 and CSIRO Technical Specification TS-019	19-Apr-2024	CSIRO, Fire Systems Laboratory, AU
Report.	XF3246/R1	Evaluation for Conformity of the W series, pre-engineered, liquid agent, multipurpose fire suppression system to the requirements of AS 5062:2016	15-July-2019	
Report.	MF0023/R1	Technical verification of conformity of the AFEX, W Series, liquid agent, pre-engineered, multipurpose fire suppression system to the requirements specified by the reference criteria of AS 5062-2006 FM Class Number 5320 FM DS 7-40 Factory Mutual - Evaluation, surveillance and approval UL 1254, Edition 3, 4 February 2005	21-Feb-2013	CSIRO, Materials Science and Engineering, Fire Systems, AU
Doc ref.	w3_FM_AFEXWseries _v _20231130.pdf	FM Approvals™ Fixed Extinguishing Systems | Heavy Duty Mobile Equipment Protection | Heavy Duty Mobile Equipment AFEX W Series Liquid Agent Fire Suppression and Surface Cooling Systems (w3_FM_AFEXWseries _v _20231130.pdf)	29-Nov-2023	FM Approvals, MA, USA
Certificate of Compliance	3044360	AFEX W Series Liquid Agent Fire Suppression and Surface Cooling Systems	18-Sep-2012	
Approval Report	3044360	Approval Modification – W Series Liquid Agent Mobile Equipment Fire Suppression And Surface Cooling Systems	18-Sep-2012	
Manual	PN A100000	AFEX FIRE SUPPRESSION SYSTEMS 2000 SERIES & W SERIES SYSTEMS Installation, Operation, Maintenance & Service Manual (A100000 Installation Operation Maintenance and Service Manual - Mar 2023 (English) (digital).pdf	30-Mar-2023	AFEX Fire Suppression Systems, NC, US