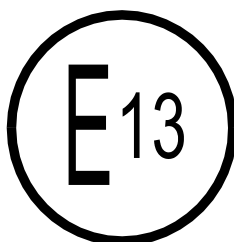




Référence: E13*107R08/01*0064*00

Annexes: - Rapport Technique
- Fiche de Renseignements du constructeur

Luxembourg, le 28 janvier 2020



Communication concernant ²⁾:
Communication concerning ²⁾:

- **DELIVRANCE D'UNE HOMOLOGATION**
APPROVAL GRANTED
- **EXTENSION D'HOMOLOGATION**
APPROVAL EXTENDED
- **REFUS D'UNE HOMOLOGATION**
APPROVAL REFUSED
- **RETRAIT D'HOMOLOGATION**
APPROVAL WITHDRAWN
- **ARRET DEFINITIF DE LA PRODUCTION**
PRODUCTION DEFINITELY DISCONTINUED

d'un type de composant en vertu du Règlement N° 107
of a type of a component with regard to Regulation N° 107

Numéro d'homologation:

Approval number:

E13*107R08/01*0064*00

SECTION I Section I

1. **Marque (raison sociale du constructeur):**
Make (trade name of manufacturer): ANYI
2. **Type:**
Type: FDJCM 5-9-2-1.2
3. **Moyens d'identification du type, s'il est indiqué sur le composant:**
Means of identification of type, if marked on the component: printed on the product plate
- 3.1 **Emplacement de cette marque d'identification:**
Location of that marking: printed on the product plate, affixed on the cylinder
4. **Nom et adresse du constructeur:**
Name and address of manufacturer: Shaanxi Anyi Fire Fighting Equipment Co., Ltd.
Qianwei Ijiaya, Chencang District,
Baoji City, Shaanxi Province, China
5. **Le cas échéant, nom et adresse du représentant du constructeur:**
If applicable, name and address of manufacturer's representative: not applicable
6. **Emplacement et mode de fixation de la marque d'homologation de type:**
Location and method of affixing of the Type-Approval mark: printed on the product plate, affixed on the cylinder

SECTION II

Section II

1. **Informations complémentaires (s'il y a lieu):**
Additional information (where applicable): see addendum
2. **Autorité déléguée:**
Assigned authority: *Société Nationale de Certification et d'Homologation L-5201 Sandweiler*

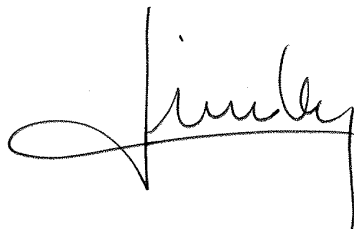
Service technique responsable de la conduite des essais:
Technical service responsible for carrying out the tests: ATE EL S.à r.l.
14, op Huefdreisch
L-6871 Wecker
3. **Date du procès-verbal d'essai:**
Date of test report: 20.12.2019
4. **Numéro du procès-verbal d'essai:**
Number of test report: 64AYA0001A
5. **Remarques (éventuelles):**
Remarks (if any): see addendum
6. **Lieu:**
Place: Luxembourg
7. **Date:**
Date: 28 janvier 2020
8. **Signature:**
Signature:

**Pour le Ministre de la Mobilité
et des Travaux publics**



Alain DISIVISCOUR
Conseiller

Pour la SNCH




Laurent LINDEN
Directeur opérationnel



9. **L'index du dossier d'homologation déposé auprès de l'autorité d'homologation, qui est disponible sur demande, est joint à la présente fiche.**

The index to the information package lodged with the Type Approval Authority, which may be obtained on request, is attached.

see index to type-approval report

Addendum

Addendum

au certificat d'homologation de type N° E13*107R08/01*0064*00 concernant l'homologation d'un système d'extinction d'incendie en tant que composant en vertu du Règlement N° 107

to Type-approval certificate N° E13*107R08/01*0064*00 concerning the Type-approval of a fire suppression system as a component with regard to Regulation N° 107.

1. Informations complémentaires:

Additional information:

1.1. Agent extincteur (marque et type):

Extinguishing agent (make and type):

Make: Guangzhou Yanguang Chemical Industry Co., Ltd.

Type: Baishian S-100-AB

1.2. Masse de l'agent extincteur (pour un compartiment moteur de 4 m³):

Mass of extinguishing agent (required for a 4 m³ engine compartment):

18 kg, 9 kg of each agent storage device

1.3. Type de points de décharge (type de buses, par exemple):

Type of discharge point(s) (e.g. type of nozzles):

liquid aerosol nozzle

1.4. Nombre de points de décharge (pour un compartiment moteur de 4 m³):

Number of discharge point(s) (required for a 4 m³ engine compartment):

10

1.5. Longueur du tuyau de décharge (pour un compartiment moteur de 4 m³), selon le cas:

Length of discharge tube (required for a 4 m³ engine compartment), if applicable:

refer to manufacturer's information document

1.6. Type de gaz propulseur, selon le cas:

Type of propellant gas, if applicable:

N₂**1.7. Pression du gaz propulseur (pour un compartiment moteur de 4 m³), dans le cas des systèmes sous pression:**

Pressure of propellant gas (needed in a 4 m³ engine compartment), in the case of systems under pressure:

1,2 Mpa

1.8. Température minimale de fonctionnement:

Minimum operating temperature:

-30 °C

1.9. Dimensions des tuyaux et raccords:

Dimensions of pipes and fittings, if applicable:

refer to manufacturer's information document



Référence: E13*107R08/01*0064*00

Annexes: - Rapport Technique
- Fiche de Renseignements du constructeur

Luxembourg, le 28 janvier 2020

Index du dossier d'homologation Index to type-approval report

	Numéro d'homologation: Approval number:	E13*107R08/01*0064*00
	Révision: Revision:	00
	Marque de fabrique ou de commerce: Trade name or mark:	ANYI
	Type: Type:	FDJCM 5-9-2-1.2
1.	Procès-verbal d'essai: Test report:	64AYA0001A
	- Technical report:	Pages 1 & 2;
	- Index:	Annex I1 - Pages 1;
	- General information (ECE):	Annex GI1 - Pages 1 & 2;
	- General test report:	Annex T - Pages 1 to 3.
2.	Dossier du constructeur: Report of the manufacturer:	N° FDJCM 5-9-2-1.2-R107-00
	- Information folder:	Pages 1 to 14.
3.	Autres documents annexés: Other documents annexed:	not applicable
4.	Date de délivrance de l'homologation initiale: Date of issue of initial type approval:	28.01.2020
5.	Date de la dernière délivrance de pages révisées: Date of last issue of revised pages:	not applicable
6.	Date de la dernière délivrance d'une homologation révisée: Date of last extension:	not applicable



ATE-EL
ALLIED TECHNOLOGY EXPERTS
ENTERPRISE OF LUXEMBOURG

Technical Report No. 64AYA0001A

Tests and inspection concerning

FIRE SUPPRESSION SYSTEM APPROVED AS A COMPONENT

according to the ECE Regulation No. 107 including all amendments up to Supplement 1 to the 08 series of amendments - Date of entry into force: 15.10.2019

Manufacturer: Shaanxi Anyi Fire Fighting Equipment Co., Ltd.
Qianwei Iijiaya, Chencang District,
Baoji City, Shaanxi Province, China

Type: FDJCM 5-9-2-1.2	Type Approval No.: E13*107R08/01*....*00	Manufacturer: Shaanxi Anyi Fire Fighting Equipment Co., Ltd.
-------------------------------------	--	---

Conclusion: The tests and checks carried out have shown the compliance of the type described in this report and the attached annexes with the Regulation mentioned above.

Shanghai, 20.12.2019

Mengting (Mtok) Xu
Ingénieur Inspecteur

Index: see Annex I1



1 Tests and inspection results

Refer to Annex T

2 Type and variants

The tests and inspections carried out and described in this technical report have been selected in order to include the following variants and versions of the type and its equipments, as far as these are relevant for the topic of this report, into the judgement:

As stated in Annex MID (Manufacturer's Information Document):

Item:

None.

3 Remark

3.1. General

None.



ATE · EL
ALLIED TECHNOLOGY EXPERTS
ENTERPRISE OF LUXEMBOURG

Annex I1 Page 1

Technical Report No. 64AYA0001A
Type: FDJCM 5-9-2-1.2

Compilation of Dossier No.: 64AYA0001

Extension 00

Technical Report no.: 64AYA0001A

page 1 and 2

Composition of Annex:

I1:	Index	page 1
GI1:	General Information	page 1 to 2
T:	General Test Report	page 1 to 3
MID:	Manufacturer's Information Document	page 1 to 14
	Index of the Manufacturer's Information Document:	see Annex MID, page 3



ATE · EL
ALLIED TECHNOLOGY EXPERTS
ENTERPRISE OF LUXEMBOURG

Annex GI1 Page 1

Technical Report No. 64AYA0001A
Type: FDJCM 5-9-2-1.2

General Information

Numbering according to annex I part 2 - Appendix 4 of the ECE Regulation No. 107

Section I

- | | | |
|------|---|---|
| 1. | Make (trade name of manufacturer): | ANYI |
| 2. | Type: | FDJCM 5-9-2-1.2 |
| 3. | Means of identification of type if marked on the component: | Printed on the product plate |
| 3.1. | Location of that marking: | Printed on the product plate, affixed to the cylinder |
| 4. | Name and address of manufacturer: | Shaanxi Anyi Fire Fighting Equipment Co., Ltd.
Qianwei Ijiaya, Chencang District,
Baoji City, Shaanxi Province, China |
| 5. | If applicable, name and address of manufacturer's representative: | Not applicable |
| 6. | Location and method of affixing of the type Approval mark: | Printed on the product plate, affixed to the cylinder |

Section II

- | | | |
|----|---|---|
| 1. | Additional information (where applicable): | See addendum |
| 2. | Technical service responsible for carrying out the tests: | ATE EL s.à r.l.
14, op Huefdreich
L-6871 Wecker |
| 3. | Date of test report: | 20.12.2019 |
| 4. | Number of test report: | 64AYA0001A |
| 5. | Remarks (if any): | See Addendum |
| 6. | | |
| 7. | | |
| 8. | | |
| 9. | | |



General Information

Addendum to type approval certificate concerning the type approval of a fire suppression system as a component with regard to Regulation No. 107

- | | | |
|------|--|---|
| 1. | Additional information | |
| 1.1. | Extinguishing agent (make and type): | Make: Guangzhou Yanguang Chemical Industry Co., Ltd.
Type: Baishian S-100-AB |
| 1.2. | Mass of extinguishing agent
(required for a 4 m ³ engine compartment): | 18 kg, 9 kg of each agent storage device |
| 1.3. | Type of discharge point(s) (e.g. type of nozzles): | Liquid aerosol nozzle |
| 1.4. | Number of discharge point(s)
(required for a 4 m ³ engine compartment): | 10 |
| 1.5. | Length of discharge tube (required for a 4 m ³ engine compartment), if applicable: | Refer to annex B of MID |
| 1.6. | Type of propellant gas, if applicable: | N ₂ |
| 1.7. | Pressure of propellant gas (needed in a 4 m ³ engine compartment), in the case of systems under pressure: | 1.2 Mpa |
| 1.8. | Minimum operating temperature: | -30 °C |
| 1.9. | Dimensions of pipes and fittings, if applicable: | Refer to annex B of MID |



General Test Report

The data in this section refer only to the items submitted to testing or inspection.

0 Abstract

0.1 Type: FDJCM 5-9-2-1.2

1 Dates and resources

1.1 Date of receipt of test item: 05.12.2019

1.2 Date of inspection(s): 05.12.2019 - 06.12.2019

1.3 Place of inspection(s): Shaanxi Anyi Fire Fighting Equipment Co., Ltd.
Qianwei Ijiaya, Chencang District,
Baoji City, Shaanxi Province, China

1.4 Testing site and testing equipment:

All measuring and test equipment used to carry out the inspections are in accordance with ISO 17025 and the regulatory act(s) applied.

2 Test object

The tests were conducted with a test component which is representative of the component type to be approved. The characteristics of the selected component represent the worst case.

2.1 Description

Type: FDJCM 5-9-2-1.2

ID: Eight agent storage devices, one set of liquid aerosol nozzles and tubes
Serial number of eight storage devices:19030080-19030087

3 Tests and inspections

3.1 General

The requirements of item 1.1 and 1.2 of Annex 13 - Part 1 of the ECE Regulation No. 107 are fulfilled.



General Test Report

3.2 Test results

3.2.1. High-load fire

3.2.1.1. The test is conducted in accordance with Appendix 2 of Annex 13 to the Regulation.

3.2.1.2. The test is conducted with the extinguishing agent and the propellant gas vessel or the suppression agent generator cooled to the minimum operating temperature for the fire suppression system, as declared by the manufacturer. The temperature recorded: -30.2 °C

3.2.1.3. The fires is fully extinguished at 18 seconds after activation before the extinguishing agent has been fully used.

Time :18 s ≤ Limit value: 60 s

3.2.1.4. The test is passed after success at first attempt.

Test passed.

3.2.2. Low-load fire

3.2.2.1. The test is conducted in accordance with Appendix 3 of Annex 13 to the Regulation.

3.2.2.2. The fires is fully extinguished at 15 seconds after activation before the extinguishing agent has been fully used.

Time :15 s ≤ Limit value: 60 s

3.2.2.3. The test is passed after success at first attempt.

Test passed.

3.2.3. High-load fire with fan

3.2.3.1. The test is conducted in accordance with Appendix 4 of Annex 13 to the Regulation.

3.2.3.1.1. The low-load fire test is performed individually.

3.2.3.2. The fires is fully extinguished at 18 seconds after activation before the extinguishing agent has been fully used.

Time :18 s ≤ Limit value: 60 s

3.2.3.3. The test is passed after success at first attempt.

Test passed.



General Test Report

3.2.4. Re-ignition test

3.2.4.1. The test is conducted in accordance with Appendix 5 of Annex 13 to the Regulation.

The temperature of the pre-heated tupe:

Thermocouples No.	Tc1	Tc2	Tc5	Tc6	Tc7
Temperature [°C]	583	633	638	623	628
Minimum requirements [°C]	570	600	520	520	520

3.2.4.2. Re-ignition has not occured within 45 seconds of the fire being fully extinguished.

3.2.4.3. The test is passed after success at first attempt.

Test passed.



Information Document

ECE-R107

Doc.No: FDJCM 5-9-2-1.2-R107-00

First application

Application Date: 21 November, 2019

MODEL INFORMATION DOCUMENT

**RELATION TO REGULATION NO. 107 RELATING TO TYPE APPROVAL OF A FIRE SUPPRESSION
SYSTEM AS A COMPONENT
(ECE Regulation No 107)**

Fire Suppression System Type: FDJCM 5-9-2-1.2

Extension	Extension reason(s)	Date	Approval No.	Approved by
0	-	21 November, 2019		Xu Bin

**0 GENERAL**

- 1.1 Make (trade name of manufacturer) : ANYI
- 1.2 Type and general commercial description(s)
Type : FDJCM 5-9-2-1.2
- 1.3 Commercial name(s) : ANYI FDJCM 5-9-2-1.2 Fire suspension system
- 1.4 Location of that marking : Printed on the product plate, affixed to the cylinder
- 1.5 Name and address of manufacturer : Shaanxi Anyi Fire Fighting Equipment Co., Ltd.
Qianwei Iijiaya, Chencang District, Baoji,
Shaanxi Province, China
- 1.6 Location and method of affixing of the Type-Approval mark : Printed on the product plate, affixed to the cylinder

2 FIRE SUPPRESSION SYSTEM

- 2.1 Extinguishing agent (make and type)
Make : Guangzhou Yanguang Chemical Industry Co., Ltd.
Type : Baishian S-100-AB
- 2.2 Mass of extinguishing agent (required for a 4 m³ engine compartment) : 18 kg, 9 kg of each agent storage device
- 2.3 Type of discharge point(s) (e.g. type) : Liquid aerosol nozzle
- 2.4 Number of discharge point(s) (required for a 4 m³ engine compartment) : 10
- 2.5 Length of discharge tube (required for 4 m³ engine compartment) : Refer to annex B
- 2.6 Type of propellant gas : N₂
- 2.7 Pressure of propellant gas : 1.2 Mpa
- 2.8 Minimum operating temperature : -30 °C
- 2.9 Dimensions of pipes and fittings : Refer to annex B
- 2.10 Detailed description, layout drawings and installation manual of the fire suppression system and its components : Refer to Annex



ANNEX LIST

Annex	Title	Page
A	Description of the fire suppression system	1
B	Location of the type and approval marks	1
	Layout of the fire suppression system	2-3
	Tube Grid A arrangement	4
	Tube Grid B arrangement	5
	The drawing of the nozzle	6
	Assembly of agent storage device	7
	Electrical Gas Generator	8
	Installation manual of the fire suppression system	9
	Working method of propellant gas	10



Type:	FDJCM 5-9-2-1.2	Annex A Page 1
Title:	Description of the fire suppression system	

Type: FDJCM 5-9-2-1.2

Extinguishing agent: Water based extinguishing agent BAISHIAN S-100-AB

Mass of extinguishing agent: 9 kg each agent storage device, 18 kg in total

Type and number of nozzle: 10 pcs of liquid aerosol nozzle

Length of discharge tube: 16.05m

Type of UV flame detector: cf6002 Manufacturer: Beida Bluebird Huanyu Fire Equipment Co., Ltd

Type of temperature detector: ksd-301 Manufacturer: Tengyun Ruishi Technology Co., Ltd

Switch model: la-36 Manufacturer: Yijia industrial control electric Co., Ltd

Description of fire suppression system

The fire extinguishing device is a safety protection device to ensure the safety of the vehicle and the vehicle occupants. When flame detectors or temperature sensors detects the fire, the alert will sound to the person and the fire extinguishing device will be automatically activated after about 5 seconds of alarm. When the alarm device works, the driver can also manually activate the fire extinguishing device before it is automatically activated.

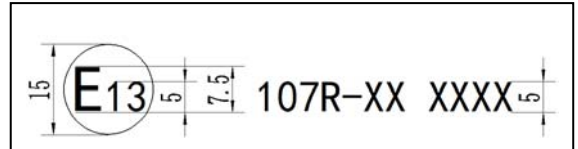
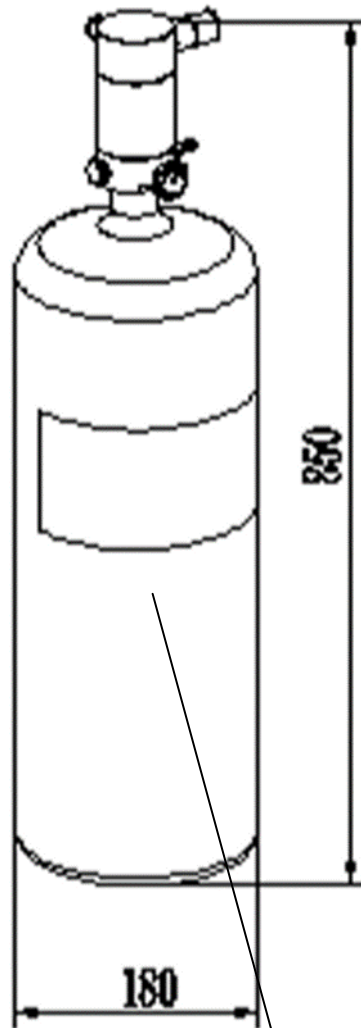
The fire extinguishing device adopts self-pressure storage method. The fire extinguishing agent is water-based (can be selected for different environment of use).

The fire extinguishing agent is driven by a certain pressure and sprayed into the engine compartment through the liquid aerosol nozzle to extinguish the fire source by lowering the temperature and forming foam on the combustibles to isolate the oxygen.

The fire extinguishing device has two modes to be activated: Manual and Automatic.



Type:	FDJCM 5-9-2-1.2	Annex B	Page 1
Title:	Location of the type and approval marks		



E-mark location on product plate

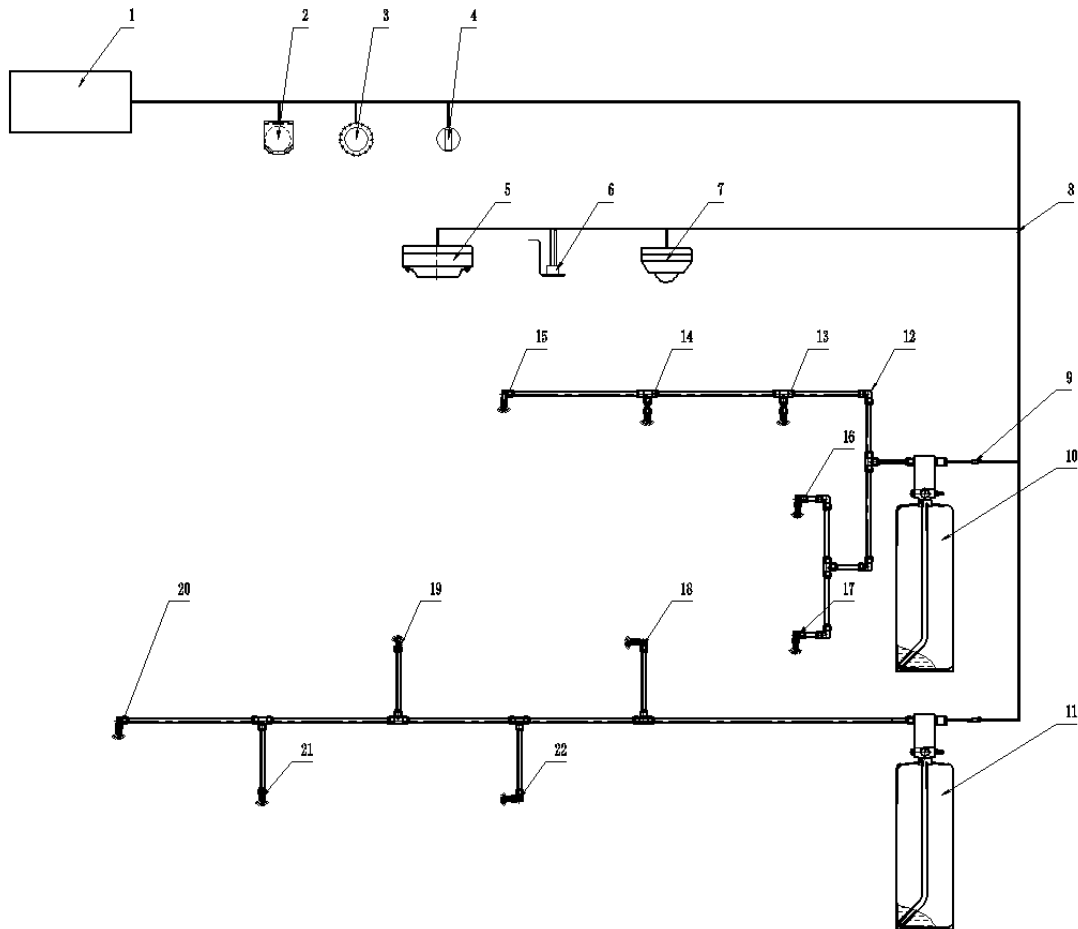
FIRE SUPPRESSION SYSTEM			
PRODUCT NAME			
AGENT		TYPE	
STANDARD No.		TEMP RANGE	
SERIAL No.		PLACE OF ORIGIN	
DATE OF PRODUCED		EXPIRY DATE OF AGENT	

107R-XX XXXX

Produced by Shaanxi Anyi Fire Fighting Equipment Co., Ltd.
 Located in Lijiaya, Qianwei, Chencang District, Baoji, Shaanxi Province
 Website: www.anyijd.com



Type:	FDJCM 5-9-2-1.2	Annex B	Page 2
Title:	Layout of the fire suppression system		

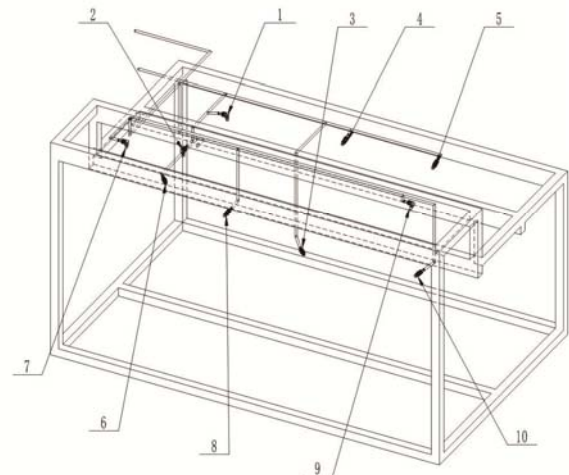
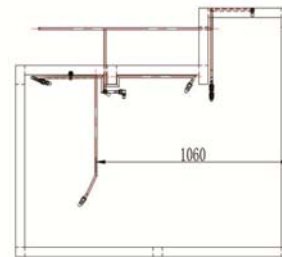
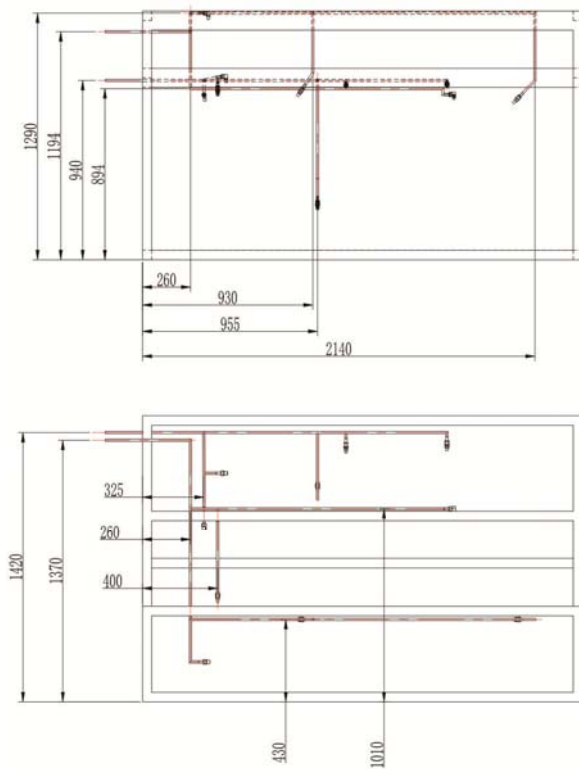


No.	Title	Quantity	Specification
1	Power supply	1	DC 8V~DC36V
2	Start button	1	16(4)A 250VAC
3	Alarm clear switch	1	16(4)A 250VAC
4	Manual/AUTO transfer switch	1	16(4)A 250VAC
5	Ultraviolet flame detector	1	JTGB-ZW-GF6002
6	Temperature detector	2	120°C
7	Fire Audible and visual alarm	1	JBF-1372D
8	Wire harness	N/A	ZR-BVR 2.5mm ²
9	Wiring terminal	2	DJ703(2)1A-2.8-11
10-11	Assembly of agent storage device	2	18 L, 9 L of each agent storage device
12	Tube grid	N/A	DN10
13-22	Nozzles	10	ZSTW B2.5/60



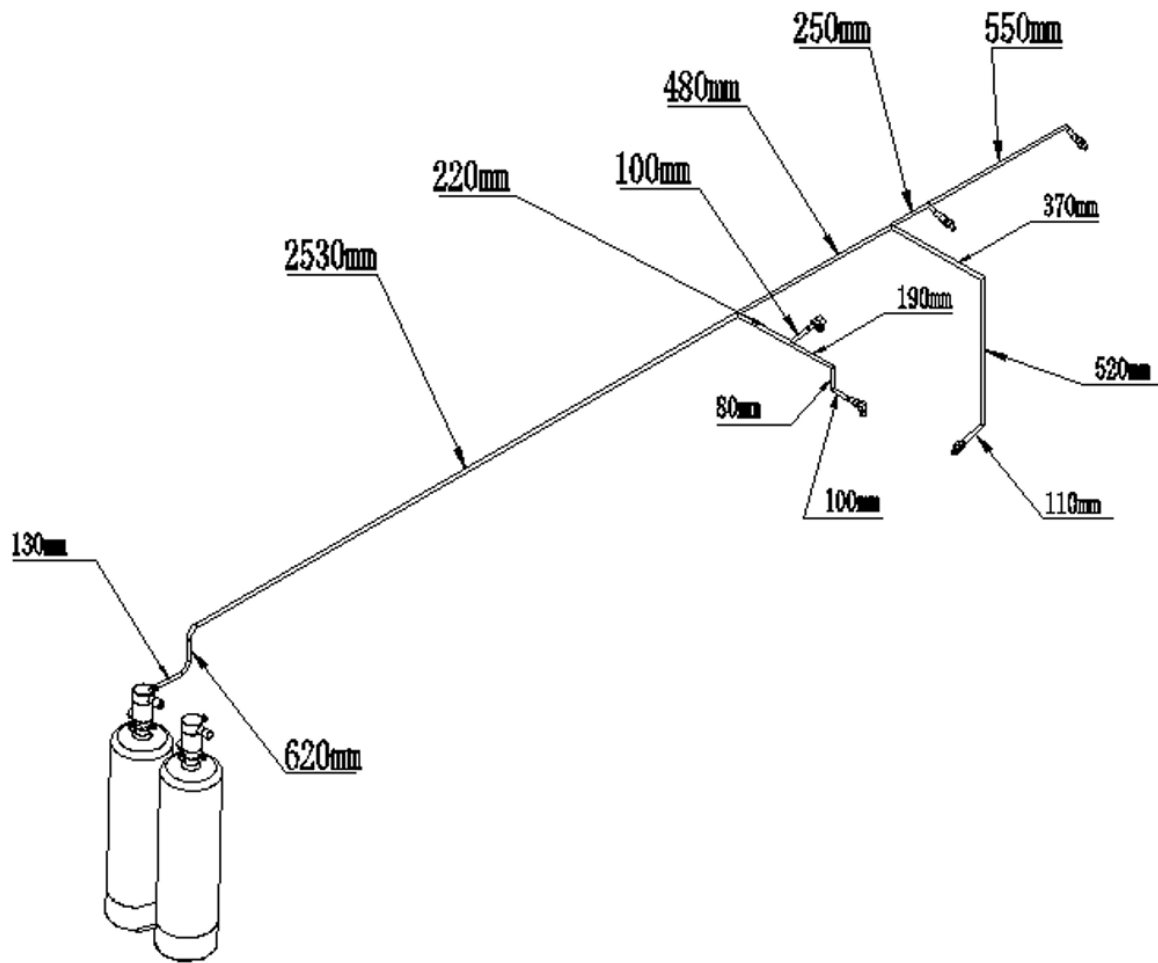
Type:	FDJCM 5-9-2-1.2	Annex B	Page 3
Title:	Layout of the fire suppression system		

Three dimensional diagram of the position of each pipeline and nozzle in the environmental chamber of the simulated engine



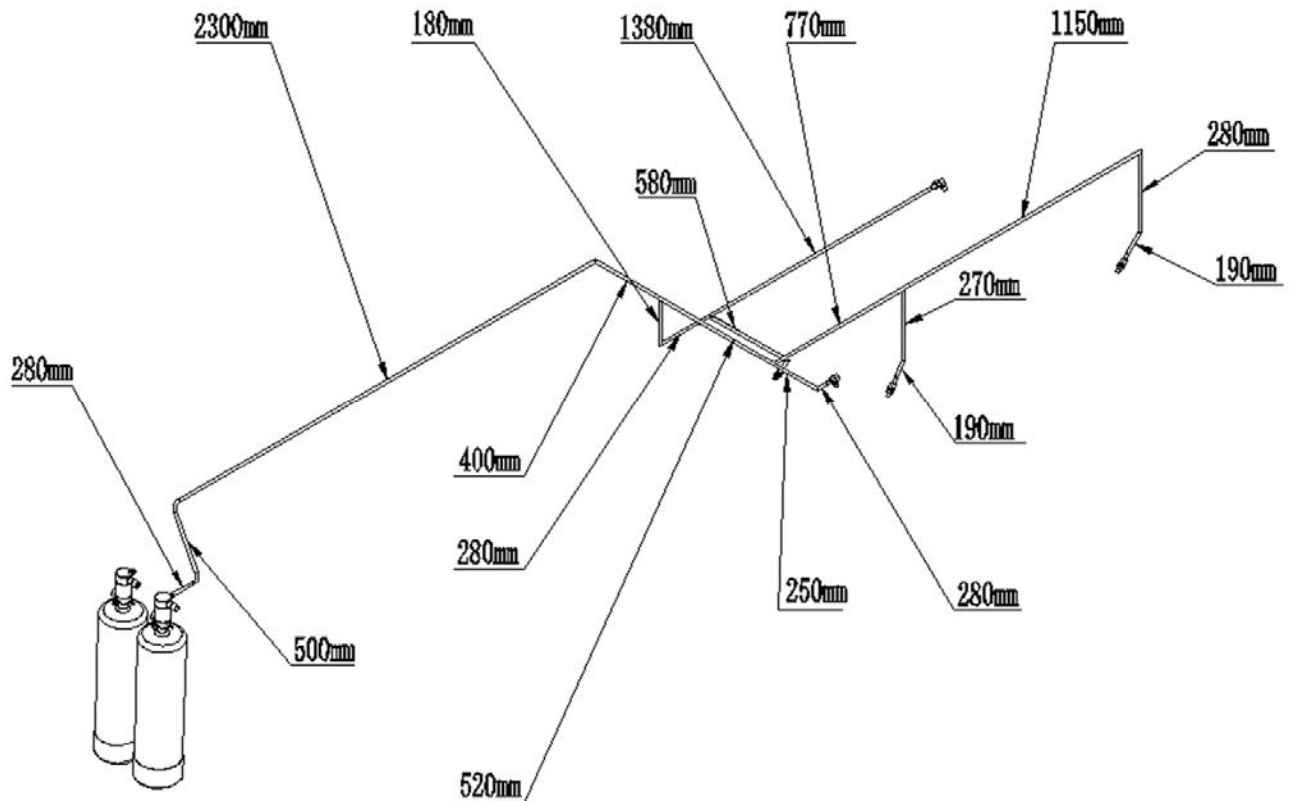


Type:	FDJCM 5-9-2-1.2	Annex B	Page 4
Title:	Tube Grid A layout		





Type:	FDJCM 5-9-2-1.2	Annex B Page 5
Title:	Tube Grid B layout	



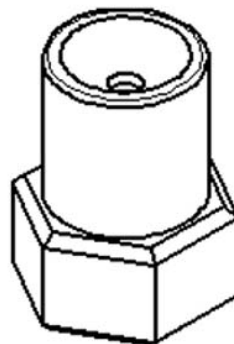
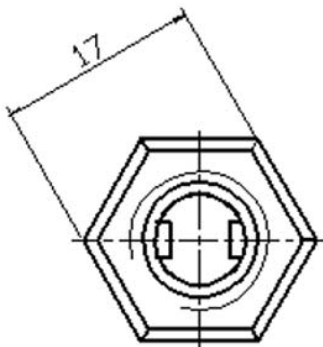
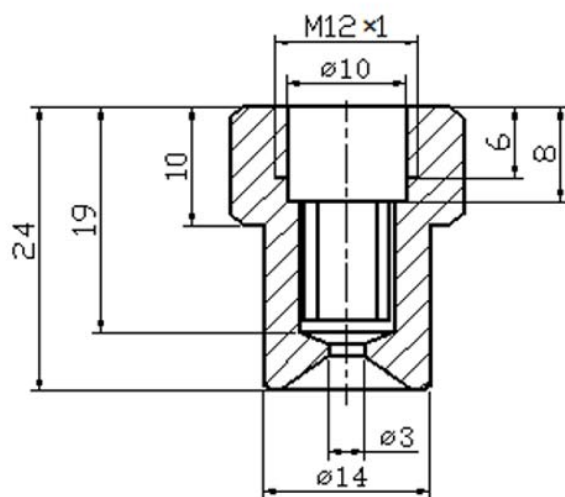


Type:	FDJCM 5-9-2-1.2	Annex B	Page 6
Title:	The drawing of the nozzle		

Name: water aerosol nozzle

Make: Shaanxi Anyi Fire Fighting Equipment Co., Ltd.

Material: H62 Brass



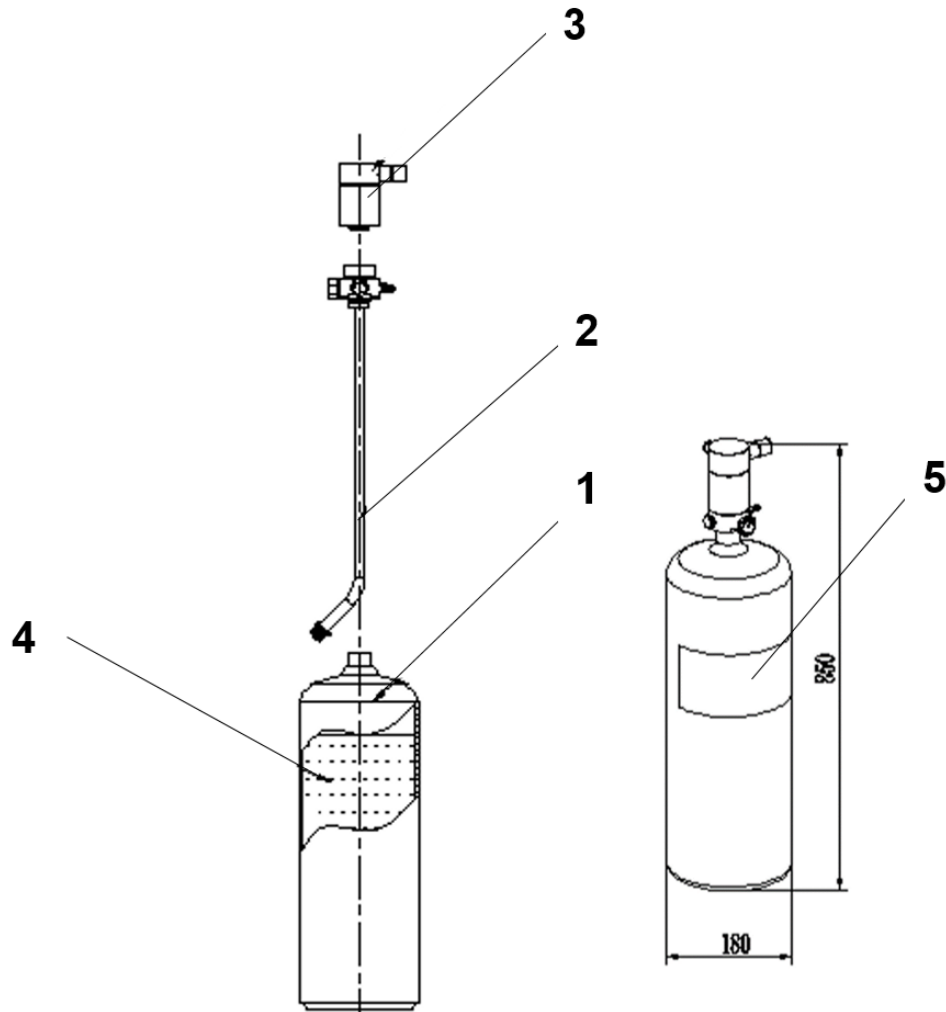


Type:	FDJCM 5-9-2-1.2	Annex B Page 7
Title:	Assembly of agent storage device	

Name: Assembly of agent storage device

Type: MHQ-01

Make: Shaanxi Anyi Fire Fighting Equipment Co., Ltd.



No.	Title	Type
1	Cylinder	GP-00
2	Assembly of Liquid Grid	PMP-00
3	Electrical Gas Generator	FSQ-A-00
4	Agent	S-100-AB
5	Marking (Product palte)	MP01

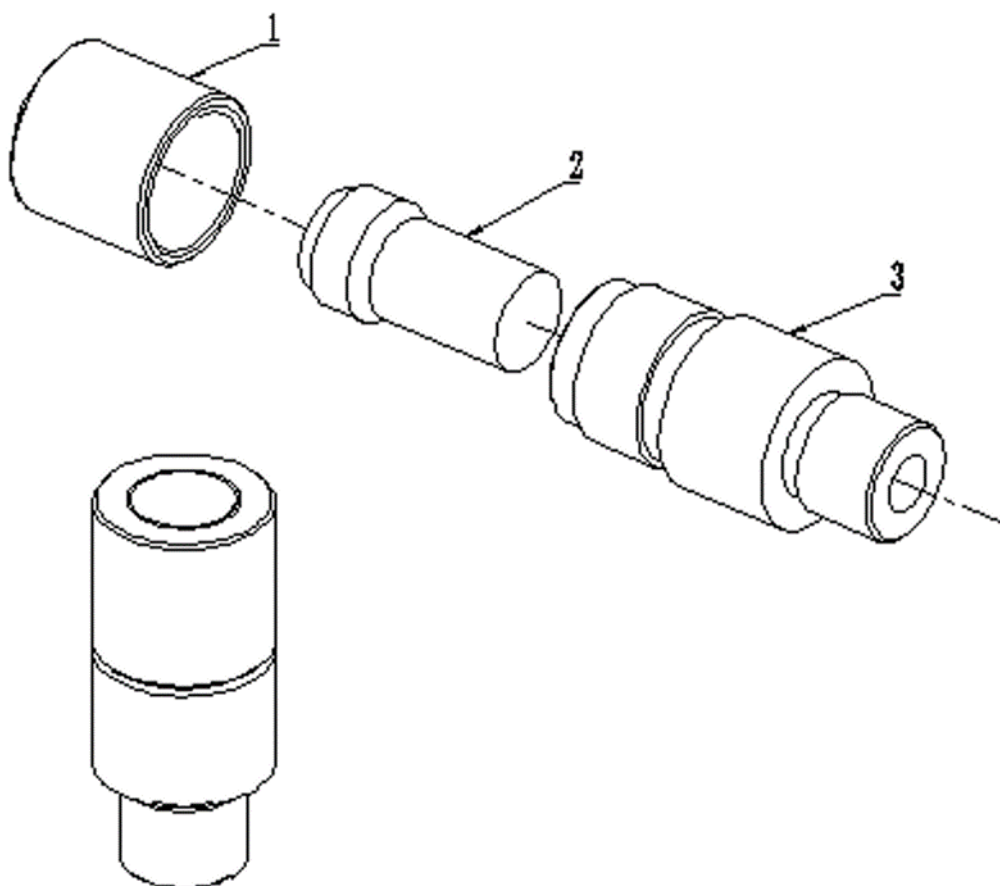


Type:	FDJCM 5-9-2-1.2	Annex B	Page 8
Title:	Electrical Gas Generator		

Name: Electrical Gas Generator

Type: FSQ-A-00

Make: Shaanxi Anyi Fire Fighting Equipment Co., Ltd.



No.	Title	Type
1	Joint nut	FSQ-A-00-01
2	Gas Generator	FSQ-A-02
3	Generator joint	FSQ-A-00-03



Type:	FDJCM 5-9-2-1.2	Annex B	Page 9
Title:	Installation manual of the fire suppression system		

1. Check before installation

Check that the pointer on the pressure gauge of the extinguishing agent storage device should be in the green area of the dial.

Check and confirm the battery voltage is correct.

2. Installation

Determine the installation technical solution according to the actual conditions and arrangement of the vehicle.

General installation methods: Cylinders are fixed in place with cylinder box or brackets, and shockproof pipe clamps or R-shaped brackets are used to fix the pipelines. Both the cylinder box and pipelines are subject to shockproof measures.

- Install and fasten the storage device bracket, fire extinguishing agent storage device, pipes, sprinkler, all fasteners and all other components.
- Install flame detectors, temperature sensors, alarm, start switches, circuits and other components, and check the circuit status.
- Connect the line connector and the connector of the gas generator, and put on a protective cover.
- The nozzles shall cover all potential fire hazards within the engine compartment and each compartment where a combustion heater is located



Type:	FDJCM 5-9-2-1.2	Annex B	Page 10
Title:	Working method of propellant gas		

The fire extinguishing device is self-accumulating. When it is started, the valve body diaphragm ruptures. The pressure difference forces the fire extinguishing agent to be ejected through the grid.

1. When the gas generator receives the pulse signal, the pulse induces the electric bridge to generate a large amount of heat, and the high heat ignites the reaction of the gas producing materials in the gas generator to rapidly produce a large amount of gas;

2. Due to the limited space in the valve body, with the gas production of the generator, the pressure in the valve body cavity increases, resulting in a pressure difference, and overcoming the spring force to force the movement of the valve cor