

EXPLOSION PROTECTION SYSTEMS

STANDARD RATE DISCHARGE SYSTEMS INSTALLATION AND MAINTENANCE INSTRUCTIONS





May, 08

Explosion Protection Systems

Standard Rate Discharge Systems

Installation and Maintenance Instructions

REVISIONS

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ANNEX A: SRD COMPOSING PARTS AND POSSIBLE CONFIGURATIONS :

FIKE DOCUMENT: D00026
 FIKE DOCUMENT: D00035
 FIKE DOCUMENT: D00150
 FIKE DOCUMENT: D00153

ANNEX B: INSTRUCTION AND MOUNTING DETAILS:

FIKE DOCUMENT: 710610

ANNEX C: ISOLATION CONTAINER RELOAD PARTS SRD: FIKE DOCUMENT: 8.5502.

1 INTRODUCTION

1.1 SCOPE

This document is intended to provide information and assist with the installation, maintenance and refurbishment of Fike Europe Standard Rate Discharge systems (SRD containers). Individuals should read this manual carefully. Specific sections will be of particular interest depending upon specific responsibilities. This information shall be used in conjunction with the drawings and additional information provided for the specific application.

1.2 FIKE EXPLOSION ISOLATION CONCEPT

The risk of an industrial explosion occurs in many stages of production, transport, and storage of combustible dust and gases. Apart from all the known preventive measures to avoid conditions in which explosions may occur, a large number of constructive protection measures can be taken.

Protective techniques are classified into explosion venting, suppression, and isolation.

Explosion venting and explosion suppression are designed to protect process vessels from overpressurisation. Explosion isolation is intended to keep explosions from spreading throughout a process. By isolating the explosion, the effect of an explosion is limited to the equipment where the explosion initially occurred.

Chemical explosion-isolation - a technique to prevent propagation of explosion flame through connecting pipes, is achieved by means of a chemical flame extinguishing system which basically comprises a detector, a control system and a container filled with suppressant powder, that is pressurized with nitrogen. The Fike Chemical Isolation containers are placed on interconnecting piping. To isolate explosions the system proceeds through 3 basic sequences: detection, initiation and isolation.

All aspects contribute to the effectiveness of a chemical isolation system. Delivery of suppressant powder begins within a few milliseconds after detection and sufficient quantities of suppressant powder must be delivered over a known time period in order to effectively interrupt the propagation of an explosion. The choice of suppressant, the location of the system components and other system parameters must be carefully considered for each application, taking into account the velocity of the explosion flame and other applicable process conditions.

Refer to Fike document 8.5501. (Isolation Container SRD).

1.3 DEFINITIONS

SRD-Suppressor (Slow or Standard Rate Discharge): Appliance containing an explosion suppressant that can be expelled by the action of stored internal pressure.

Explosion: The propagating of a flame (and pressure wave) in a premixed dispersion of combustible gases dusts or mixtures of these, in a gaseous oxidant such as air in a closed or substantially closed vessel.

Deflagration: Explosions which propagate because of heat transfer and having two distinctive and separate parts - a pressure wave and a flame. Deflagrations are characterised by an explosion pressure wave travelling at the speed of sound and flame accelerating. The Fike hardware is designed to provide protection against deflagrations only, not against detonations.

Suppressant: Substance contained in the suppressor that, when dispersed into a volume to be protected, can arrest or prevent a developing explosion in that volume. Three categories of suppressants are in general use, separately or in combination (powder, water, haloncarbons).

Powder suppressant: Powder with recognised flame extinguishing properties such as products based on monoammonium phosphate, potassium bicarbonate or sodium bicarbonate. Such suppressants may contain additives to improve their flow properties and their effectiveness.

Dispersion nozzle: A discharge-device fitted on a Suppressor or the protected installation and designed to deploy the suppressant into the equipment to be protected.

Explosion sensor: Device that is responsive to the changes of environmental parameters such as pressure caused by a developing explosion.

Explosion detector: Device or arrangement of apparatus, containing one or more explosion sensors, that responds to a developing explosion by providing an explosion detection signal.

Activation pressure P_a : That pressure threshold, above the pressure at ignition of the reactants (P_i), at which a detection of the explosion is deemed to have occurred.

Response time: The time necessary for actuation of the system after a detection of an explosion.

Active Explosion Isolation System: A system which is designed to be activated by a sensor/or a control and indicating equipment (CIE) and stop explosions from travelling through pipelines or limit destructive effects of the explosion.

Actuator: Initiating device to open the HRD container, typically a gas generator (GCA or Gas Cartridge Actuator) or detonator.

Control and indicating Equipment (CIE): Equipment which records and monitors the signals transmitted by explosion pressure sensors / detectors spark and flame, temperature and other safety sensors. Depending on configuration, by interrogation and interpretation of the detector / sensor data the CIE selectively controls the actuation of Suppressors (HRD's), extinguishing barriers (SRD's), fast closing isolation valves, process equipment shut down, water spray or extinguishant release, and all audible and visual alarms. The CIE must be constructed according to special specifications.

Explosion Protection System Controller (EPSC): Fike equivalent name for CIE.

Zone: A zone that is protected against an explosion; it consists of protection devices that are electrically linked with detectors. A validated (acknowledged) detection signal will activate the explosion protection devices for that specific protected zone.

Armed: the EPSC is active and will process a detection signal.

Disarmed: the EPSC is inactive and will not process a detection signal.

Shutdown: Disarm action followed by the discharging of the capacitors of a CIE/EPSC. Consequently, the power to fire the actuator is no longer present. Therefore, shutdown is safer than DISARM. Shutdown must be used during maintenance to an area of plant, where people can enter the protected volume. Shutdown also guarantees a safe state of the circuitry for the operator or technician for maintenance or measurements.

Fike Service Sign:



The sections marked with this icon require specialist assistance.

ONLY CERTIFIED FIELD SERVICE ENGINEERS SHALL PERFORM THE ACTIONS DESCRIBED IN THESE MARKED SECTIONS.

2 WARNINGS

WARNING: ISOLATION SYSTEM PARTS ARE NOT DESIGNED TO BE EXPOSED TO VIBRATIONS. FOR MORE DETAILS OR IN CASE OF DOUBT CONTACT FIKE.

WARNING: ONLY QUALIFIED FIKE PERSONNEL HAVE THE AUTHORITY TO INSTALL / REMOVE ACTUATORS.

WARNING: IN MANY COUNTRIES THE TRANSPORT, STORAGE AND USE OF ACTUATORS ARE CONTROLLED BY GOVERNMENT RULES AND OFFICES. THE LOCAL AUTHORITIES MUST BE CONSULTED BEFORE TRANSPORT, USE OR INSTALLATION OF THESE DEVICES AND THE RELEVANT PERMITS OBTAINED

WARNING: ACTUATORS ARE PYROTECHNIC DEVICES THAT CAN CAUSE BODILY INJURY AND / OR EQUIPMENT DAMAGE IF NOT HANDLED CORRECTLY. ONLY AUTHORIZED PERSONS SHALL WORK WITH THESE DEVICES AND MUST BE FAMILIAR WITH AND UNDERSTAND THE RELEVANT PROCEDURES.

WARNING: TO PREVENT POSSIBLE INJURY, THE ACTUATOR MUST BE DISCONNECTED AND SHUNTED WHENEVER PERFORMING ANY OF THE REFURBISHMENT AND REBUILD PROCEDURES.

WARNING: IN NORMAL CIRCUMSTANCES, ACTUATORS ARE THE LAST PART TO BE INSTALLED AND MAY ONLY BE INSTALLED WHEN EQUIPMENT AND SYSTEM HAVE BEEN CHECKED.

WARNING: ALL MAINTENANCE WORK SHOULD BE EXECUTED BY CERTIFIED FIELD SERVICE ENGINEERS.

ONLY COMPONENTS SUPPLIED BY FIKE i.e. RELOAD KITS, SPARE PARTS ETC., SHOULD BE USED TO REFURBISH THE CONTAINERS.

FIKE SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES TO FIKE ASSEMBLIES, COMPONENT PARTS OR HARM TO PERSONNEL IF WORK TO THE FIKE EQUIPMENT IS CARRIED OUT BY NONE FIKE CERTIFIED ENGINEERS.



THE SECTIONS MARKED WITH THIS ICON REQUIRE SPECIALIST ASSISTANCE. PLEASE CONTACT FIKE FOR INFORMATION, ASSISTANCE OR SERVICE TRAINING PROGRAMS.

SERVICE QUALIFICATIONS

The information contained in this document is provided for reference purposes only. For further product information or ordering replacement parts, please contact your local Fike Branch Office or Representative (details of which can be found on the back page) or Fike Product Support by calling 816-229-3405 (fax: 816-229-0314) or Fike Europe Product Support at +32 14 21 00 31 (fax: +32 14 21 07 43).

3 STANDARD RATE DISCHARGE SYSTEMS

3.1 DESCRIPTION

The Fike SRD-container, used in conjunction with other Fike explosion protection system components, is designed to suppress or prevent flame propagation through ducts or conveying lines to downstream equipment or operating locations.

Fike SRD-containers are incorporated in the protection system to perform vital system functions. The controlled and predictable release of suppressant powder is such a vital function. Release of these media results from an electrical signal generated by the EPSC. The electrical signal is transmitted to an actuator that instantaneously opens a rupture disc. Upon opening of the disc, the suppressant powder flows out of the container into the pipe thereby providing a chemical block to the propagating explosion.

3.2 IDENTIFICATION

To identify the chemical isolation container and order replacement parts, the containers have been permanently labelled. The container identification plate, located on the cylindrical shell of the container, contains among other things following information: Serial No., Date of Manuf., Gross Weight, Next inspection date, Suppressant type, Suppressant weight and Filling pressure (fig. 1).

SRD SUPPRESSION CONTAINER ...L	
0035 DNV-2008-OSL-ATEX-16208U	<div> <div> <div>Ex</div> <div>II GD</div> </div> <div> Fill(N₂)pressure: 35 bar @22°C Suppressant: ... Suppressant Qty: ... kg Gross wgt: ... kg Manufact. year: ... Serial N°: ... Test pressure: 100,1 bar Test date: ... Lot Number: ... </div> </div>
	Prod. group 2
	P/N° 29003103 REV. E
Fike EUROPE TOEKOMSTLAAN 52 B-2200 Herentals-Belgium	

Figure 1. Container Identification Plate

3.3 COMPOSING PARTS / DIMENSIONS

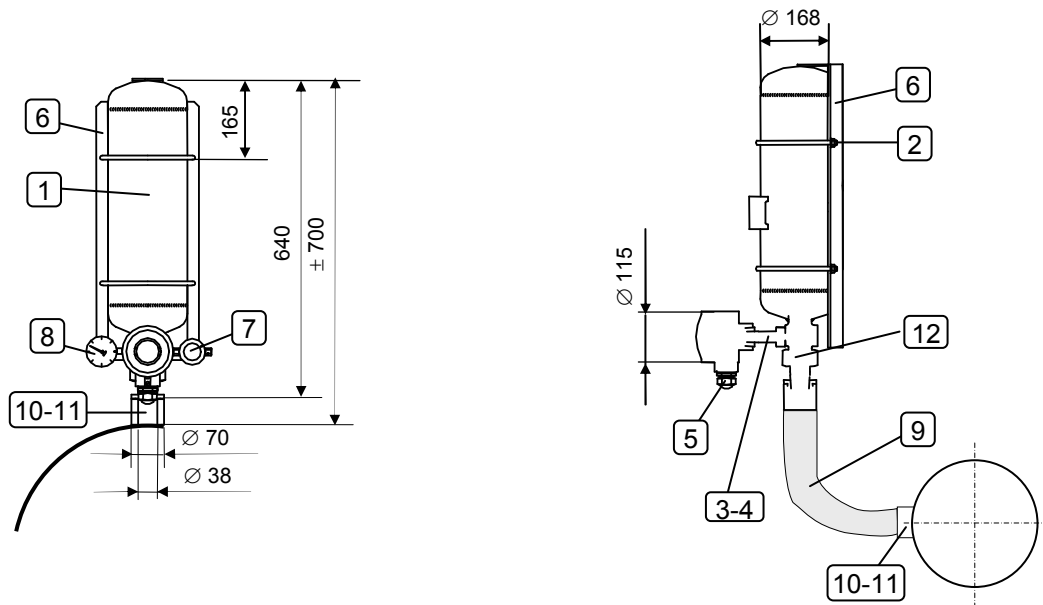


Figure 2. SRD composing parts (typical)

N°	Description	N°	Description
1	SRD explosion isolation container	7	Fill valve
2	U-bolts M8 (incl. nuts & washers)	8	Pressure gauge
3	Initiator housing	9	Flexible mounting (optional)
4	Actuator	10	1 1/4" nozzle assembly
5	Cable gland	11	Nozzle plug assembly
6	Mounting bracket	12	Raccord

Table 1. Composing parts

4 STANDARD RATE DISCHARGE CONTAINER INSTALLATION

WARNING: THE CONTAINER MUST BE INSTALLED BEFORE PRESSURISATION!

4.1 MECHANICAL INSTALLATION

Fike suppressant containers are factory filled with suppressant powder. After installation, the containers must be pressurised by a Fike Service Engineer during start-up of the system (dry nitrogen, initial pressure 34,5 barg at 22°C). Refer to figure 3 for the required filling pressure if the ambient temperature differs from 22°C to prevent accidental firing and possible injury due to overfilling.

The suppressant container requires sufficient structural support based on its weight . Refer to the Fike Engineering Drawings for the physical specifications of the suppressant container. The SRD-container must be mounted to the mounting bracket and connected to the process pipe by the nozzle mounting boss as prescribed in the specific Fike Engineering Drawings (Refer to Annex B).

4.2 CONTAINER PRESSURIZATION

Fike containers are shipped without pressure, to be pressurised on site. After installation, the container must be pressurised by a Fike Service Engineer during start-up of the system (dry nitrogen, fill pressure at 22°C: 18 barg ($\varnothing \leq 10''$), 24 barg ($> 10''$) at 22°C). Refer to figure 3 for the required filling pressure if the ambient temperature differs from 22°C to prevent accidental firing and/or possible injury due to overfilling.

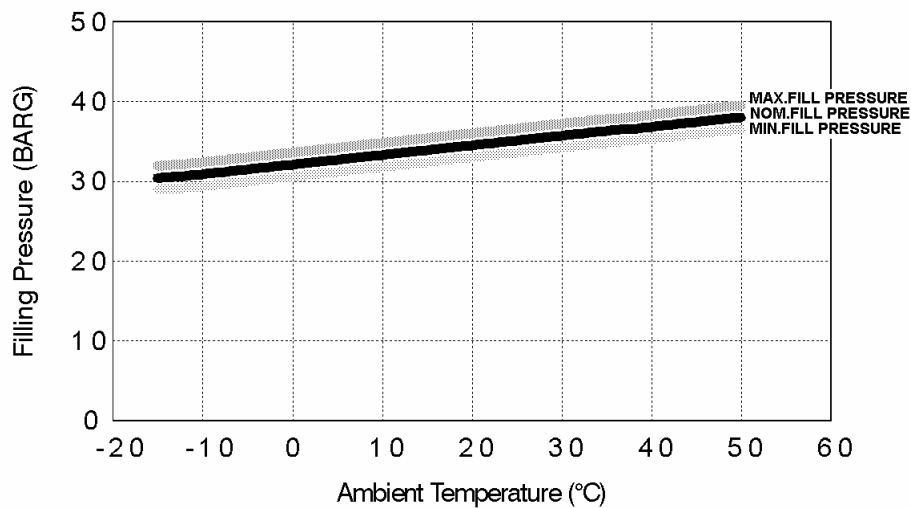


Figure 3. SRD container fill pressure chart

4.3 ACTUATOR INSTALLATION & HANDLING

Refer to SECTION 6 ACTUATOR INSTALLATION & HANDLING for details on installation of the actuator.

Refer to the relevant CIE, EPSC manual and site specific drawing package for the completion of the controller wiring and system checkout.

5 CONTAINER REFURBISHMENT

After an activation, the suppressant powder is released and the container shall be refurbished. Fike SRD- containers are designed to allow easy and quick refurbishment. Refer to figure 2 for details and composing parts.

The SRD container can be refurbished using the Fike reload parts as detailed below. Refurbishing the container shall only be performed by a Fike service technician or trained site personnel, using original Fike parts only!

The following items are required for refurbishing the SRD:

- Reload kit SRD consisting of the following parts (refer to datasheet 8.5502 Isolation

Container: Reload parts SRD; Annex C):

- ① Suppressant powder
- ② Initiator boss
- ③ O-ring initiator boss
- ④ O-ring rupture disc assembly
- ⑤ Rupture disc assembly
- ⑥ Nozzle plug assembly

- The initiator in safety enclosure:

Can be either a gas cartridge actuator (GCA) or a detonator (DETO) in safety enclosure

Containers types	Agent Fill Weight			Nitrogen pressure
	SBC	FGSBC	MAP	
	kg	kg	kg	
2 Liter SRD	1,8	1,4	1,4	34
8,4 Liter SRD	8,2	6,4	7,1	34

Table 2. Agent fill weights

Chemical Name		Product Name
SBC	Sodium Bicarbonate	Ansul Plus 50C
FGSBC	Food Grade Sodium Bicarbonate	ICI Dessicarb
MAP	Monoammonium Phosphate	Ansul FORAY, Furex 770

Material Safety Datasheets of the suppressant agents can be obtained upon request.

Table 3. Suppressant agent type




5.1 GENERAL INSTRUCTIONS

WARNING: *BEFORE WORKING, MAKE SURE THE FILL VALVE IS OPEN AND THE PRESSURE GAUGE READS ZERO.*

1. Check on the container identification plate if the container is due for inspection or testing.

WARNING: *TO PREVENT POSSIBLE INJURY, NO LIVE ACTUATOR MAY BE INSTALLED/CONNECTED WHEN PERFORMING ANY OF THE FOLLOWING ACTIONS.*

2. Remove the container from the process line: First loosen the U-bolts of the mounting bracket, then turn the raccord.
3. Put the container down in a horizontal position. Be careful not to damage the pressure gauge.
4. Remove the 1" welded outlet assembly and the O-ring from the valve body using a wrench.
5. Place the chemical isolation container upside-down and blow it out with pressurised air to ensure possible debris is removed before proceeding with the rebuild.
6. Thoroughly clean all the ports, threads and O-ring seating surfaces on the valve body. Clean the fill valve and make sure the valve seat is free of dirt or foreign particles.
7. In case of doubt about the condition of the fill valve and / or the pressure gauge (8), replace these parts. Clean the threads with a tap (1/4" NPT) to make sure the threads are clean. Replace the fill valve and / or pressure gauge, using Teflon-tape on the threads.
8. Refill the container in upside down position with the applicable suppressant powder using a funnel. Thoroughly clean the threads afterwards.
9. Install a new 1" welded outlet assembly on the valve body, using a new O-ring . Use vacuum grease (Dow Corning) the O-ring groove and lubricant on the threads. Tighten until the assembly bottoms out.

10. Remove the 1 ¼ " nozzle fitting from the nozzle mounting boss. Install a new nozzle plug assemble in the nozzle mounting boss. Re-install the 1¼" nozzle fitting, tighten until the nozzle bottoms out.
11. Re-install the container on the process.
12. Install a new actuator according to section 6.
13.  The container is now ready for pressurisation. Check the container identification plate for the applicable fill pressure and pressurise with dry nitrogen. Refer to figure 3, when the ambient temperature differs from 22°C. Check for leaks using a suitable leak detection spray or liquid.
14.  Apply power to the CIE. Check the EPSC for any trouble indication prior to arming the system. Only if trouble conditions are solved, the system is ready for operation.
15.  Before arming the system, remove the vertical connector terminal from the shunted connector terminal and insert it into the base connector terminal. Clip off the shunted detonator lead wires and close the junction box. The CIE is now ready to be armed.

6 ACTUATOR INSTALLATION & HANDLING

WARNING: ONLY QUALIFIED FIKE PERSONNEL HAVE THE AUTHORITY TO INSTALL / REMOVE ACTUATORS.

The actuators of the Fike Explosion Protection Systems are widely used in industrial applications but must be respected for their extremely fast response and the possibility of accidental detonation. When actuators are handled in accordance with all proper safety practices, accidental detonations should not occur.

WARNING: TO PREVENT POSSIBLE INJURY, THE ACTUATORS MUST BE DISCONNECTED AND SHUNTED WHEN PERFORMING ANY OF THE FOLLOWING PROCEDURES.

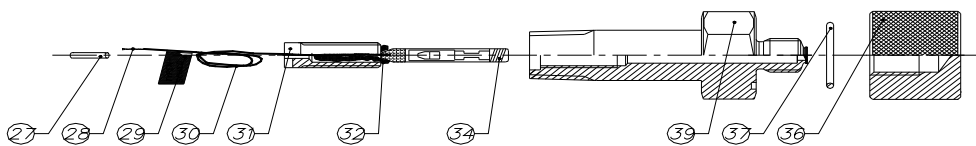
6.1 ACTUATOR ASSEMBLY

Each actuator is transported in a safety boss with a safety cap. In order to exchange an overdue actuator, an additional, empty actuator transport boss is required to hold the overdue actuator.

WARNING: ACTUATORS ARE INDIVIDUALLY LABELLED TO ENABLE PROPER IDENTIFICATION. DO NOT REMOVE THIS LABEL!

In the figure below a detonator in safety housing is shown (typical arrangement).

Figure 4 Detonator assembly, housing, safety cap (typical)



Item	Description	Item	Description
39	DETONATOR HOUSING	31	RETAINER NUT
37	O-RING	30	DETONATOR WIRE 1m
36	SAFETY CAP	29	DETONATOR TAG
34	DETONATOR	28	SHUNT
32	2 COMPONENT EPOXY GLUE	27	ORIGINAL CAP DETO. WIRE

Table 5: Detonator assembly (typical)

6.2 PERSONAL SAFETY MEASURES

When handling actuators:



- wear approved face protection;
- do not wear static electricity producing clothing;
- always put the safety cap on the actuator boss when removing it from the equipment. Alternatively, actuator handling is also safe if the actuator is held into a safety transport boss;
- do not handle more than one actuator at the same time;
- do not expose actuators to high heat sources as this may considerably affect their service life.

6.3 ELECTRICAL SAFETY PROCEDURES

When handling actuators:



- actuators must remain shunted at all times when electrically disconnected from the protection system and during servicing;
- do not check actuator continuity with any type of Ohm-meter or other measuring device;
- do not install actuators if current is present on conduit or equipment;
- do not install actuators if radio transmitters or wireless telephones are used in nearby areas;
- connect actuator lead wires only after the detonator assembly has been properly installed.

6.4 ACTUATOR INSTALLATION



ONLY QUALIFIED FIKE PERSONNEL HAVE THE AUTHORITY TO INSTALL ACTUATORS.

6.5 ACTUATOR EXCHANGE



ONLY QUALIFIED FIKE PERSONNEL HAVE THE AUTHORITY TO REMOVE ACTUATORS.

7 PERIODIC MAINTENANCE

CAUTION:

BEFORE MAINTENANCE OR SERVICE TO THE SYSTEM IS PERFORMED, MAKE SURE TO BE FAMILIAR WITH THE SYSTEM OPERATION, INDIVIDUAL COMPONENT OPERATION, AND SYSTEM SAFETY. THE PROTECTED PROCESS MUST BE IN A **NON-HAZARDOUS STATE**.

7.1 GENERAL

In order to assure the SAFETY FUNCTION of the Fike protection system it is essential that the integrity of the system remains. In order that your company can benefit from our after sales services (in case of emergencies) a service contract should be set up prior to or just after commissioning. Once the contract is in place you will receive our emergency (24 hour) telephone numbers.

Remarks:

1. We recommend that a service be carried out every 3 months.
2. Fike is unable to provide any additional support other than that stated in Fike's standard conditions of sale, unless a service contract is established.

The inspection schedule and procedure set forth below are provided as a minimum requirement for Fike Explosion Protection Systems operating in moderate environments. If your particular protection system does not employ all the equipment mentioned, disregard the appropriate instruction. The instructions are to be implemented in conjunction with complete system inspection instructions.

During initial system checkout or start-up, the Fike Service Engineer may decide that - due to the process characteristics - additional inspections are required. In such case, these are to be considered in addition to the maintenance schedule given below.

It is extremely important to closely monitor the operational characteristics of your system during the first few days or weeks after initial start-up.

7.2 PERIODIC INSPECTION

The following checks can be conducted by others than Fike. It is advised to conduct these checks at regular intervals (once a week) and to file the results in a logbook. In this way, the Fike Service Engineer will have a clear overview of the system status and behaviour during time. Furthermore, this logbook will be very helpful for trouble shooting and system analysis upon system trouble conditions.

1. Before performing an inspection, it is important to obtain first all pertinent data related to the specific system inspected. The information required includes and should be obtained from:
 - Fike System Engineered Drawings
 - Copy of manuals, specifications or documents referenced on Fike system drawings.
 - System owner's operating procedures
 - Inspection equipment
 - Operating specifications of each component inspected.
2. Check the display of the CIE or EPSC:
 - in normal status, only the green LED's on the front panel should be lit. Consult the applicable EPSC user manual if this is not the case.
 - in normal status all programmed outputs should be switched active or armed. REFER TO THE APPLICABLE EPSC USER MANUAL to perform any action on the explosion controller.
3. Visually check all components for physical deterioration and abuse. If components' ability to perform is in question, they must be thoroughly tested and/or replaced. Do not submerge components in liquids.
4. Check all components supporting hardware, mounting brackets, and bolts. Check if they are tight and secure, replace if necessary.
5. Check the actual fill pressure of all pressurised components.
6. File a complete and detailed report of the inspection findings with the system owner, servicing company, and Fike.

7.3 THREE-MONTHLY SERVICE / INSPECTION BY FIKE

A three-monthly inspection must be performed by a Fike Service Engineer or factory authorised technicians. Consult Fike to schedule an inspection visit or for information on authorisation for system service by others than Fike.

To perform an inspection, it is important to obtain first all pertinent data related to the specific system inspected.

The information required includes and should be obtained from:

- Fike System Engineered Drawings
- Copy of manuals, specifications or documents referenced on Fike system drawings.
- System owner's operating procedures
- Inspection equipment
- Operating specifications of each component inspected.

During this 3-monthly inspection, the Fike Service Engineer (further on called SE) proceeds following checks:

1. SE shuts down the Fike CIE or EPSC. SE then removes the actuators from the electrical circuit to ensure the highest possible level of safety & security while working.
2. SE proceeds through a visual check of all components for physical deterioration and abuse. If components' ability to perform is in question, he will thoroughly test or even replace the specific component(s).
3. SE checks all components supporting hardware, mounting brackets, and bolts to be tight and secure.
4. SE checks the actual fill pressure of all pressurised components.
5. SE links a portable PC to the EPSC for a full-automatic system check. This software checks the electronic addresses of the EPSC and the proper functioning of the controller.
6. SE also uses this Fike software to check whether all process equipment shutdown contacts - controlled by the Fike system - operate in the appropriate sequence.
7. SE uses the Fike software for measuring the condition of the complete field wiring installation.
8. SE checks the explosion pressure detectors calibration for the activation pressure set point, calibration adjusted as required.
9. SE to file a complete and detailed report of the inspection findings. A copy of this report will be sent to the system owner or servicing company, Fike will retain a copy for their records.

7.4 THREE-YEARLY

1. A three-year inspection includes the replacement of all batteries, -EEPROMS.

7.5 FIVE-YEARLY

1. A five-year inspection includes the replacement of all detonators - actuators. Refer to the applicable safety procedure.
2. National guidelines may require periodic testing of the suppression containers (pressure vessel code). It is the responsibility of the owner to contact your local authorities having jurisdiction.

7.6 TEN-YEARLY

1. A ten-year inspection includes the replacement of all suppressant powder and GCA-actuators. Refer to section 5 Refurbishment instructions.

NOTE:

The 3-, 5-, and 10-year replacements are based on a 60°C maximum service temperature. More regular replacement may be necessary in case of higher temperatures or harsh operational environments.

8 DE-COMMISSIONING PROCEDURE / CHECK-LIST

The following procedure must only be performed by a Fike qualified Service Engineer, who has been assigned to prepare and complete the de-commissioning of the above referenced Explosion Protection System.

Each step in the listed procedure must be adhered to and completion/acceptance of this form is mandatory. The Service Engineer must check off each of the following steps. In the case of non-compliance, the observed discrepancy must be corrected before completion of the system de-commissioning.

STEPS / DESCRIPTION

1.	Use Fike system/project component location diagram to record and verify the locations of all Fike system components for each zone and system.	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
2.	Control Panel to be Disarmed/Shutdown.	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
3.	All Suppressor/Valve actuators to be shunted.	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
4.	Each Suppressor/Valve container to be depressurised. Note, Do not ventilate Nitrogen in a confined space.	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
5.	Power supply to the Control Panel to be Isolated by the Customer and disconnected to prevent accidental reconnection. Fike to Verify.	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
6.	Control Panel battery to be disconnected and removed for disposal.	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
7.	Each actuator is to be removed and placed in a storage boss, to be either stored on site or removed for disposal.	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
8.	Verify that all Suppressor/valve gauges are reading zero, replace fill valve cap loosely	<input type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> Remark/ Note No.
ATTENTION: SYSTEM IS NOW DE-COMMISSIONED AND READY FOR DISMOUNTING BY THE CUSTOMER/OWNER.				

9 REPAIR AND RETURN AUTHORISATION

Any component that is to be returned to Fike must be approved for return prior to shipment. In order for the returned component to receive the correct attention * credit * repair * replacement * either under warranty or at the owner's expense, an Material Return Authorisation number must be assigned by Fike. A prearranged return authorisation will expedite the business and corrective action measures taken upon receipt of the part(s).

A reference to the return authorisation number should be inserted to the packing slip. If a packing slip is not used, then reference to the return authorisation number should be made through alternate means. When preparing the component for shipment, please include your original Purchase Order Number, Invoice Number, or Fike Production Order Number. Include with the package the address you want the part shipped back to, shipment method, contact name, and telephone number.

A specific statement as the perceived defect or component failure will assist in examining the part(s). This statement should also address symptoms and an operation history of the system in which the component was installed.

In the event the suspect part is found within a larger top assembly component, the party assigning the Material Return Authorisation Number (MRA) should be able to assist you as to whether the entire assembly must be returned or only the component in question.

Return Address:

Fike Europe B.V.B.A.

Toekomstlaan 52

B-2200 Herentals

BELGIUM

tel. +32 14 21 00 31

fax +32 14 21 07 43

Attention: Explosion Protection

MRA # _____



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Tel. +816.229.3405

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Fax +816.229.5082

website: www.fike.com

Fike Corporation Subsidiaries:

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ANNEX A

INSTRUCTION AND MOUNTING DETAILS

Fike document: D00035 : 10L SRD container mounting details

Fike document: D00150 : 10L SRD metal flexible mounting 1000 mm

Fike document: D00153 : 10L SRD metal flexible mounting 500 mm

Fike document: D00233 : Nozzle mounting boss 2 – 1/4" saddled

Fike document: 231005 : Split piece for flexibles SRD

ANNEX B

SRD COMPOSING PARTS AND AVAILABLE CONFIGURATIONS

Fike document: 710610 : Chemical isolation container assembly SRD 8,4L

ANNEX C

ISOLATION CONTAINER

RELOAD PARTS SRD

Fike document: 8.5502.