

Owner's manual

FireDETEC® Compact Line System



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1 General

This owner's manual is not intended to cover all requirements detailed in the Installation, Operation and Maintenance Manual (027650022). This manual is solely for the use of the end-user to become more knowledgeable with the fire suppression system and the steps necessary in the event of a fire.

Service and maintenance of FireDETEC[®] compact line system can only be done by personnel trained and approved by Rotarex.

Do note that all AS5062 Compact Line cylinders will not include:

1. Handwheel on the isolation valve (027505003)
2. Plastic Cap RAL 6106 (028400000)

2 System description

The FireDETEC[®] Compact Line System is an easy-to-install fire extinguishing system with Water foam solution as extinguishing agent. The system does not require any external power sources, neither for fire detection nor for suppressing.

The FireDETEC[®] Compact Line System is designed for engines (e.g. all kinds of motor-driven vehicles, ships, generators). The combination of the Water foam solution and nitrogen is suitable for suppressing fires which are triggered by oils, gasoline, diesels, lubricants, or other combustible liquids.

The FireDETEC[®] Compact Line System can be fitted in any position adjacent to the area to protect - without restriction.

The Compact Line is made from extruded aluminum alloy and it is extremely resistant to corrosion. A high - pressure cylinder is integrated inside the Compact Line, coaxially to the low - pressure cylinder. The low - pressure chamber is the space between both cylinders, and the high - pressure chamber is inside the high-pressure cylinder.

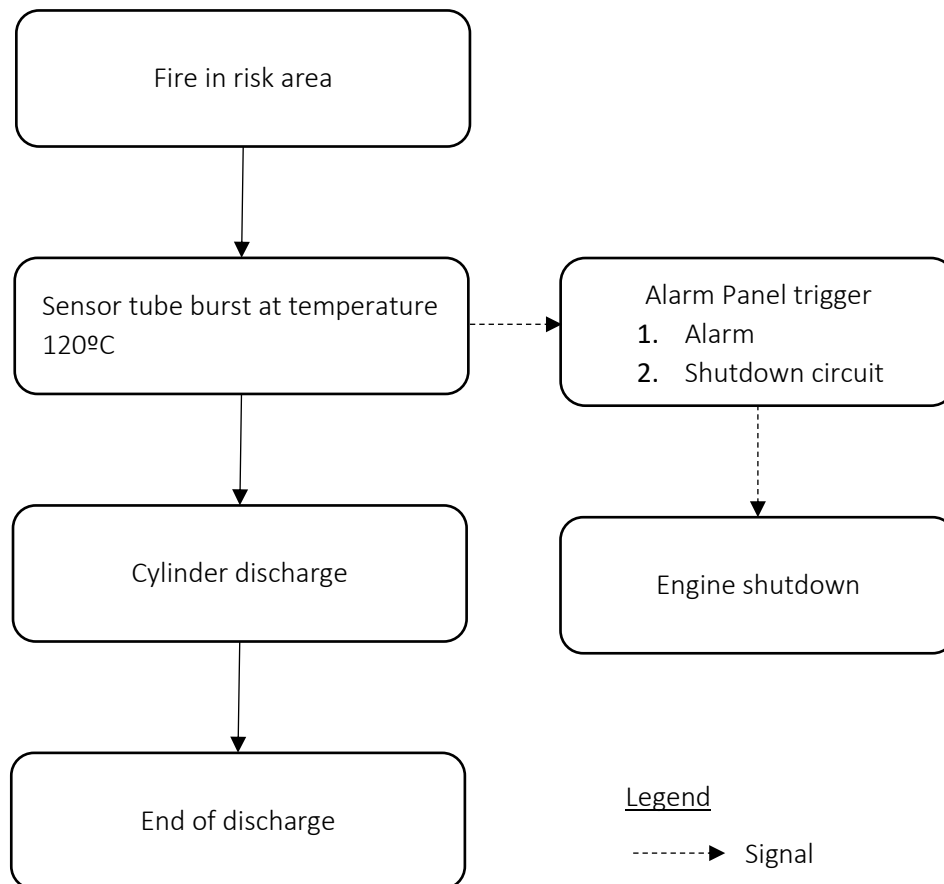
The high - pressure cylinder is pressurized with nitrogen. The low - pressure cylinder is filled with the extinguishing agent. During normal operation, the outer chamber of the Compact Line is not pressurized, and the outer cylinder serves as additional protection against outer damages for the inner pressure cylinder.



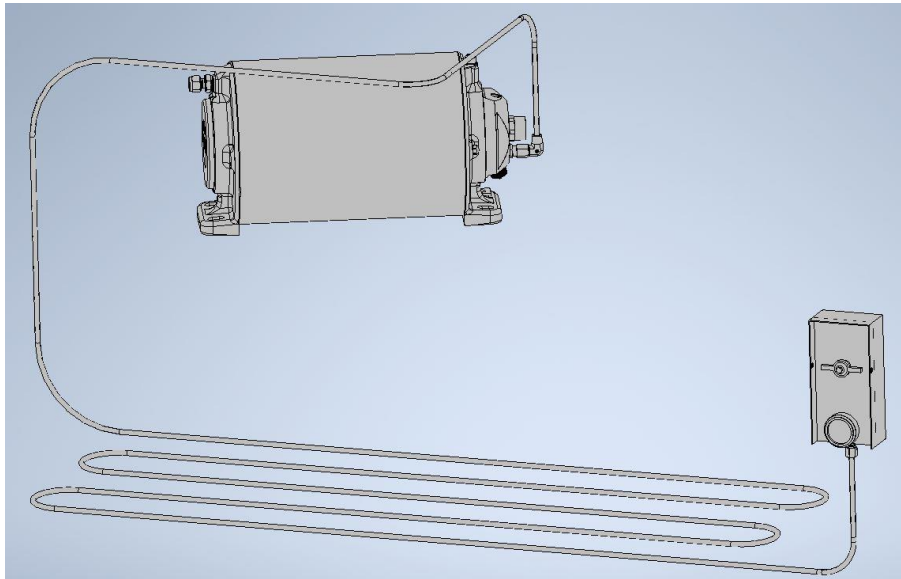
The FireDETEC[®] Compact Line System can be equipped with a special heat-sensitive tube, the FireDETEC[®] sensor tubing. The FireDETEC[®] sensor tubing is connected to the Compact Line and pressurized with 16 bar nitrogen gas. It reacts to fire and extreme temperatures and must be installed in the fire hazard area. It bursts at approximately 120°C. The bursting of the FireDETEC[®] sensor tubing triggers the fire suppression process.

When the FireDETEC[®] sensor tubing bursts, a pressure builds up behind the annular piston inside the Compact Line. The annular piston moves and releases the extinguishing agent. The extinguishing agent flows through the discharge line to the nozzles, which distributes the extinguishing agent on the protected area.

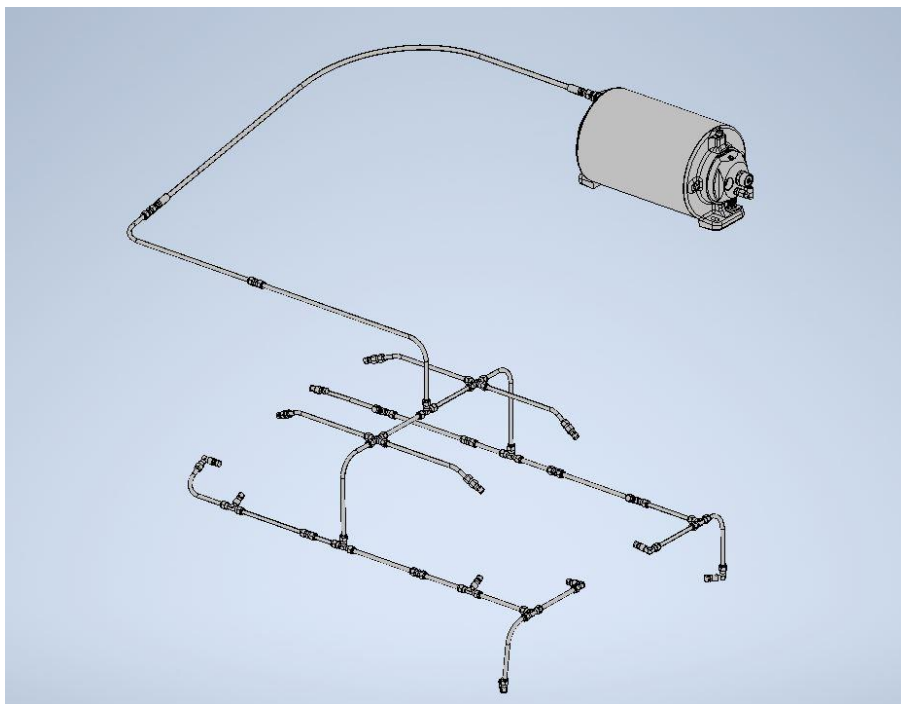
2.1 Function sequence of events



2.2 Detection system layout



2.3 Distribution system layout



3 Servicing the Compact Line System

3.1 Maintenance routine

According to AS5062 section 11, all routine service checklists listed below shall be carried out. A system condition report shall be completed on an annual basic by trained and authorised personnel by Rotarex.

- Daily Routine Service Checklist
*To be carried out by operator prior to equipment start-up, shift-change or operator change and maybe recorded by a single entry.
- Six-monthly Service Checklist
- Yearly Service Checklist
- Five yearly Service Checklist

The tolerances applied to these activities is shown in the table.

Service Frequency tolerances	
Frequency	Tolerance
Six-monthly	± 1 month
Yearly	± 2 months
Five Yearly	± 3 months

Protective goggles shall be used when working with the Compact Line System



WARNING

It is Forbidden for non-authorised personnel to carry out any interference with the valve when Cylinder assembly is pressurised.

Contact Rotarex Fareast for more information on training.

Ensure that the Isolation valve is closed with a red seal to indicate that the Compact Line System is in operational condition.



3.2 Six monthly Routine Service Checklist



Six Monthly Routine Service Checklist FireDETEC® Compact Line System

Six monthly Routine Service Checklist

General Information			
Company Name: (End user)	Date of inspection:		
Company name: (Maintenance)	Inspection performed by:		
Vehicle Type:	Vehicle reference:		
Compact Line Article number: B0902	Serial number:		
	Week/year of production:		
Daily service	Results	Pass/fail	Comments
Complete all "Daily Routine Service Checklist"			
Distribution system	Results	Pass/fail	Comments
Check the nozzle caps are in place, if not, clean and replace nozzle caps			
Check nozzle positioning at the area that requires protection			
Check distribution system for physical damage, corrosion or deterioration			

Six Monthly Routine Service Checklist

FireDETEC® Compact Line System

Actuation system	Results	Pass/fail	Comments
Check hoses, tube, fittings and supports are intact and not damaged			
Check wiring, connections and supports are intact and not damaged			
Detection system	Results	Pass/fail	Comments
Check hoses, tube, fittings and supports are intact and not damaged			
Check detectors, wiring, connections and supports are intact and not damaged, ensure that detectors are within position			
Labels	Results	Pass/fail	Comments
Check manual release, system warning and instruction labels are securely in place, visible and legible			
Storage container	Results	Pass/fail	Comments
Check Compact line cylinder for physical damage, corrosion or deterioration			
Ensure mounting brackets on the Compact line are secured and check for physical damage, corrosion or deterioration			
Check that the labels on Compact line are secured in place, visible and legible			

Six Monthly Routine Service Checklist

FireDETEC® Compact Line System

Manual Actuators	Results	Pass/Fail	Comments
Check all actuators for physical damage, corrosion or deterioration. Ensure that they are cleaned			
Test operation			
System control and indicating location of equipment	Results	Pass/Fail	Comments
Test all indicators and audible alarms			
Check if panels are secured			
Test battery capacity			

Signature and date of the maintenance personnel:

3.3 Yearly Routine Service Checklist



Yearly Routine Service Checklist FireDETEC® Compact Line System

Yearly Routine Service Checklist

General Information

Company Name: (End user)	_____	Date of inspection:	_____
Company name: (Maintenance)	_____	Inspection performed by:	_____
			(First name/last name)
Vehicle Type:	_____	Vehicle reference:	_____
Compact Line Article number:	B0902 _____	Serial number:	_____
		Week/year of production:	____/____-____

Six monthly service	Results	Pass/fail	Comments
Complete all activities listed in "Six Monthly Routine Service Checklist"	_____	_____	_____

Distribution system	Results	Pass/fail	Comments
Conduct clear passage test using dry nitrogen	_____	_____	_____
Check distribution system for physical damage, corrosion or deterioration	_____	_____	_____
Conduct a distribution integrity test by sealing all the nozzles and pressurising through the discharge outlet of the distribution system.	_____	_____	_____

Nozzles	Results	Pass/Fail	Comments
Check for adequate clear space at nozzles and obstructions that might impede discharge	_____	_____	_____

Yearly Routine Service Checklist

FireDETEC® Compact Line System

Check nozzle direction is aligned with what is described in the end user manual			
Check for introduction of fixtures and bulkheads shielding nozzle discharge and presence of unprotected hazard areas, particularly where source of fuel and heat exists			
Actuation system	Results	Pass/fail	Comments
Test pneumatic circuits for leaks			
Check hoses, tubes, fittings and supports are secure			
Detection system	Results	Pass/fail	Comments
Test pneumatic circuits for leaks			
Check hoses, tubes, tube, fittings and supports are secure			
Refer to the installation date to check if it is required to replace the sensor tube 5 years after installation.			
_____ date			
Check for presence of unprotected hazard areas, example areas with heat and fuel sources			
Storage container	Results	Pass/fail	Comments
Inspect date of test or manufacture on storage container			
_____ date			

Yearly Routine Service Checklist

FireDETEC® Compact Line System

Ensure mounting brackets on the Compact line are secured and check for physical damage, corrosion or deterioration			
Manual Actuators	Results	Pass/Fail	Comments
Check all actuators for physical damage, corrosion or deterioration. Ensure that they are cleaned			
System interface and shutdown	Results	Pass/Fail	Comments
Test all Compact line system activated equipment shutdowns and record delay time			
Operational conditions	Results	Pass/Fail	Comments
Check Compact line system will not be affected by enclosure openings, ventilation or high temperature areas			
Ensure that the Compact line system and components are suited for the working environmental conditions			
Survey	Results	Pass/Fail	Comments
Complete review of system to confirm that is designed according with approved design in the end user manual and that no changes have been made to impair performance			

Signature and date of the maintenance personnel:

3.4 Five Yearly Routine Service Checklist



Five Yearly Routine Service Checklist FireDETEC® Compact Line System

Five Yearly Routine Service Checklist

General Information			
Company Name: (End user)	Date of inspection:		
Company name: (Maintenance)	Inspection performed by:		
Vehicle Type:	Vehicle reference:		
Compact Line Article number: B0902	Serial number:		
	Week/year of production:		
Yearly service	Results	Pass/fail	Comments
Complete all activities listed in "Yearly Routine Service Checklist"			
Container	Results	Pass/Fail	Comments
Conduct hydrostatic pressure test according to AS2030.1			
Extinguishing agent	Results	Pass/Fail	Comments
Foam Concentrate Analysis			
Wet chemical Analysis			

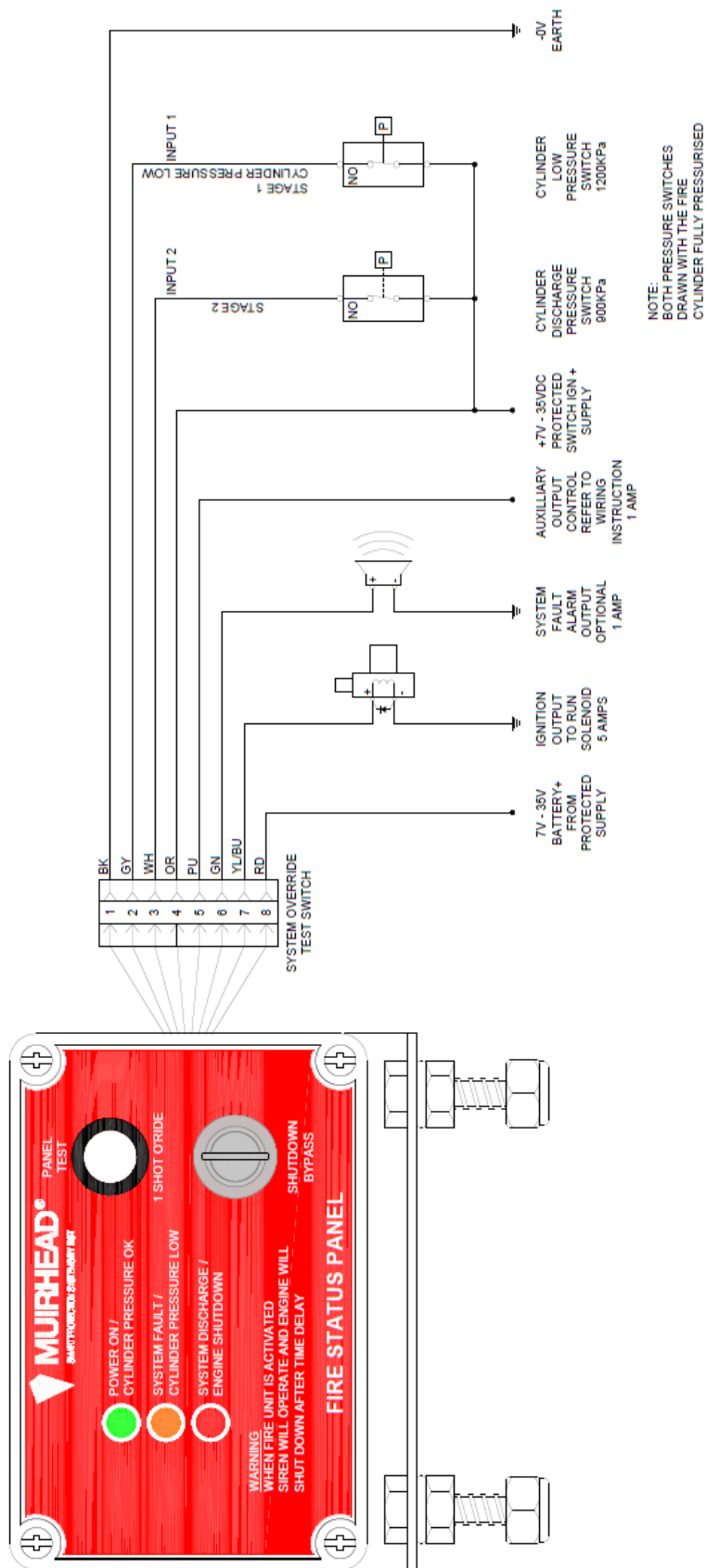
Five Yearly Routine Service Checklist

FireDETEC® Compact Line System

Replace Extinguishing agent after ten years (2 x five yearly inspections)			
	_____	_____	_____ Five yearly routine service (1)
	_____	_____	_____ Five yearly routine service (2)
Sensor tube	Results	Pass/Fail	Comments
Replace Sensor tubing			
	_____	_____	_____
Manual Actuator	Results	Pass/Fail	Comments
Replace manual Actuator after ten years (2 x five yearly inspections)			
	_____	_____	_____ Five yearly routine service (1)
	_____	_____	_____ Five yearly routine service (2)

Signature and date of the maintenance personnel:

4 Muirhead panel operation



WIRE LEGEND	
BK – Black	PK – Pink
BU – Blue	PU – Purple
BN – Brown	RD – Red
GN – Green	WH – White
GY – Grey	YL – Yellow
OR – Orange	

4.1 Alarm operation

The System monitoring panel provides a closed circuit when pressure is within the set operating pressure range of the switches. The circuit will open when the pressure drops below the set operating pressure range.

If pressure is low:

Green light will be switched off.

Amber light will be switched on to signify that the system pressure is Low and requires recharge.

An Audio alarm will be switched on 2 to 4 pulses per minute with a 0.25 – 0.5 second beep.

If system is in good operating condition:

Green light will be switched on.

If the system is discharged:

Green light will be switched off.

Amber light will be switched off.

Red light will be switched on to signify that the Compact Line system is discharged.

An audio alarm will be activated continuously.

A 6 second engine shut down timer will start; alarm will pulse 2 seconds to indicate that the engine is about to shut down.

If operator requires to delay shut down sequence:

Press the push button to delay shutdown sequence by an additional 20 seconds after the red light is switched on.

If operator requires to override shutdown:

Use the key to override the engine shutdown or to restart the engine if the engine has shut down.

The alarm and red light will still be on continuously till the system is recharged and reverted to operating condition.

If operator requires to test shutdown sequence:

Press and hold the button on the panel when the green light is on to mimic a open pressure switch and activate shutdown sequence. Once button is released the panel will revert to its original state.

4.2 Installation guide

1. Install the control unit in a suitable location near the operator.
2. Refer to the wiring table below and the wiring diagram/s in this manual to connect the control unit. It is recommended that the wiring is installed alongside the OEM wiring ensuring that it is secured at regular intervals; this will provide protection from heat and abrasion, and any other excess damage that may occur with extended vehicle operation. When securing the wiring to the OEM wiring, ensure that the loom is away from moving vehicle parts which could lead to loom damage.

4.2.1 Wiring connections

NO.	COLOUR	FUNCTION	DESCRIPTION
1	Black	Earth	0 V
2	Grey	Input 1	Cylinder pressure OK (normally closed; the circuit opens when pressure is low). Amber alert indicator illuminates when input opens.
3	White	Input 2	Cylinder pressure discharge (normally closed; the circuit opens when the cylinder loses pressure, indicating cylinder pressure discharge) red alert indicator.
4	Red	Input 3	Ignition input.
5	Purple	Output 2	Aux output (operates opposite to ignition output). 1 A continuous.
6	Green	Output 3	Fault alarm. 1 A continuous.
7	Yellow/Blue	Output 1	ETR ignition output for run solenoid. 5 A continuous.
8	Orange	Battery +VE	Power (8 to 35 V).

When upgrading from the old 7650 control unit, refer to the wiring table below as a guide to interface the 7650 wiring to the new 5884 control unit.

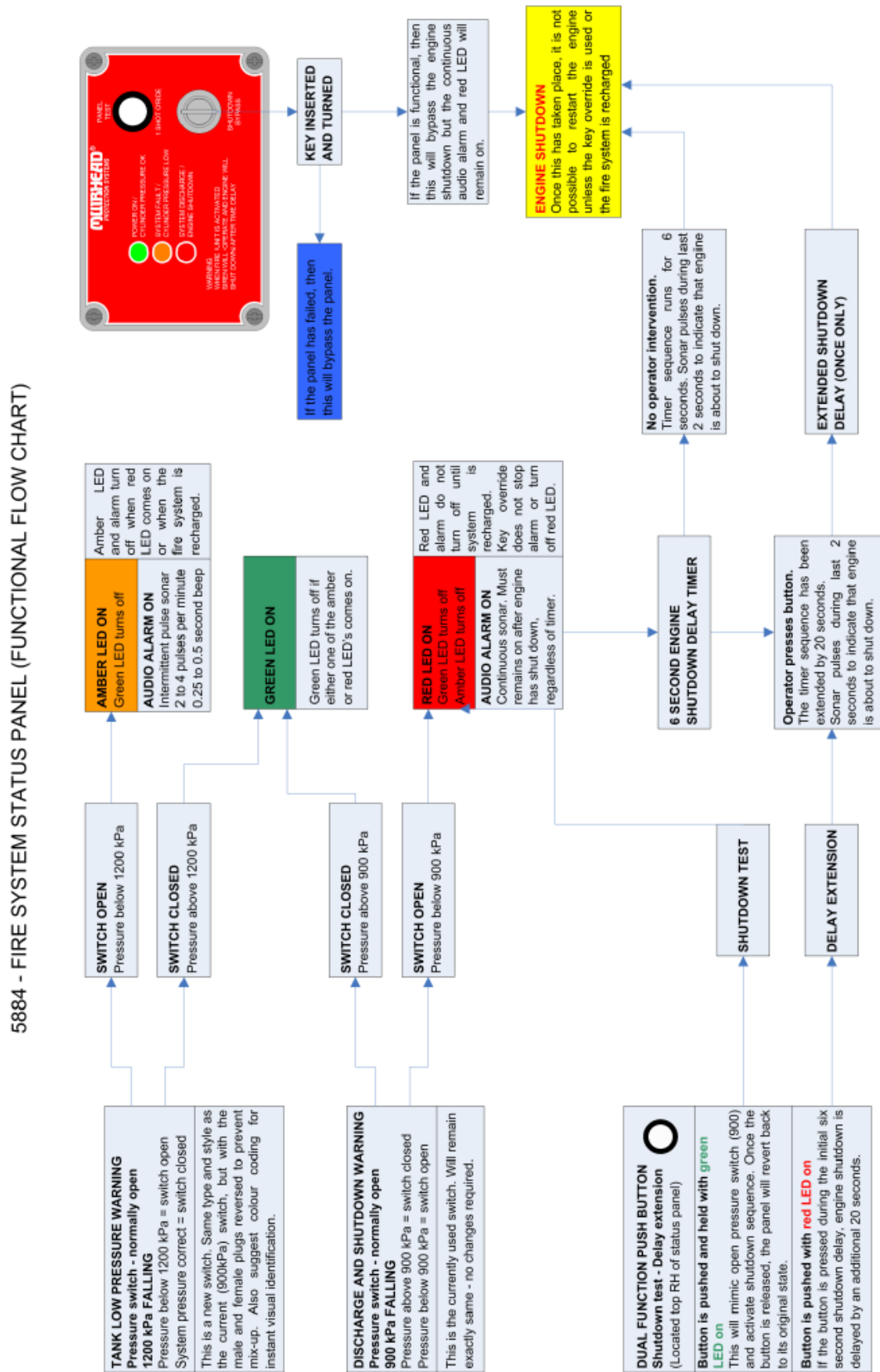
PART NO. 7650 12-PIN PLUG	PART NO. 5884 8- PIN PLUG	DESCRIPTION
1 Black	1 Black	Earth
2 Yellow/Blue	7 Yellow/Blue	Run solenoid, 5 A continuous.
3 Red	8 Red	Switch via 15 A circuit breaker.
4	4 Red	Via pressure switch.
5	5 Purple	Operates opposite to ignition output. 1 A continuous.
6	6 Green	Continuous (this output is positive on the new 5884 panel).
7		Not used in new 5884 fire panel.
8		Not used in new 5884 fire panel.
9		Not used in new 5884 fire panel.
10	3 White	Input 2 cylinder pressure discharge (active open from high). Red alert indicator.
11		Not used.
12		Not used.
	2 Grey	Input 1 cylinder pressure OK (active closed to high). Amber alert indicator when input opens.

4.2.2 Commissioning procedure

1. Connect the panel as shown in 4.2.1 and the wiring diagram shown on page 17.
2. All wiring should be connected with a suitable plug adaptor.
3. Engage the power to the panel.
4. Unplug the pressure switch to trigger the system fault and system shutdown.
5. Press and hold the button to activate the shutdown sequence.
6. Use the key to override the shutdown function to start the vehicle.

If all functions result in the proposed specification, the panel is commissioned.

4.3 Troubleshooting



5 MSDS

The AS 5062 version of the water foam system will be the Re-healing™ RF3, 3% Foam concentrate.

SAFETY DATA SHEET

Based on Regulation (EC) No 1907/2006 (REACH) Article 31 and Annex II

RE-HEALING FOAM RF3 3%

1. Identification of the substance/preparation and of the company/undertaking

1.1 Identification of the substance or preparation:

Product name : RE-HEALING FOAM RF3 3%
 Synonyms : RE-HEALING FOAM RF3; RE-HEALING FOAM 3%
 CAS No. : N.A.
 EC index No. : N.A.
 EINECS No. : N.A.
 RTECS No. : N.A.
 NFPA code : N.D.
 Molecular weight : N.A.
 Formula : N.A.

1.2 Use of the substance/preparation:

Fire extinguishing medium: concentrate

1.3 Company/undertaking identification:

SOLBERG SCANDINAVIAN AS - NORWAY
 Olsvollstranda
 5938 Sæbøvågen
 Tel: +47 56 34 97 00
 Fax: +47 56 34 97 01
 e-mail address: Luc@arcticfoam.com

1.4 Emergency telephone:

+47 97640000 (24h/24h)

2. Hazards identification

- Irritating to eyes

3. Composition/information on ingredients

Hazardous ingredients	CAS No. EINECS/ELINCS No.	Conc. (%)	Hazards (R-phrases)	Hazard symbol
2-(2-butoxyethoxy) ethanol	112-34-5 203-961-6	<20	36 (1) (2)	Xi
starch	9005-25-8 232-679-6	>1	- (2)	-
tris(2-hydroxyethyl) ammonium dodecylsulfate	139-96-8 205-388-7	<20	36/38 (1)	Xi
alpha-sulfo-omega-hydroxy- poly(oxy-1,2-ethanediyl)C9-11 alkyl ethers, sodium salts	96130-61-9	<5	38-41 (1)	Xi
1-propanaminium, 3-amino-N- (carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs., hydroxides, inner salts	61789-40-0 263-058-8	<20	36 (1)	Xi
1-propanaminium, N-(3- aminopropyl)-2-hydroxy-N,N- dimethyl-3-sulfo-, N-coco acyl derivs., hydroxides, inner salts	68139-30-0 268-761-3	<2.5	36/38-51/53 (1)	Xi;N
D-glucopyranose, oligomers, decyl octyl glycosides	68515-73-1 500-220-1	<5	41 (1)	Xi
sucrose	57-50-1 200-334-9	>1	- (2)	-

(1) For R-phrases in full: see heading 16
 (2) Substance with a Community workplace exposure limit

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4. First aid measures

- 4.1 After inhalation:**
- Remove the victim into fresh air
 - Respiratory problems: consult a doctor/medical service
- 4.2 Skin contact:**
- Rinse with water
 - Soap may be used
 - Take victim to a doctor if irritation persists
- 4.3 Eye contact:**
- Rinse immediately with plenty of water
 - Take victim to an ophthalmologist if irritation persists
- 4.4 After ingestion:**
- Rinse mouth with water
 - Immediately give lots of water to drink
 - Consult a doctor/medical service if you feel unwell

5. Fire-fighting measures

- 5.1 Suitable extinguishing media:**
- Non combustible
 - For surrounding fires: all extinguishing media allowed
- 5.2 Unsuitable extinguishing media:**
- No data available
- 5.3 Special exposure hazards:**
- On burning: release of toxic and corrosive gases/vapours (nitrous vapours, sulphur oxides, carbon monoxide - carbon dioxide)
- 5.4 Instructions:**
- Dilute toxic gases with water spray
- 5.5 Special protective equipment for firefighters:**
- Heat/fire exposure: compressed air/oxygen apparatus
 - Protective clothing for exposure to chemicals

6. Accidental release measures

- 6.1 Personal precautions:**
- See heading 8.2/13
- 6.2 Environmental precautions:**
- Contain released substance, pump into suitable containers
 - Plug the leak, cut off the supply
- 6.3 Methods for cleaning up:**
- Take up liquid spill into inert absorbent material, e.g.: sand/earth
 - Scoop absorbed substance into closing containers
 - Clean contaminated surfaces with an excess of water
 - Wash clothing and equipment after handling

7. Handling and storage

- 7.1 Handling:**
- Observe normal hygiene standards
- 7.2 Storage:**
- Keep container in a well-ventilated place
 - Meet the legal requirements
 - Keep away from: heat sources

Storage temperature	: 0/50	°C
Quantity limits	: N.D.	kg
Storage life	: N.D.	days
Materials for packaging	:	
- suitable	: no data available	
- to avoid	: no data available	

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7.3 Specific use(s):

- See information supplied by the manufacturer for the identified use(s)

8. Exposure controls/Personal protection

8.1 Exposure limit values:

8.1.1 Occupational exposure:

2-(2-butoxyethoxy) ethanol

TRGS 900	: 100	mg/m ³	ppm
MAK	: 100	mg/m ³	ppm
MAC-TGG 8 h	: 50	mg/m ³	
MAC-TGG 15 min.	: 100	mg/m ³	
GWBB-8 h	: 67.5	mg/m ³	10 ppm
GWK-15 min.	: 101.2	mg/m ³	15 ppm
EC	: 67.5	mg/m ³	10 ppm
EC-STEL	: 101.2	mg/m ³	15 ppm

starch

TLV-TWA	: 10	mg/m ³	ppm
TLV-STEL	: -	mg/m ³	ppm
WEL-LTEL	: 4 R/10 I	mg/m ³	- ppm
WEL-STEL	: -	mg/m ³	- ppm
GWBB-8 h	: 10	mg/m ³	- ppm
GWK-15 min.	: -	mg/m ³	- ppm

sucrose

TLV-TWA	: 10	mg/m ³	ppm
TLV-STEL	: -	mg/m ³	ppm
WEL-LTEL	: 10	mg/m ³	- ppm
WEL-STEL	: 20	mg/m ³	- ppm
VME-8 h	: 10	mg/m ³	- ppm
VLE-15 min.	: -	mg/m ³	- ppm
GWBB-8 h	: 10	mg/m ³	- ppm
GWK-15 min.	: -	mg/m ³	- ppm

8.1.2 Sampling methods:

- Sulfites, & Sulfates
- Sucrose (see Dust, Total or Dust, Respirable nuisance)

NIOSH 6004
OSHA CSI

8.2 Exposure controls:

8.2.1 Occupational exposure controls:

- Measure the concentration in the air regularly
- Work under local exhaust/ventilation

Personal protective equipment:

a) Respiratory protection:

- Wear gas mask with filter type A if conc. in air > exposure limit

b) Hand protection:

- Gloves
- Suitable materials: Butyl rubber
- Breakthrough time: N.D.

c) Eye protection:

- Safety glasses

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d) Skin protection:

- Protective clothing
- Suitable materials:

Butyl rubber

8.2.2 Environmental exposure controls: see headings 6.2, 6.3 and 13

9. Physical and chemical properties

9.1 General information:

Appearance (at 20°C)	: Liquid
Odour	: Mild
Colour	: Brown

9.2 Important health, safety and environmental information:

pH value (at 100%)	: 7/8.5	
Boiling point/boiling range	: 100	°C
Flash point/flammability	: N.A.	°C
Explosion limits (explosive properties)	: N.D.	vol%
Oxidising properties	: N.D.	
Vapour pressure (at 20°C)	: 24	hPa
Vapour pressure (at 50°C)	: N.D.	hPa
Relative density (at 20°C)	: 1.05	
Water solubility	: COMPLETELY	
Soluble in	: No data available	
Relative vapour density	: 1	
Viscosity (at °C)	: N.D.	Pa.s
Partition coefficient n-octanol/water	: N.D.	
Evaporation rate		
ratio to butyl acetate	: N.D.	
ratio to ether	: N.D.	

9.3 Other information:

Melting point/melting range	: 0	°C
Auto-ignition temperature	: N.D.	°C
Saturation concentration	: N.D.	g/m ³
Specific conductivity	: N.D.	pS/m

10. Stability and reactivity

10.1 Conditions to avoid:

- Stable under normal conditions

10.2 Materials to avoid:

- Keep away from: heat sources

10.3 Hazardous decomposition products:

- On burning: release of toxic and corrosive gases/vapours (nitrous vapours, sulphur oxides, carbon monoxide - carbon dioxide)

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11. Toxicological information

11.1 Acute toxicity:

2-(2-butoxyethoxy)ethanol
 LD50 oral rat : 5660 mg/kg
 LD50 dermal rabbit : 2700 mg/kg

starch
 LD50 oral rat : > 2000 mg/kg

tris(2-hydroxyethyl)ammonium dodecylsulfate
 LD50 oral rat : > 2000 mg/kg

sucrose
 LD50 oral rat : 29700 mg/kg

11.2 Chronic toxicity:

2-(2-butoxyethoxy)ethanol
 Teratogenicity (MAK) : C

starch
 Carcinogenicity (TLV) : A4

sucrose
 Carcinogenicity (TLV) : A4

11.3 Routes of exposure: ingestion, inhalation, eyes and skin

11.4 Acute effects/symptoms:

AFTER EYE CONTACT
 - Redness of the eye tissue
 - Irritation of the eye tissue

11.5 Chronic effects:

- Contains a substance of group C (MAK-Schwangerschaftsgruppe) (2-(2-butoxyethoxy)ethanol: no teratogenic risk at exposure level lower than MAK value)

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12. Ecological information

12.1 Ecotoxicity:

RE-HEALING FOAM RF3 3%:

- LC50 (96 h) : 42 mg/l (SALMO GAIARDNERI/ONCORHYNCHUS MYKISS)
- EC50 (48 h) : 644 mg/l (DAPHNIA MAGNA)
- EC50 (96 h) : >6.9 mg/l (SELENASTRUM CAPRICORNUTUM)

- Effect on waste water purification : harmless to activated sludge at sufficient dilution

12.2 Mobility:

- Volatile organic compounds (VOC): 0%
- Soluble in water

For other physicochemical properties see heading 9

12.3 Persistence and degradability:

- biodegradation BOD₅ : 54 % COD
- water : Readily biodegradable in water
test: BOD 87% COD, 28d, OECD 301D
- soil : T_{1/2}: N.D. days

12.4 Bioaccumulative potential:

- log P_{ow} : <3 (components)
- BCF : N.D.
- Slightly or not bioaccumulative (components)

12.5 Results of PBT assessment:

- Not applicable, based on available data

12.6 Other adverse effects:

- WGK : 1 (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)
- Effect on the ozone layer : Not dangerous for the ozone layer (1999/45/EC)
- Greenhouse effect : No data available

13. Disposal considerations

13.1 Provisions relating to waste:

- Waste material code (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 07 06 04* (other organic solvents, washing liquids and mother liquors)
- LWCA (the Netherlands): KGA category 03
- Hazardous waste (91/689/EEC)

13.2 Disposal methods:

- Dilute
- May be discharged to wastewater treatment installation or reed bed
- Contains no organic halogen which may add to the AOX value
- Discharge or disposal must be handled according to national or local legislation regulations

13.3 Packaging/Container:

- Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O.J. L47 of 16/2/2001): 15 01 10* (packaging containing residues of or contaminated by dangerous substances)

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14. Transport information

14.1	Classification of the substance in compliance with UN Recommendations	
	UN number	:
	CLASS	:
	SUB RISKS	:
	PACKING GROUP	:
14.2	ADR (transport by road)	
	CLASS	:
	PACKING GROUP	:
	CLASSIFICATION CODE	:
	DANGER LABEL TANKS	:
	DANGER LABEL PACKAGES	:
	PROPER SHIPPING NAME	:
14.3	RID (transport by rail)	
	CLASS	:
	PACKING GROUP	:
	CLASSIFICATION CODE	:
	DANGER LABEL TANKS	:
	DANGER LABEL PACKAGES	:
	PROPER SHIPPING NAME	:
14.4	ADNR (transport by inland waterways)	
	CLASS	:
	PACKING GROUP	:
	CLASSIFICATION CODE	:
	DANGER LABEL TANKS	:
	DANGER LABEL PACKAGES	:
14.5	IMDG (maritime transport)	
	CLASS	:
	SUB RISKS	:
	PACKING GROUP	:
	MFAG	:
	EMS	:
	MARINE POLLUTANT	:
14.6	ICAO (air transport)	
	CLASS	:
	SUB RISKS	:
	PACKING GROUP	:
	PACKING INSTRUCTIONS PASSENGER AIRCRAFT	:
	PACKING INSTRUCTIONS CARGO AIRCRAFT	:
14.7	Special precautions	:
		Not restricted for any mode of international transport

RE-HEALING FOAM RF3 3%

15. Regulatory information

15.1 EU legislation:

Classification according to directives 67/548/EEC and 1999/45/EC



Irritant

R36 : Irritating to eyes
S(02) : (Keep out of reach of children)
S(46) : (If swallowed, seek medical advice immediately and show this container or label)

15.2 National provisions:

The Netherlands:
Waterbezwaarlijkheid: 9

Germany:
WGK : 1 (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)

16. Other information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

N.A. - NOT APPLICABLE
N.D. - NOT DETERMINED
(*) - INTERNAL CLASSIFICATION (NPPA)

PBT-substances - persistent, bioaccumulative and toxic substances

Exposure limits:

TLV : Threshold Limit Value - ACGIH USA
WEL : Workplace Exposure Limits - United Kingdom
TRGS 900 : Technische Regel für Gefahrstoffe 900 (Arbeitsplatzgrenzwerte) - Germany
MAK : Maximale Arbeitsplatzkonzentrationen - Germany
MAC : Maximale aanvaarde concentratie - The Netherlands
VME : Valeurs limites de Moyenne d'Exposition - France
VLE : Valeurs limites d'Exposition à court terme - France
GWBB : Grenswaarde beroepsmatige blootstelling - Belgium
GWK : Grenswaarde kortstondige blootstelling - Belgium
EC : Indicative occupational exposure limit values - directive 2000/39/EC

I : Inhalable fraction - T: Total dust - E: Einatembarer Aerosolanteil
R : Respirable fraction - A: Alveolengängiger Aerosolanteil/Alveolar dust
C : Ceiling limit

Chronic toxicity:

X : List of the carcinogenic substances and processes - The Netherlands

Full text of any R phrases referred to under headings 2 and 3:

R36 : Irritating to eyes
R36/38 : Irritating to eyes and skin
R41 : Risk of serious damage to eyes
R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Printing date : 10-2008

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6 Part list

Model ID	Model Name
B09024000	Compact Line Cylinder
B09025000	Compact Line Cylinder
B09023000	Compact Line Cylinder
020080163 - RFE - 01	Water foam 3% concentrate (4L)
020080158 - RFE - 01	Water foam 3% concentrate (7L)
020080162 - RFE - 01	Water foam 3% concentrate (12L)
020080152 - RFE - 01	Water foam 3% concentrate (25L)
024100037	Bonded Seal
B07835026	Double ring fitting - straight G 1/4" - 8mm
022720039 - RFE - 01	4RFS Flexible hose
028255048 - RFE - 01	Pressure switch 9 bar
B07835027	Double ring fitting - Straight 8mm - 8mm
022700599	8mm SS Tubing (1m)
B07835029	Double ring fitting - tee - 8mm
B07835031	Double ring fitting - elbow - 8mm - R1/8"
B07835030	Double ring fitting - tee - 8mm - R1/8"
B07835047	Double ring fitting - straight - 8mm - R1/8"
026205098	Nozzle
B07800202	FireDETEC Sensor tube (Black)
B07860006	P-clips (8mm)
B04420145 - RFE - 01	Actuator
B07850302 - RFE - 01	System Dashboard

7 Operator overview

7.1 Fire indicator panel



Number on the illustration	Status	Function
1.	Green LED	Show that system is operational
2.	Amber LED	Show that the pressure in the system is low..
3.	Red LED Alarm	Alarm that signals engine shutdown is about to commence.
4.	White Button	Press to extend engine shutdown delay for an additional 12 seconds.
5.	Key	Use the Key to override shutdown. Alarm and Red LED will still be on.

7.2 Manual Activation of the Fire system

Rotate the yellow handle clockwise to fully depressurise the sensor tube to activate the system.



7.3 Checking the Fire system prior to machine use

Check gauge on the manual activation point to see if it is within the green zone.

Check gauge on the cylinder to see if it is within the green zone.

Check Alarm panel to see if the **Green** LED is on.

8 Certification

Future AS 5062 Certificate Here