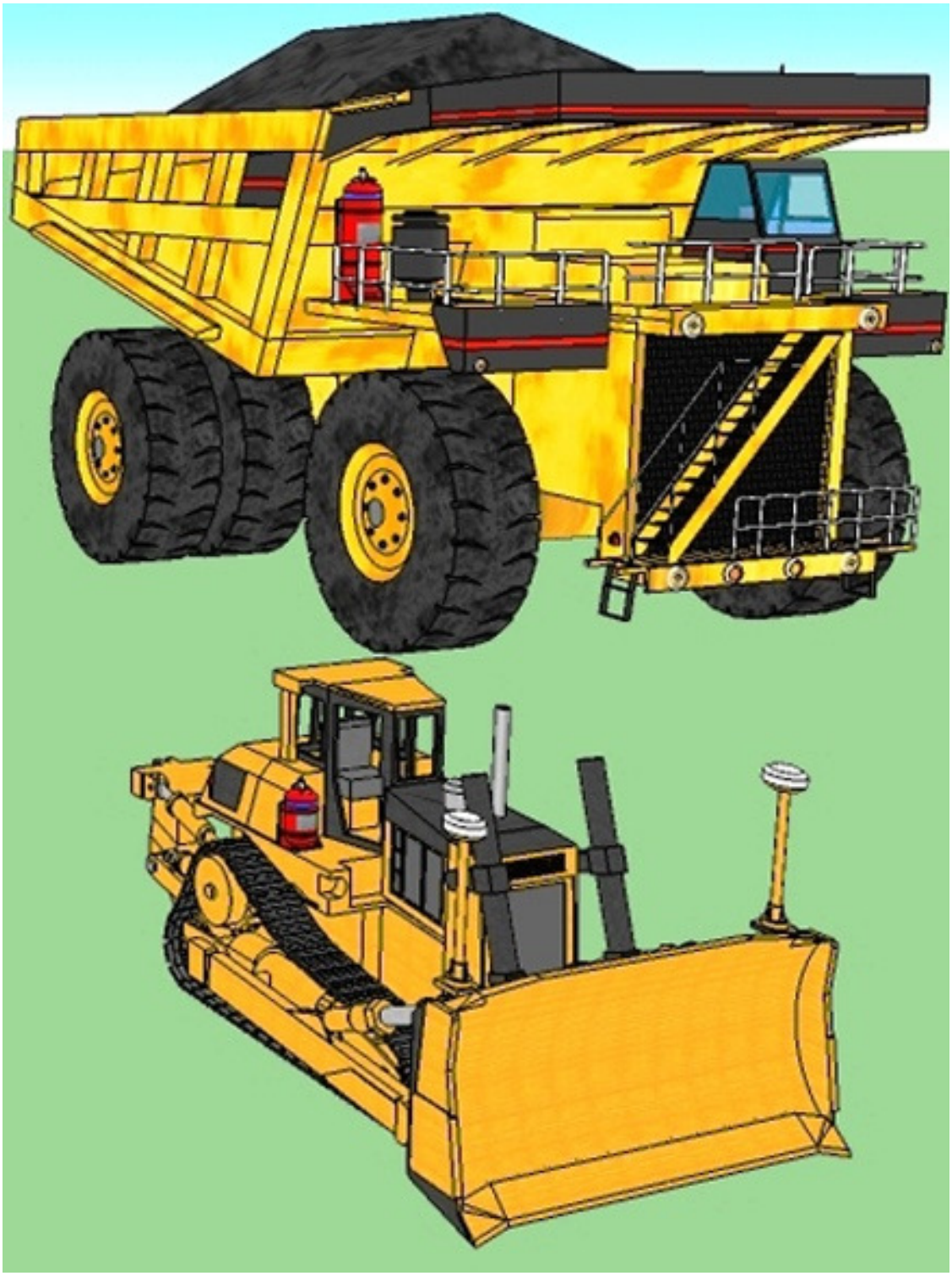
BUKU PETUNJUK & PARTS CATALOG
AFFF FIRE SUPPRESSION SYSTEMS



JOMON PERSADA NUSANTARA

IFES

***INDONESIAN FIRE EQUIPMENT SYSTEM* IS LISTED FOR FIRE FIGHTING BY:**

TÜVRheinland CERTIFIED

Buku ini merupakan petunjuk untuk sistem *Fire Supression LOP (Loss of Pressure), LOP manual actuators* dan indikator model *Alarm Panel*.

Desain instalasi ini dibuat dan digunakan setelah *risk assesment* dilengkapi dan terpenuhi. Sistem akan bekerja secara otomatis apabila kebakaran terjadi dilokasi dimana *Fire Detector Tube* terpasang.

TANDA PERINGATAN.

Label peringatan ini digunakan untuk memberikan informasi kepada operator dan orang yang berhubungan dengan pengoperasian mesin (kendaraan), dikarenakan sistem pemadam kebakaran otomatis yang terpasang bisa menyebabkan mesin mati secara otomatis.

JIKA TERJADI KEBAKARAN.

Label peringatan dibawah harus terpasang diposisi yang mudah terlihat karena berfungsi sebagai petunjuk jika terjadi keadaan darurat.

MESIN JANGAN DINYALAKAN KEMBALI SETELAH TERJADI KEBAKARAN!

Sangat beresiko jika mesin dinyalakan kembali karena pengapian diruang bakar mesin dapat menyebabkan kebakaran. Harap diperhatikan bahwa *IFES Indicating Panel* (Alarm) yang sudah memenuhi standar AS 5062-2016, di desain sehingga ketika alarm panel memdeteksi terjadinya kebakaran maka mesin secara otomatis akan mati (*Engine Shutdown*), alarm hanya bisa di *reset* (mulai ulang) oleh teknisi. Ini semata-mata dibuat untuk mencegah mesin dinyalakan kembali sebelum sistem pemadaman kebakaran ini di kembalikan dalam kondisi normal/berfungsi. Apabila terjadi tingkat kebakaran yang serius, maka kejadian tersebut perlu diinvestigasi lebih lanjut oleh pemilik kendaraan dan team IFES sebelum kendaraan tersebut berpindah (barang bukti jangan dirusak). Dalam beberapa kasus *IFES Emergency Shutdown Override* bisa digunakan oleh operator. Mohon hubungi teknisi IFES jika *System Override* diperlukan.

SELALU TEKAN DENGAN KUAT (STRIKE!) MANUAL AKTUATOR JIKA TERJADI KEBAKARAN!

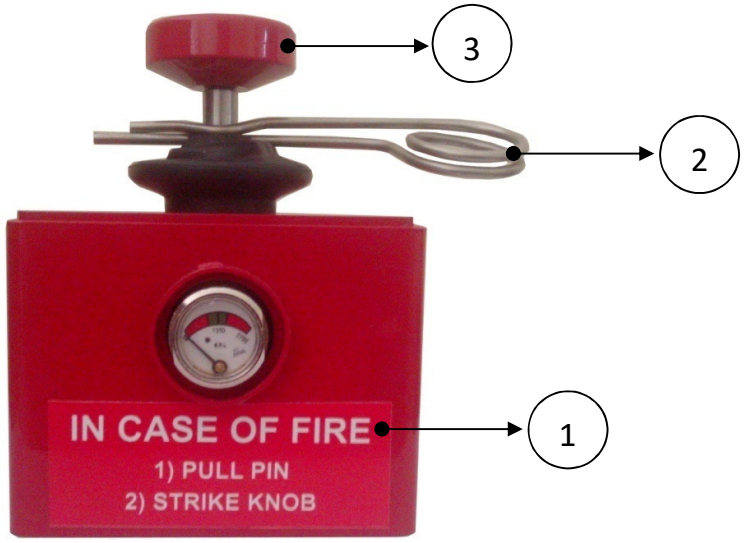
Meskipun sistem pemadaman api bisa berfungsi secara otomatis, operator juga harus mengaktifkan sistem secara manual. Ini akan membuat sistem aktif lebih cepat dan juga sebagai cadangan agar tidak terlalu bergantung dengan sistem otomatis yang terpasang.

PROSEDUR KEADAAN DARURAT.

Tetap selalu mengacu kepada prosedur keadaan darurat di masing masing perusahaan. Setiap kendaraan pada umumnya memiliki tabung APAR (Alat Pemadam Api Ringan) dan operator layaknya diberikan pelatihan tentang cara menggunakannya. APAR dapat berfungsi sebagai cadangan saat keadaan darurat terjadi. Namun perlu diingat bahwa keselamatan operator adalah yang utama.

AKTUASI MANUAL.

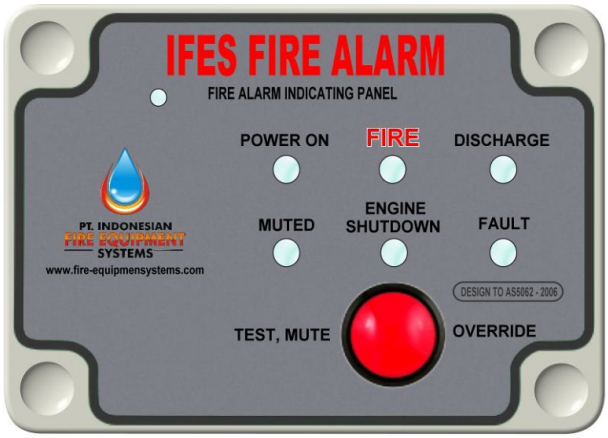
Sistem ini mempunyai satu atau lebih *Remote Manual Actuators*. Biasanya terpasang di lokasi dekat pengendara (operator) dan biasanya juga terpasang di pintu keluar kabin terdekat atau di lokasi darurat lainnya seperti di dekat tombol *Emergency Shutdown*.

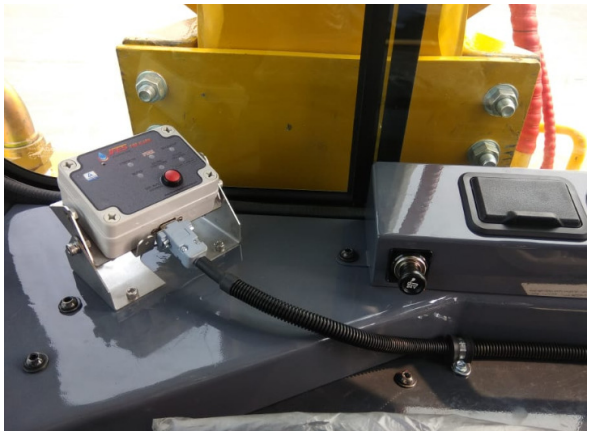


Prosedur pemakaian terdapat di depan aktuator :

1) Jika terjadi kebakaran “IN CASE OF FIRE”
2) Tarik PIN
3) Pukul (tekan) Kenop.

INDIKATOR ALARM PANEL





PANEL ALARM **CONTOH PEMASANGAN**

Fungsi utama Panel Alarm adalah untuk memberikan informasi kepada pengendara atau operator jika terjadi kebakaran. Juga bisa berfungsi sebagai bukti dalam laporan jika terjadi kondisi tidak normal dan dapat mengindikasikan kondisi paling kritikal seperti Sistem "*Discharge*" dan "*Engine Shutdown*"

Berikut fungsi beserta penjelasannya:

1) **POWER ON.** Ini kondisi normal saat sistem beroperasi ditandai dengan lampu hijau menyala.
2) **FAULT.** Jika sistem "*Fault*" diikuti dengan bunyi alarm, maka ada kemungkinan terjadi penurunan tekanan dalam tangki "*foam storage cylinder*". Lampu alarm yang berkedip dan diikuti bunyi bip akan memberikan laporan gangguan secara berurut. Laporkan jumlah bip dan jumlah kedip lampu alarm agar departemen pemeliharaan unit dapat memahami kesalahan yang terjadi pada sistem.
3) **MUTED.** Jika *fire alarm* atau *fault alarm* aktif, suara bisa di "*muted*" dengan menekan tombol satu kali maka suara akan hilang dan lampu tetap akan berkedip. Aktivasi "*muted*" Ini bisa dibatalkan dengan menekan tombol kembali satu kali.

4) **FIRE.** Jika sinyal kebakaran diterima, lampu yang berwarna merah akan berkedip dan suara alarm akan berbunyi. Lihat Halaman 3 “Jika Terjadi Kebakaran” sebagai prosedur acuan.
5) **DISCHARGE.** Jika alarm kebakaran berbunyi dan sistem pemadaman api aktif, lampu indikator ini akan berkedip untuk memberikan peringatan kepada operator atau pengendara.
6) **ENGINE SHUTDOWN.** Lampu akan menyala ketika *Engine Shutdown* aktif (default setting 6 detik) Lihat halaman 3 untuk penjelasan *Engine Shutdown*
7) **EMERGENCY OVERIDE.** Pada kondisi tertentu fitur ini dapat diaktifkan. Lihat halaman 3 untuk penjelasan *Emergency System Override*
8) **TESTING.** Operator dan pengendara bisa lakukan pengetesan di waktu tertentu dalam kondisi alarm normal seperti petunjuk yang dijelaskan sebelumnya diatas. Hanya dengan menekan tombol dan tahan selama 6 detik. Setelah itu semua lampu indikator akan menyala kecuali lampu indikator “Engine *Shutdown*”, diikuti suara alarm. Setelah bunyi perhitungan mundur lampu indikator “*Engine Shutdown*” akan menyala juga.
   PERINGATAN – Jika pengetesan ini menyebabkan mesin kendaraan mati, maka alarm harus di atur ulang “reset” dengan menekan tombol satu kali.

INFORMASI TANDA BAHAYA.

TANGKI BERTEKANAN “*Pressurized Cylinders*”

Foam agent didalam tangki silinder tersimpan dengan kondisi bertekanan. Dibuat dan difabrikasi mengikuti standar keamanan *Australian Standard* 5062-2016. Selalu perhatikan jika terjadi kerusakan secara visual dan harap segera dilaporkan kepada pihak terkait.

PEMERIKSAAN HARIAN.

Australian Standard 5062-2016, memerlukan pengecekan setiap hari untuk memastikan sistem berfungsi dengan baik dan dalam kondisi normal. Pemeriksaannya relatif mudah dan bisa dilakukan bersamaan dengan prosedur safety (P2H) pengecekan kendaraan sebelum digunakan.

1) Cek keadaan tangki cilinder harus terlihat dalam kondisi baik dengan *bracket, mountings, straps,* dan *cylinder* terpasang dengan kencang dan tidak rusak. *Valve* harus berada di posisinya tidak rusak dengan Hose terpasang dengan baik, dan pressure indicator menunjukan tekanan berada di area hijau atau sekitar 13.7 Bar.
2) Cek *manual actuators* harus berada dalam posisi yang normal. Tidak ada kerusakan dengan Hose terpasang dan *pull pin* beserta segel nya utuh.
3) Lampu indikator “ON” yang berwarna hijau harus menyala tanpa ada lampu indikator peringatan yang lain atau lampu indikator kebakaran yang berwarna merah menyala. Tombol test dapat berfungsi normal seperti petunjuk TESTING sebelumnya.

PEMERIKSAAN DAN SERVIS BERKALA.

Pemeriksaan dan service sistem pemadaman kebakaran ini hanya boleh dilakukan melalui prosedur yang sesuai dengan AS 5062-2016 dan sesuai petunjuk *IFES Technical Manual*. Personil yang melakukan service juga harus sudah terlatih yang artinya sudah melakukan training dan diakui oleh team IFES Fire Systems sebagai personil yang berkompeten. Prosedur ini nantinya akan tercantum dalam dokumen yang diterbitkan oleh IFES (sertifikat).

IFES PART CATALOG
FOR FOAM FIRE SUPPRESSION SYSTEM

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2)	BASIC SCHEMATIC INDICATING RELATIVE SECTIONS	12
3)	PARTS LISTING : Section 1 – Storage Parts	13
	Section 2 – Valves	15
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	Section 5 – Distribution	20
	Section 6 – Chemical Agent	20
	Section 7 – Consumables, Accessories	21

CHAPTER 1 – INTRODUCTION

COMPLIANCE STATEMENT

The IFES Fire Suppression system is a foam fire suppression system designed to Australian Standard AS5062–2006 as an engineered fire suppression system. Our system is listed to compliance by the laboratories of the National Nuclear Energy Agency.

For the purposes of mechanical engineering and fire testing, it dramatically exceeds the testing regime of AS5062 by using large scale fire simulation based on a 45 litre capacity V-12 diesel engine. For the verification of this process, IFES allows access of bona fide' customer's verification of its test data backed with videos. We can also allow access of customer representatives to demonstrations of live fire testing. The effectiveness and performance has been independently assessed and list by TUV Rheinland. More information is available on request.

TÜVRheinland®
Genau. Richtig.
"PRECISELY RIGHT!"

OBJECTIVES

The objective of this manual is to provide customers, designers, installers and maintenance personnel with clear information about the products manufactured and used by IFES, and their relating part numbers.

This document is subject to continuous development. The information contained within is supported by the Technical Department of IFES and was correct at the time of printing. They reserve the right to delete, alter or add to the contents therein without notice and prior indication. (Errors and Omissions Excepted – E&OE)

Please contact info@fire-equipmentsystems.com to advise of any anomalies or requests for further information.

DESIGN OF FIRE SYSTEMS

This can only be done by a trained and accredited person. The IFES Design Software and the IFES Design Manual identify the design procedures to be followed therein.

INSTALLATION

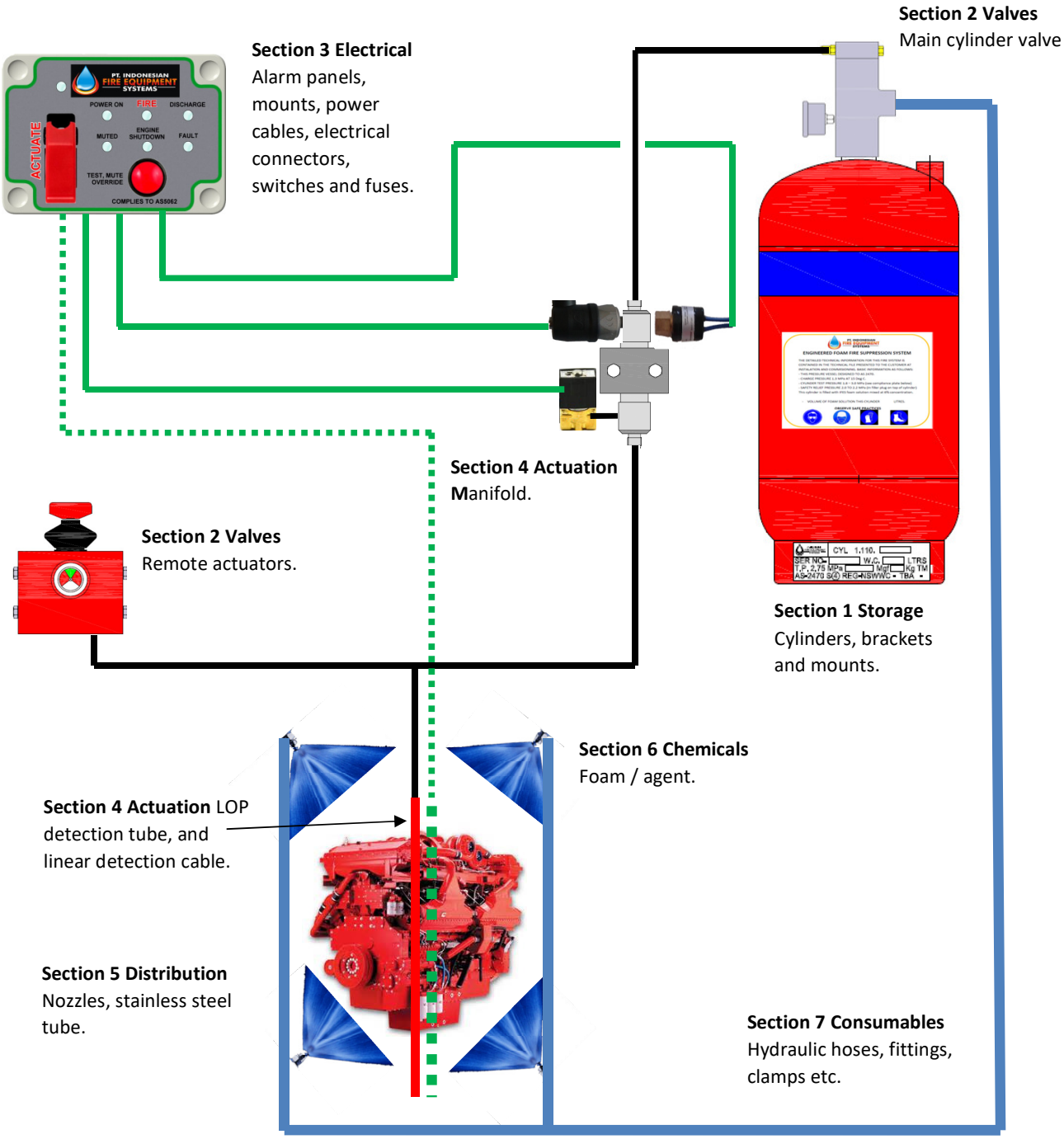
This can only be done by a trained and accredited person. The IFES Installation Manual is manual for technicians who need to install and maintain IFES Fire Suppression Systems.

NOTES ABOUT VERSION 1.1

This version was released in October 2015. It includes a revised range of smaller diam 230mm agent cylinders. Also the safety relief is being rationalised to a ¾"NPT type for all agent cylinders during 2015- 2016.

See pages 6,7 and 9.

CHAPTER 2 – BASIC SCHEMATIC INDICATING THE RELATIVE SECTIONS



SECTION 1 - STORAGE PARTS

Cylinders and Kits

	Description	Part Number
Painted Cylinders With Labels		
O	Cylinder - 20 litre, 230mm x 1 1/4 BSP Neck Ring ****	ADEA0204
O	Cylinder - 25 litre, 230mm x 1 1/4 BSP Neck Ring ****	ADEA0211
O	Cylinder - 28 litre, 230mm x 1 1/4 BSP Neck Ring	ADEA0218
O	Cylinder - 32 litre, 230mm x 1 1/4 BSP Neck Ring ****	ADEA0225
O	Cylinder - 45 litre, 368mm x 1 1/4 BSP Neck Ring	ADEA0232
O	Cylinder - 65 litre, 368mm x 1 1/4 BSP Neck Ring	ADEA0239
O	Cylinder - 90 litre, 368mm x 1 1/4 BSP Neck Ring	ADEA0246
O	Cylinder - 120 litre, 368mm x 1 1/4 BSP Neck Ring	ADEA0253
Cylinder Set - Cylinder with safety relief fill plug and rigid siphon tube		
O	28 litre Cylinder Kit	ADEA0169
O	45 litre Cylinder Kit	ADEA0176
O	65 litre Cylinder Kit	ADEA0183
O	90 litre Cylinder Kit	ADEA0190
O	120 litre Cylinder Kit	ADEA0197
Cylinder Valve Set - Cylinder Set plus 3/4" LOP valve		
O	28 litre Cylinder Valve Set	AAEN0330
O	45 litre Cylinder Valve Set	AAEN0344
O	65 litre Cylinder Valve Set	AAEN0351
O	90 litre Cylinder Valve Set	AAEN0358
O	120 litre Cylinder Valve Set	AAEN0365
Cylinder Bracket Kit - Cylinder Valve Set plus bracket and mounts		
O	28 litre Cylinder Install Kit	ADEA0260
O	45 litre Cylinder Install Kit	ADEA0267
O	65 litre Cylinder Install Kit	ADEA0274
O	90 litre Cylinder Install Kit	ADEA0281
O	120 litre Cylinder Install Kit	ADEA0288

(****) 230mm cylinder ukuran untuk kebutuhan khusus. Cek ketersediaan untuk pemesanan.

SECTION 1 - STORAGE PARTS

Cylinder Groom and Mounting

SRV 2014 -2016

SRV 2016 onward

	Description	Part Number
Service Date Tags		
O	AS 5062 Cylinder Valve service tag	AAEN0428
O	Split rings	AAEX3816
Filler Plug and Relief Valve		
O	Filler plug Includes preset Relief Valve Assembly *	AAEN0456
O	Safety Relief Valve ¾" NPT **	AAEN0463
O	Relief valve Dust Cap	AAEN0470
O	Filler plug O Ring - #222	AAEN0211
Cylinder Brackets - Mounts - Straps		
O	Cylinder Bracket 20 Litre (20L cylinder only) ****	AAEB1317
O	Cylinder Bracket 30 Litre (suits 25L, 28L, 30L & 32L cylinders)	AAEB1569
O	Cylinder Bracket 45 Litre	AAEB1331
O	Cylinder Bracket 65 Litre	AAEB1576
O	Cylinder Bracket 90 Litre	AAEB1562
O	Cylinder Bracket 120 Litre	AAEB1352
O	Clamping strap kit for 368 mm	AAEM3221
O	Weld Mount Kit Assembly	ADCA0169
O	Mount bolt, nut and washer M12 x 1.75 x 65	ADCA0176
O	Rubber compression ring	AAEX5104
O	Compression ring 38 mm OD	AAEX5111
O	Crush ring 60 mm OD	AAEX5118
O	Nylon bush 34 mm	AAEX5125
O	Vibration Eliminator kit assembly	ADEA0064
Siphon Hoses		
O	Siphon Hose 20 litre flexible ****	ACCJ2661
O	Siphon Hose 25 litre flexible ****	ACCJ2507
O	Siphon Hose 28 litre flexible	ACCJ2514
O	Siphon Hose 32 litre flexible ****	ACCJ2521
O	Siphon Hose 45 litre flexible	ACCJ2451
O	Siphon Hose 65 litre flexible	ACCJ2465
O	Siphon Hose 90 litre flexible	ACCJ2479
O	Siphon Hose 120 litre flexible	ACCJ2493

(*) Banyak 368mm cylinder dibuat dengan ukuran 1 /14" BSP SRV antara 2014 – 2016.
(**)Semua cylinder diganti dengan ukuran ¾" NPT socket dan disempurnakan SRV sejak 2016.
(****)230mm cylinder ukuran untuk kebutuhan khusus. Cek ketersediaan untuk pemesanan.

SECTION 2 - VALVES

System Valves and Mounts

	Description	Part Number
Cylinder Valves		
	Valve LOP 3/4" - 1 1/4" BSP Female	AAEN0288
	Mounting O Ring	AAEX3767
	Indicator Gauge 38mm Liquid with 1/8” rear entry	ACCJ2430
	Annual Service Kit for 3/4” LOP Valve *	AAEN0183
System Valves		
	Manual Actuator Valve Assembly LOP (includes mounting bracket)	AAEN0225
	Manual Actuator Strike Knob	AAEN0232
	Manual Actuator LOP Dust Boot	AAEN0239
	Pull Pin	AAEN0246
	Indicator Gauge 22 mm	ACCJ2437
	Annual Service Kit for Manual Actuator LOP **	AAEN0190
	Sintered Filter 1/2” BSP Male	AAEN0253

(*) Set sudah termasuk 5 item O Ring dan sudah diberi Molykote 111 lubricant.
(**)Set sudah termasuk 3 item O Ring, label peringatan, dan Molykote 111 lubricant.

SECTION 3 – ELECTRICAL COMPONENTS PARTS

Alarm Panels, Switches, Solenoids.

Description	Part Number
Alarms and Indicators	
12-24 V Control Indicating Alarm Panel - IFES	AAEL0778
12-24 V Indicating Alarm Panel - IFES	AAEL0785
Fire Pro Aerosol Control Indicating Alarm Panel	AAEL0925
Fire Pro Marine Control Indicating Alarm Panel	AAEL0932
Marine Junction Panel - Fire Pro - Assembly	AAEL0939
12-24 V Control Indicating Alarm Panel - Delta	AAEL0792
12-24 V Indicating Alarm Panel - Delta	AAEL0799
Fire Pro Indicating panel Install Kit,(3.10.003-3.20.006-3.50.006)	AAEL0827
IFES Control Indicating Alarm Panel Kit	AAEL0862
IFES Indicating Alarm Panel Kit	AAEL0867
Connection Boxes	
Empty Junction Box	AAEC1394
Junction Box 12 Terminal Strip	AAEC1401
Fire Pro Aerosol Commissioning Module	BBEF0267
120 litre Cylinder Kit	ADEA0162
Switches and Solenoids	
Fire alarm pressure switch 2 bar	BBEF0015
Alarm pressure switch 2 bar Installation Kit *	BBEF0022
Low pressure switch - 9 bar	BBEF0253
Low pressure switch - 9 bar Installation Kit **	BBEF0260
Solenoid 12 V normally closed	AAEF1688
Solenoid 12 V Installation Kit ***	AAEF1695
Solenoid 12 V normally closed High Flow model	AAEF1702
Solenoid 12 V Installation Kit High Flow model ***	AAEF1709
Sintered filter 1/4" BSP male DISCONTINUED ****	BBEF0204
Dust plug ¼" port	AAER0449

(*) Set sudah termasuk pressure switch dan Deustch connector pins, plug, boot dan resistor untuk EOL.
(**) Set sudah termasuk pressure switch dan the Deustch connector pins, plugs dan boot.
(***) Set sudah termasuk the solenoid dan the Deustch connector pins, plugs, boots, cable dan sintered filter.
(****) Sintered filter sudah tidak diproduksi sejak Jan 2016, diganti ¼" port plug.

SECTION 3 – ELECTRICAL COMPONENTS PARTS

Cables, Connectors.

Description	Part Number
Cables and Leads	
Twin Core Fire retardant silicone cable (MT) 2 x 0.75	AAEU5398
12 Core Radio Frequency Shielded cable (MT) 12 x 0.5	AAEU5405
Alarm Cable 12 core 1 meter D Sub Connector	AAEU5412
Battery Lead assembly - (2 x 1.5 with 9mm lugs)	AAEU5419
Deutsch connector kits *	
Resistor 47kohm/0.5 watt - EOL Alarm Switch kit	Z0000505
2 pin DTM receptacle and boot kit	AAEI3543
2 pin DTM plug and boot kit	AAEI3536
2 pin DT receptacle and boot kit	AAEI0015
2 pin DT plug and boot kit	AAEI1597
3 pin DT receptacle and boot kit	AAEI1625
3 pin DT plug and boot kit	AAEI0135
4 pin DT receptacle and boot kit	AAEI0022
4 pin DT plug and boot kit	AAEI1653
12 pin DT receptacle and boot kit	AAEI0008
12 pin DT plug and boot kit	AAEI1569

(*) Set sudah termasuk housing, wedge, cable terminal pins and boot.

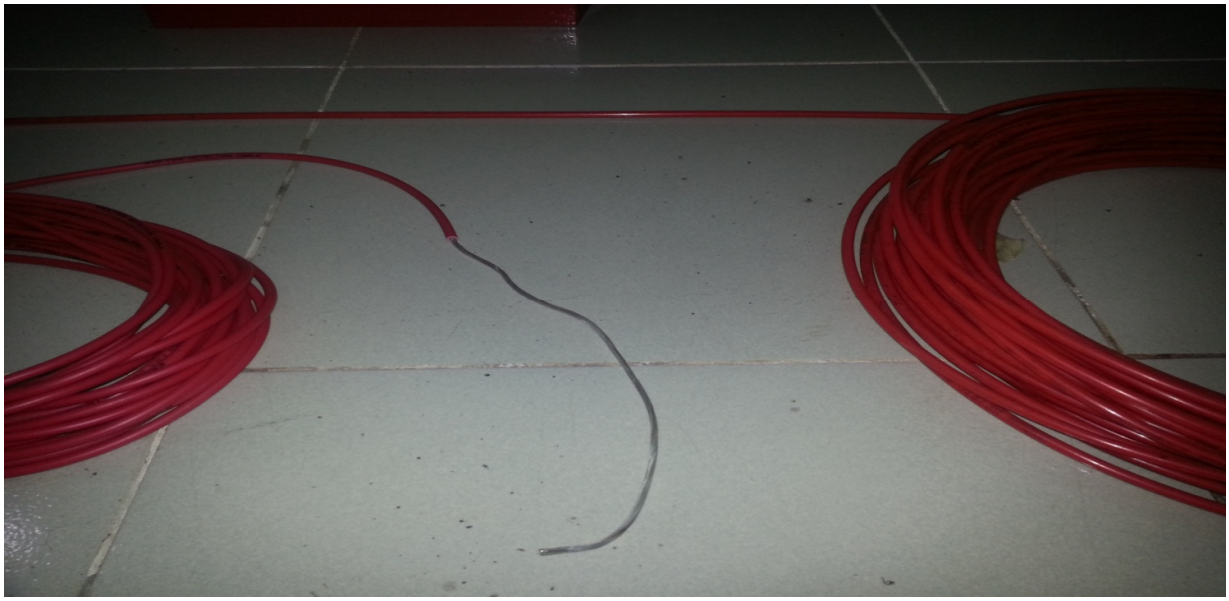
SECTION 3 – ELECTRICAL COMPONENTS PARTS

Miscellaneous electrical items

Description	Part Number
Fuses	
10 Amp Blade Fuse	AAES2878
10 Amp Blade Fuse pack of 10	AAES2878
10 Amp Blade Fuse In-line Holder - comp with fuse	AAES3067
10 Amp Glass Fuse	AAES2850
10 Amp Glass Fuse pack of 10	AAES2850
Mounting brackets	
Alarm mounting brackets	AAEB1310
Alarm mounting Bolt Kit (M4 x 10/nut/washer - 4 off)	AAEX5097
Batteries	
Data Logging System Lithium Cell	AAFA0939
Battery back-up Assembly	AAFA0946
Software and hardware	
Alarm Panel Install and Down Load Software (Authorised Distribution)	AAEL0946
Data Logging Cable - (**AUTHORISED DEALERS ONLY**)	AAEU5391
Alarm Panel Test Kit - (**AUTHORISED DEALERS ONLY**)	AAEL0953

SECTION 4 – ACTUATION

LOP detection tube and Linear detection cable



	Description	Part Number
LOP actuation systems		
	LOP Thermoplastic tube (MT)	ACCJ2528
	Tube end kit	ACCJ2535
	Manifold end kit	ACCH0036
	6 mm Compression Olive	ACCJ2570
Linear cable actuation Systems		
	Linear Detection Cable (MT)	AAEU5202
	End of line resistor kit	AAEX3802
Manifold		
	Manifold 3 port 1/8” BSPT	ACCH0015
	Manifold mounting tube clamp	CAJB0127

SECTION 5 – DISTRIBUTION

Fire risk area parts

Description	Part Number
Stainless steel tube and flare nuts	
Tube 12.7 mm x 0.8 seamless - 2 meters	ACCJ2402
Flare Nut 12.7 mm Tube - 3/4 JIC (F)	ACCJ2409
Flare Nut Sleeve for 12.7 mm Tube	ACCJ2416
Nozzles	
Nozzle, cap and lanyard - 60°	AEAA0022
Nozzle, cap and lanyard - 120°	AEAA0029
Mounting hardware	
U Bolt 25 mm x 6 mm	ADEA0099
Tube clamp - 12 mm	CAJB0141

SECTION 6 – CHEMICAL AGENT

Concentrated foam

Description	Part Number
3% AFFF concentrate	
1 Lt of 3% concentrate	AAEX5055
1.5 Lt of 3% concentrate	AAEX5062
2 Lt of 3% concentrate	AAEX5069
5 Lt of 3% concentrate	AAEX5076
20 Lt of 3% concentrate	AAEX5083
200 Lt of 3% concentrate	AAEX5090

SECTION 7 – CONSUMABLES ACCESSORIES

Hose, tail ends, lubricant - sealant, and protection

	Description	Part Number
Hose and tail ends		
	Hose R1 1/4" SAE100R1-AT MSHA- RED branded fire suppression.	ACCJ2577
	Hose R1 1/2" SAE100R1-AT MSHA- RED branded fire suppression.	ACCJ2584
	Hose R1 3/4" SAE100R1-AT MSHA- RED branded fire suppression.	ACCJ2591
	Hose End Straight 7/16" JIC Fem x 1/4" Hose with Crimp Shells SS **	ACCJ2598
	Hose End Straight 3/4" JIC Fem x 1/2" Hose with Crimp Shells	ACCJ2605
	Hose End Straight 1 1/16" JIC Fem x 3/4 Hose with Crimp Shells	ACCJ2612
	Hose End 90 Deg 7/16" JIC Fem x 1/4" Hose with Crimp Shells SS **	ACCJ2619
	Hose End 90 Deg 3/4" JIC Fem x 1/2" Hose with Crimp Shells	ACCJ2626
	Hose End 90 Deg 1 1/16" JIC Fem x 3/4" Hose with Crimp Shells	ACCJ2633
	Hose End Straight 1/4" BSPT Male x 1/4"Hose with Crimp Shells	ACCJ2640
Lubricants Sealants		
	Valve rebuild lubricant Molycote 111	BBEF0225
	White Petroleum Jelly	BBEF0232
	Hydraulic Sealant - Loctite 567 Teflon paste	BBEF0239
	Hydraulic Sealant - Loctite 569 Liquid	BBEF0246
Protection		
	Spiral Wrap Red 1/2"	AAEK1884
	Spiral Wrap Red 1"	AAEK1891
	Cable Ties 150 mm	AAEM3130
	Cable Ties 300 mm	AAEM3207
	Insulation Tape 3M Black	AAEK1898
	Security Seal Tie - 25 cm	AAEM3214

** PERHATIAN – Semua part yang digunakan LOP sirkuit harus berbahan stainless steel atau kuningan.

SECTION 7 – CONSUMABLES ACCESSORIES TOOLS

Fittings

Description	Part Number
Straight adaptors	
Straight Adaptor 1/4 BSPT (M) - 1/4 BSPT (M)	BBEF0211
Straight Adaptor 1/8 BSPT (M) - 7/16 JIC (M)	AAEK1667
Straight Adaptor 1/4 BSPT (M) - 7/16 JIC (M)	AAEK1674
Straight Adaptor 3/4 BSPT (M) - 3/4 JIC (M)	BBEF0218
Straight Adaptor 3/4 BSPT (M) - 1 1/16 JIC (M)	AAEK1681
Straight Adaptor Bulkhead 7/16 JIC (M) - 7/16 JIC (M)	AAEK1688
Straight Adaptor Bulkhead 3/4 JIC (M) - 3/4 JIC (M)	AAEK1695
Straight Adaptor Bulkhead 1 1/16 JIC (M) - 1 1/16 JIC (M)	AAEK1702
Charge Nipple 1/8 BSPT (M) - 7/16 JIC (M) With cap.	AAEX3788
Straight Adaptor 1/4 BSPT (F) - 1/4 BSPT (F)	AAEK1786
Elbow - tee adaptors	
45° Adaptor 1/4 BSPT (M) - 1/4 BSPT (F)	AAEK1716
90° Adaptor 1/8 BSPT (M) - 1/8 BSPT (F)	AAEK1863
90° Adaptor 1/8 BSPT (M) - 7/16 JIC (M)	AAEK1870
90° Adaptor 1/4 BSPT (M) - 1/4 BSPT (F)	AAEK1723
90° Adaptor 3/4 JIC (M) - 1/4 BSPT (M)	AAEK1730
Tee Adaptors 1/4 BSPT (F) - 1/4 BSPT (F) - 1/4 BSPT (F)	AAEK1737
Tee Adaptors 3/4 JIC (M) - 3/4 JIC (M) - 1/4 BSPT (M)	AAEK1744
Tee Adaptors 3/4 JIC (M) - 3/4 JIC (M) - 3/4 JIC (M)	AAEK1751
Tee Adaptors 3/4 JIC (M) - 3/4 JIC (M) - 1 1/16 JIC (M)	AAEK1765
Tee Adaptors 3/4 JIC (M) - 3/4 JIC (M) - 1/4 BSPT (F)	AAEK1765
Tee Adaptors 1/4 BSPT (M) - 1/4 BSPT (F) - 1/4 BSPT (F)	AAEK1877
90° Adaptor 1/4 BSPT (M) - 7/16 JIC (M)	AAEK1779
Reducers - Plugs	
1/8 BSPT Plug	AAEI4593
1/4 BSPT Plug	AAEI4600
Straight Adaptor 1/4 BSPT (M) - 1/8 BSPT (M)	BBEF0197

SECTION 7 – CONSUMABLES ACCESSORIES TOOLS

Service kits, Sintered filters, Clamps, Labels

	Description	Part Number
Service kits		
	Valve LOP 3/4" Service Kit	AAEN0183
	Valve Manual Actuator LOP Service Kit	AAEN0190
Sintered filters		
	1/4" BSP Sintered filter cone - Solenoid valve	BBEF0204
	1/2" BSP Sintered filter - Manual Actuator	AAEN0253
Clamps		
	Hose Clamp P HD 13mm	AAEM3032
	Hose Clamp P HD 19mm	AAEM3039
	Hose Clamp P HD 27mm	AAEM3046
	Tube Clamps 12mm bore	CAJB0141
	Tube Clamps 19mm bore	CAJB0134
	Tube Clamps 22mm bore	CAJB0127
	Tube Clamps 27mm bore	CAJB0120
Labels		
	Cylinder Safety Label (English) - Large - Self adhesive	AAEK1541
	Cylinder Safety Label (English) - Small - Self adhesive	AAEK1548
	In Case Of Fire label (English) - Self Adhesive	AAEK1555
	Warning Label (English) - Self Adhesive	AAEK1562
	Cylinder Safety Label (Bahasa) - Large - Self adhesive	BBEF0169
	Cylinder Safety Label (Bahasa) - Small - Self adhesive	BBEF0176
	In Case Of Fire label (Bahasa) - Self Adhesive	BBEF0183
	Warning Label (Bahasa) - Self Adhesive	BBEF0190
	Manual Actuator Warning Label	AAEK1569

NOTES : …