

PRODUCT CATALOGUE

**YOUR GUARD
AGAINST FIRE**



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Portable Dry Powder Fire Extinguisher



TECHNICAL DATA					
Model No.	UF - 9	UF - 6	UF - 4	UF - 2	UF - 1
Part No.	FEU - 9D	FEU - 6D	FEU - 4D	FEU - 2D	FEU - 1D
Capacity	9.0 kg	6.0 kg	4.0 kg	2.0 kg	1.0 kg
Type of Extinguishant	ABC Dry Powder				
Type	Stored Pressure				
Pressurised Agent	Nitrogen				
Working Pressure	12 bar (174psi)				
Test Pressure	25 bar (362.5psi)				
Temperature Range	-20°C to 60°C				
Discharge Time (approx.)	20s	18s	14s	12s	7s
Overall Height	560 mm	560 mm	470 mm	378 mm	330mm
Cylinder Diameter	181 mm	157 mm	157 mm	110 mm	79 mm
Approx. Full Weight	13.0 kg	9.4 kg	6.9 kg	3.3 kg	1.9 kg
Body Material	Cold Rolled Steel				
Finishing	Red (RAL 3000)				
Class of Fire	A, B, C, E				
Fire Rating	27A 144B	27A 144B	13A 70B	8A 55B	5A 21B
Manufactured & Approved	MS 1539 PART 1 : 2002				
Throw Range Discharge	3-4 m (approx.)				



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RRE ENGINEERING SDN. BHD. (520469-P)

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Pahang Darul Makmur, MALAYSIA.

Tel : 09 266 2854 Fax : 09 266 7054

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Website : www.rreeng.com



2 kg Portable Dry Powder Fire Extinguisher



SIRIM
Certified To:
MS 1539 PART 1: 2002
Certification No: PU 15303

TECHNICAL DATA	
Model No.	UF - 2
Part No.	FEU - 2D
Capacity	2.0 kg
Type of Extinguishant	ABC Dry Powder
Type	Stored Pressure
Pressurised Agent	Nitrogen
Working Pressure	12 bar (174psi)
Test Pressure	25 bar (362.5psi)
Temperature Range	-20°C to 60°C
Discharge Time (approx.)	12s
Overall Height	378 mm
Cylinder Diameter	110 mm
Approx. Full Weight	3.3 kg
Body Material	Cold Rolled Steel
Finishing	Red (RAL 3000)
Class of Fire	A, B, C, E
Fire Rating	8A 55B
Manufactured & Approved	MS 1539 PART 1 : 2002
Throw Range Discharge	3-4 m (approx.)

1 kg Portable Dry Powder Fire Extinguisher



SIRIM
Certified To:
MS 1539 PART 1: 2002
Certification No: PU 15303

TECHNICAL DATA	
Model No.	UF - 1
Part No.	FEU - 1D
Capacity	1.0 kg
Type of Extinguishant	ABC Dry Powder
Type	Stored Pressure
Pressurised Agent	Nitrogen
Working Pressure	12 bar (174psi)
Test Pressure	25 bar (362.5psi)
Temperature Range	-20°C to 60°C
Discharge Time (approx.)	7s
Overall Height	330mm
Cylinder Diameter	79 mm
Approx. Full Weight	1.9 kg
Body Material	Cold Rolled Steel
Finishing	Red (RAL 3000)
Class of Fire	A, B, C, E
Fire Rating	5A 21B
Manufactured & Approved	MS 1539 PART 1 : 2002
Throw Range Discharge	3-4 m (approx.)

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Trolley Type Dry Powder Fire Extinguisher



25kg

TECHNICAL DATA	
Model No.	UFM25
Part No.	FEUT- 25D
Capacity	25kg
Type of Extinguishant	ABC Dry Powder
Type	Stored Pressure
Propellant	Nitrogen
Working Pressure	15 bar (218 psi)
Test Pressure	30 bar (435 psi)
Temperature Range	-20°C to 60°C
Discharge Time	15s (approx.)
Overall Length	440mm
Overall Width	450mm
Overall Height	960mm
Overall Weight	60 kg
Body Material	CR Steel
Finishing	Red (RAL 3000)
Class of Fire	A, B, C, E
Fire Rating	A 233B C
Throw Range Discharge	5 - 6m (approx.)



50kg

TECHNICAL DATA	
Model No.	UFM50
Part No.	FEUT- 50D
Capacity	50kg
Type of Extinguishant	ABC Dry Powder
Type	Stored Pressure
Propellant	Nitrogen
Working Pressure	15 bar (218 psi)
Test Pressure	30 bar (435 psi)
Temperature Range	- 20°C to 60°C
Discharge Time	30s (approx.)
Overall Length	490mm
Overall Width	500mm
Overall Height	1110mm
Overall Weight	92kg
Body Material	CR Steel
Finishing	Red (RAL 3000)
Class of Fire	A, B, C, E
Fire Rating	A 233B C
Throw Range Discharge	5 - 6m (approx.)

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Portable Carbon Dioxide Fire Extinguisher



5kg



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Certification No: PU 15303

2kg

TECHNICAL DATA		
Model No.	GL 2.0	GL 5.0
Part No.	FEU-2C	FEU-5C
Capacity	2.0kg	5.0kg
Type of Extinguishant	Carbon Dioxide (CO ₂)	
Working Pressure	60 bar (870 psi)	
Test Pressure	250 bar (3625 psi)	300 bar (4350 psi)
Temperature Range	-20°C to 60°C	
Discharge Time (approx.)	6s	9s
Overall Height	525mm	755mm
Overall Diameter	114mm	137mm
Full Weight (approx.)	7.5kg	17kg
Body Material	Carbon Steel	Alloy Steel
Finishing	Red (RAL 3000)	
Class of Fire	B, E	
Fire Rating	21B	55B
Manufactured & Approved	MS 1539:PART 1:2002	
Throw Range Discharge (approx.)	2-3m	3-4m

Trolley Type Carbon Dioxide Fire Extinguisher



45kg

TECHNICAL DATA	
Part No.	CYL-TRO
Manufacture Standard	GB5099-94
Capacity	45kg
Type of Extinguishant	Carbon Dioxide (CO ₂)
Working Pressure	150 bar (2175psi)
Test Pressure	225 bar (3263 psi)
Temperature Range	-20°C to 60°C
Discharge Time (approx.)	30s (approx.)
Empty Weight	71 kg
Body Material	37 Mn Steel
Finishing	Red (RAL 3000)
Class of Fire	B, E
Throw Range Discharge	3-4m (approx.)
CYLINDER ON TROLLEY	
Overall Height	1530 mm
Overall Width	267 mm

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Portable Foam Fire Extinguisher



9L

TECHNICAL DATA	
Model No.	UF9F
Part No.	FEU-9F
Capacity	9L
Type of Extinguishant	3% AFFF Foam
Type	Stored Pressure
Propellant	Nitrogen
Working Pressure	14 bar (203 psi)
Test Pressure	27 bar (392 psi)
Temperature Range	5°C to 60°C
Discharge Time	65 - 75s (approx.)
Overall Length	220mm
Overall Width	185mm
Overall Height	585mm
Approx. Full Weight	12.5kg
Body Material	CR Steel
Finishing	Red (RAL 3000)
Class of Fire	A, B
Throw Range Discharge	4 - 5m (approx.)
Fire Rating	21A, 183B

Trolley Type Foam Fire Extinguisher



45L

TECHNICAL DATA	
Model No.	UFM45F
Part No.	FEUT-45F
Capacity	45L
Type of Extinguishant	3% AFFF Foam
Type	Stored Pressure
Propellant	Nitrogen
Working Pressure	15 bar (218 psi)
Test Pressure	30bar (453 psi)
Temperature Range	5°C to 60°C
Discharge Time	65 - 75s (approx.)
Overall Length	490mm
Overall Width	670mm
Overall Height	1110mm
Approx. Full Weight	85kg
Body Material	CR Steel
Finishing	Red (RAL 3000)
Class of Fire	A, B
Throw Range Discharge	6 - 7m (approx.)
Fire Rating	A, 233B

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Indoor Fire Extinguisher Cabinet



TECHNICAL DATA		
Model	6kg & 9kg Dry Powder	2kg CO ₂
Part No.	CAB-FEI	CAB-FEI
Dimension (mm)	280(W) x 240(D) x 710 (H)	280(W) x 240(D) x 710 (H)
Installation	Wall Mounted	
Material	Mild Steel	
Thickness	0.9 mm	
Finishing	Epoxy Powder Red	

* Stainless steel material available on request

Outdoor Fire Extinguisher Cabinet



TECHNICAL DATA		
Model	9kg Dry Powder	2kg CO ₂
Part No.	CAB-FEO	CAB-FEO
Dimension (mm)	280(W) x 250(D) x 690(H)	280(W) x 250(D) x 690(H)
Installation	Wall Mounted	
Material	Mild Steel	
Thickness	0.9 mm	
Finishing	Epoxy Powder Red	

* Stainless steel material available on request

Fire Extinguisher Stand



TECHNICAL DATA		
Part No.	FEU-STD-1D/2D	FEU-STD-4D/6D/9D
Model	Dry Powder - 1kg & 2kg	Dry Powder - 4kg, 6kg & 9kg Carbon Dioxide - 2kg
Dimension (mm)	235 (L) x 195 (D) x 480 (H)	320 (L) x 330 (D) x 705 (H)
Material	Mild Steel	

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FIRE EXTINGUISHER REFILLING MACHINE

UNIQUE Dry Powder Refilling Machine

UNIQUE Dry Powder Refilling Machine is designed for filling various sizes of portable dry powder fire extinguishers. It consists of a powder tank, suction pump, motor and filter.



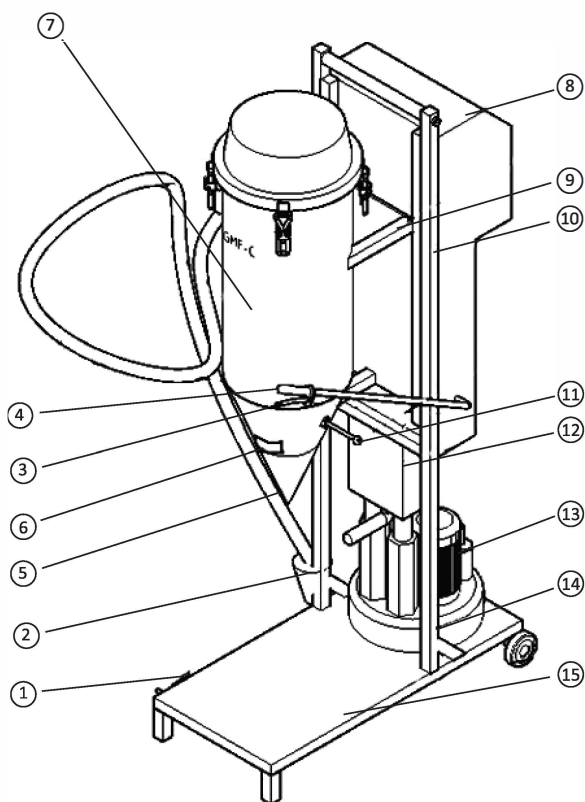
UNIQUE Dry Powder Refilling Machine is rigidly constructed to provide stability while refilling cylinders as well as convenient portability when required. The set of two heavy-duty wheels at the back of the base platform allows the machine and cylinders to be easily moved to and parked at another location.

Features

- **Simple to operate.** No complicated instructions.
- **Convenient.** Easy to move machine around.
- **Extendable.** Adjustable machine height to fit cylinder size.
- **Direct recycling of powder.** No pollution of surrounding area.

TECHNICAL DATA

Part No.	FEU-RMP
Filling Speed	3kg/ min (approx.)
Suitable Caliber	20 mm - 80 mm
Power	0.7kW, 220V
Shuttle Weight	80kg
Size (mm)	550 (W) x 850 (D) x 1230 (H)



Components:

1. Foot Board Reversing Valve
2. Suction Tube Bracket
3. Descend Brake Crank
4. Rise Handle
5. Suction Hose / Tube
6. Powder Holder Window
7. Powder Holder
8. Electrical Cabinet
9. Front & Back Adjustable Fixing Bolts
10. Upper Bracket
11. Feed Opening Valve Switch
12. Reversing Valve
13. Electrical Pump
14. Rise-and-Fall Spring Fixed Pin
15. Base of the the whole Machine

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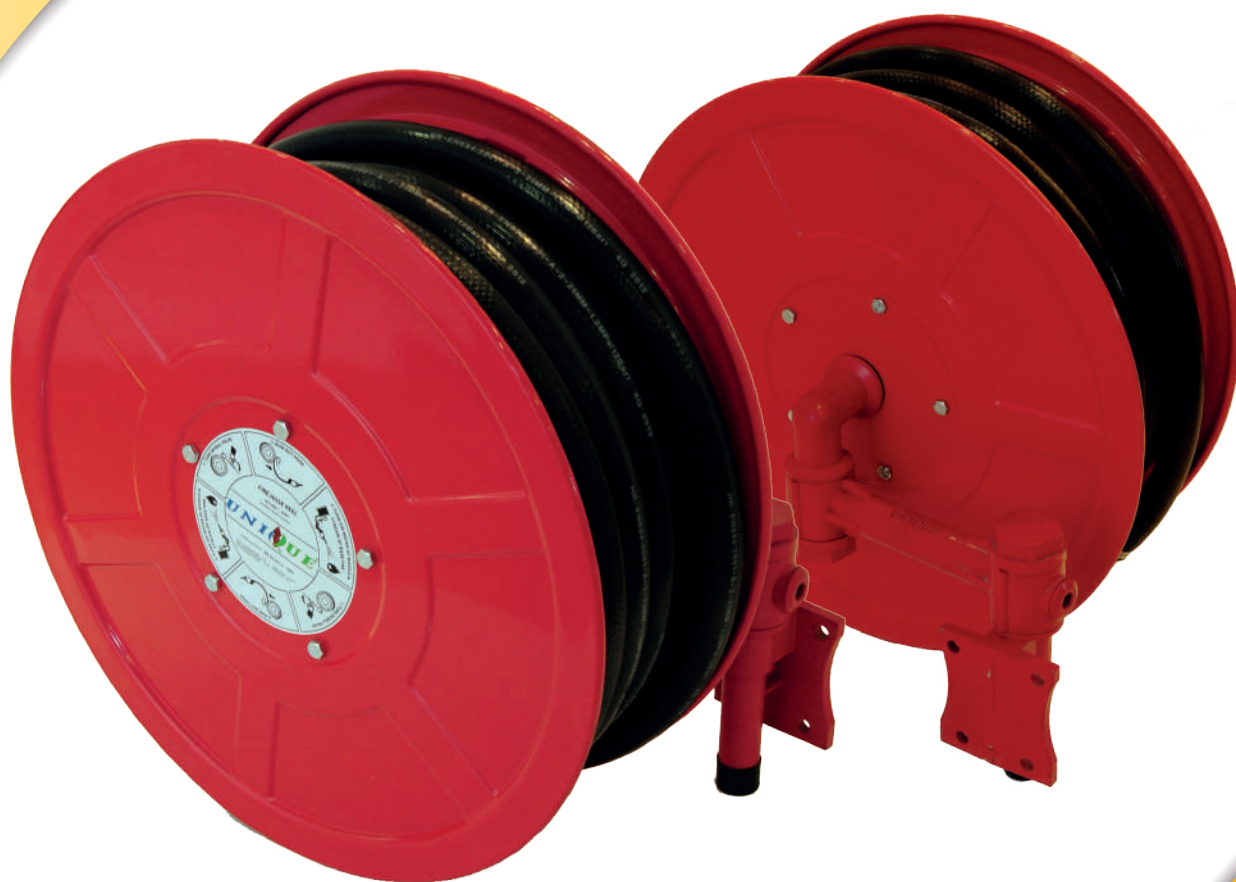
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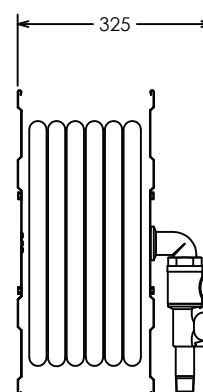
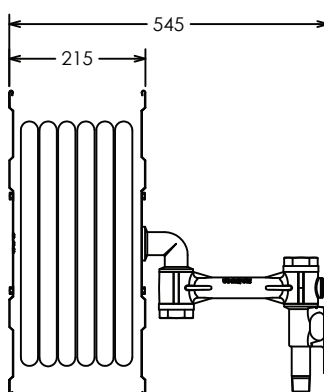
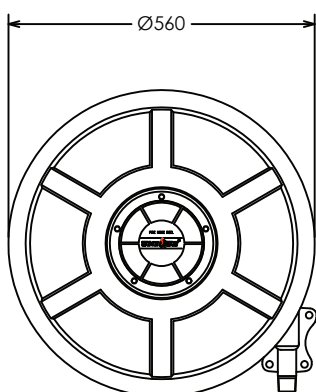
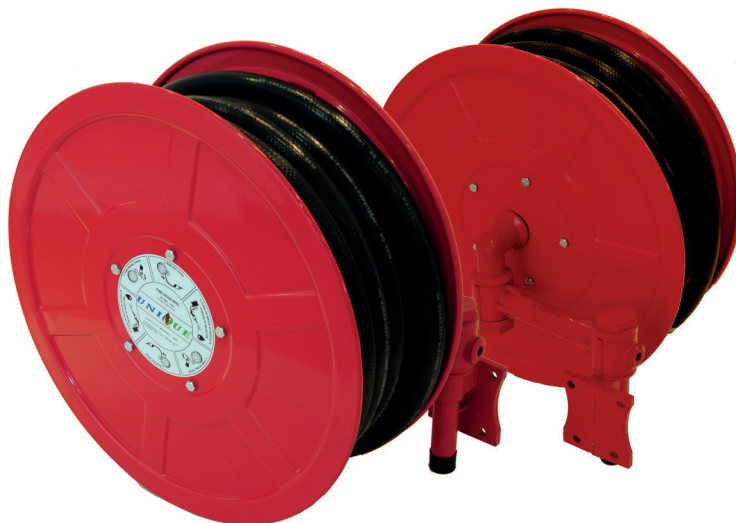
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FIRE HOSE REEL

Fire Hose Reel



TECHNICAL DATA	
Part No.	HRU-DR-25 (Drum) HRU-HO-25 (Hose) HRU-NOZ-NY-25 (Nylon Nozzle) HRU-NOZ-AB-25 (ABS Brass Nozzle) HRU-NOZ-BR-25 (Chrome Brass Nozzle) HRU-CL-25 (Clip)
Drum Size	560 mm(22")
Type	Swing Manual
Finishing	Epoxy Powder Red
Hose Diameter	25 mm
Hose Length	30 m
Working Pressure	12 bar (174psi)
Test Pressure	20 bar (290psi)
Nozzle Type	Jet / Spray / Shut-Off
Nozzle Size	25 mm



SIRIM
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MS1447 : PART 1 : 2006
Certification No : PC001032

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Fire Hose Reel Nozzle Box



TECHNICAL DATA		
Part No.	CAB-NB	CAB-NB-NY
Nozzle Type	Chrome Brass & ABS Brass	Nylon
Size	120mm (W) x 120mm (H) x 60mm (D)	
Type	Wall Mounted	
Material	Aluminium	
Thickness	2.5 mm	
Finishing	Epoxy Powder Red	

Fire Hose Reel Cabinet (Wall Mounted)



TECHNICAL DATA	
Part No.	CAB-HR
Size	750mm(W) x 350mm(D) x 750mm(H)
Type	Wall Mounted
Material	Mild Steel
Thickness	0.9 mm
Finishing	Epoxy Powder Red

Air Release Valve



TECHNICAL DATA	
Part No.	WRU-ARV
Size	25mm (1")
Material	Copper Alloy
Finishing	Natural
Working Pressure	15 bar (max)
Test Pressure	20 bar

Fire Hose Clip



TECHNICAL DATA	
Part No.	HRU-CL-25
Size	25mm - 35mm
Material	Mild Steel
Finishing	Galvanised

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FIRE HYDRANT SYSTEM

YAMA Fire Hose



TECHNICAL DATA			
Part No.	FH-13W-40	FH-13W-65	FH-10W-65
Size	40mm	65mm	65mm
Working Pressure	13 bar		10 bar
Burst Pressure	30 bar		25 bar
Test Pressure	20 bar		16 bar
Length	30m		
Type	Type 1, Light Weight Fire Hose		
Material	Tough Woven Polyester Fabric		
Finishing	White		

COMMANDER Fire Hose



TECHNICAL DATA		
Part No.	FH-16W-65	FH-16R-65
Size	65mm	65mm
Working Pressure	16 bar	
Burst Pressure	32 bar	
Length	30m	
Type	Type 1, Light Weight Fire Hose	
Material	Tough Woven Polyester Fabric	
Test Pressure	25 bar	25 bar
Colour	White	Red

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GOMTEX Fire Hose with Coupling



Specifications

- 1st Layer** : A perfectly smooth, inner nitrile rubber layer completely resistant to the most aggressive liquids.
- 2nd Layer** : A high tenacity polyester/polyamide inner layer with a structure that offers great flexibility and strength.
- 3rd Layer** : Outside rubber layer to protect the textile fabric as well as to ensure that the inner and outer rubber layers are highly adhesive. The hose is ribbed for easier handling and improved abrasion.

Features

- Resistant to multiple agents: abrasion, acids, chemicals, extreme temperatures, cracking, delamination, heat, kinking, oils, ozone, adverse weather conditions etc
- Operating Temperature from -30°C to 50°C
- No drying required after use

TECHNICAL DATA

Part No.	Inner Diameter		Weight		Thickness	Working Pressure		Test Pressure		Burst Pressure		Type
	mm	inch	g/m	lbs/ft	mm	bar	psi	bar	psi	bar	psi	Type 3 Premium High Quality
FH-20GR-40	38	1 1/2"	340	0.230	2.25	20	290	30	435	60	870	Type 3 Premium High Quality
FH-20GR-50	52	2	450	0.300	2.40	20	290	30	435	55	800	
FH-20GR-65	63.5	2 1/2"	600	0.400	2.40	20	290	30	435	50	725	

ZY Fire Rubber Hose



Specifications

- Reinforcement** : Synthetic Yarn
- Cover and Tube** : Nitrile/TPR blend tube, heavy rib with higher abrasion resistance
- Application** : Industrial fire fighting, fire hose for brigade, water discharge

TECHNICAL DATA

Part No.	FH-14ZY-65	FH-14ZY-40
Size	65mm	40mm
Material	Nitrile Rubber	
Length	30m	
Type	BS6391 - Type 3	
Working Pressure	14 bar	
Burst Pressure	45 bar	



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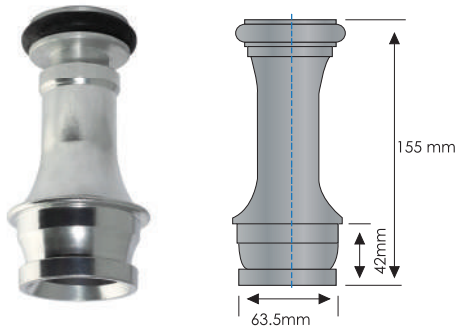
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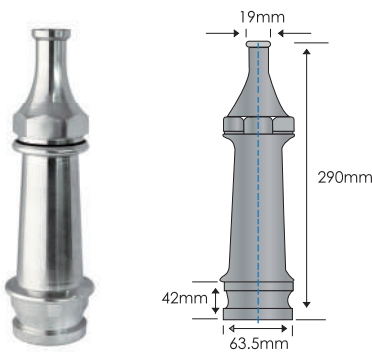


Diffuser Nozzle



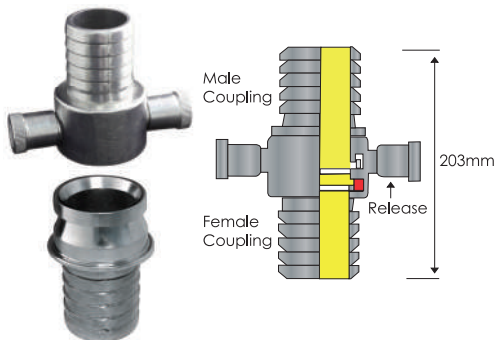
TECHNICAL DATA	
Part No.	FN
Material	Light Alloy/ Brass/ Bronze
Inlet	Ø65mm (male)
Connection	Instantaneous
Flow Rate @ 65 psi (4.4 bar)	500 L/min (Jet), 590 L/min (Spray)
Throw Range @ 65 psi (4.4 bar)	26m (Jet), 15m (Spray)
Test Pressure	15 Bar

Branch Pipe with Nozzle



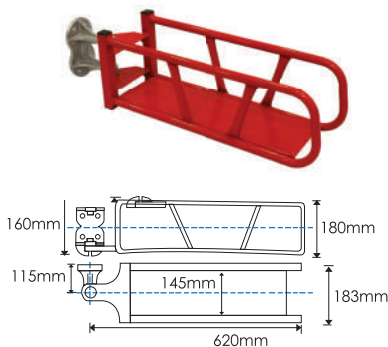
TECHNICAL DATA	
Part No.	WRU-BPN
Material	Light Alloy/ Brass/ Bronze
Inlet	Ø65mm (male)
Connection	Instantaneous
Flow Rate @ 65 psi (4.4 bar)	510 L /min (19mm dia.)
Throw Range @ 65 psi (4.4 bar)	22m (19mm dia.)

Instantaneous Coupling



TECHNICAL DATA	
Part No.	FHC-F40, FHC-M40 FHC-F65, FHC-M65
Material	Light Alloy
Inlet	Ø40mm Ø65mm
Connection	Instantaneous

Hose Cradle



TECHNICAL DATA	
Part No.	WRU-HC
Material	Mild Steel (Body) Aluminium (Hinge)
Support Weight	38 kg max.
Finishing	Red Polyester Electrostatic Powder Coating

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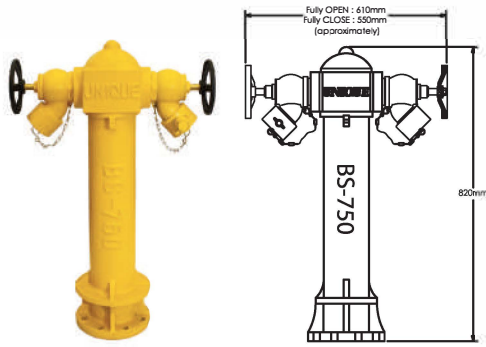
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FIRE HYDRANT SYSTEM

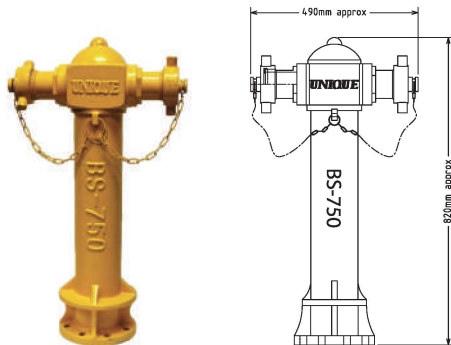


2-Way Fire Hydrant with Landing Valve



TECHNICAL DATA	
Part No.	HYU-2WHV
Working Pressure	15 bar
Test Pressure	20 bar
Flange Inlet Size	(4") 100mm Table E BS 10 Flange
Outlet	BS 366 Male Instantaneous
Material	Cast Iron (Body)
	Copper (Alloy Valve)
Finishing	Yellow or Red

Plain End Pillar Hydrant



TECHNICAL DATA	
Part No.	HYU-2WHPE
Working Pressure	15 bar
Test Pressure	20 bar
Flange Inlet Size	(4") 100mm Table E BS 10 Flange
Outlet	BS 366 Male Instantaneous
Outlet Size	5-1/3" Thread Per Inch
Material	Cast Iron (Body)
	Copper (Alloy Valve)
Finishing	Yellow or Red

Breeching Inlet



TECHNICAL DATA		
Part No.	DRU-2W	WRU-4W
Model	2 Way	4 Way
Dimension	316mm(L) x 219mm(W) x 235mm(H)	382mm(L) x 280mm(W) x 270mm(H)
Outlet Size	Flange (4") 100mm Table E	Flange (6") 100mm Table E
Inlet Size	BS 366 Male Instantaneous	
Working Pressure	10 bar	
Test Pressure	20 bar	
Material	Cast Iron (Body)	
	Copper Alloy (Male Instantaneous)	
Finishing	Red	

Pressure Regulating Valve



TECHNICAL DATA		
Part No.	WRU-EPRV	WRU-EPRV-F
Type	Screw Type (Thread)	Flange Type
Size	Ø65mm (2 1/2")	
Test Pressure	30 bar	
Max. Inlet Pressure	20 bar	
Factory Pre-Set Pressure	7 bar	
Inlet Size	65mm BSP Thread	
Outlet Size	BS 336 Female Instantaneous	
Material	Copper Alloy (Body)	
	Cast Iron (Handwheel)	
Finishing	Red or Yellow	
Features	Suitable to use for inlet pressure up to 20 bar	
	Setting for reduced outlet static pressure from 5 to 8 bar	
	When inlet pressure range from 7 to 20 bar, outlet pressure will remain constant	

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Fire Hydrant Landing Valve



TECHNICAL DATA		
Part No.	DRU-LV	DRU-LV-F
Model	Screw Type (Thread)	Flange Type
Size	Ø65mm (2 1/2")	
Working Pressure	7 bar	
Test Pressure	30 bar	
Flow Rate (Fully Open)	4.5 bar/litre	
Inlet Size	65mm BSP Thread	
Outlet Size	BS 336 Female Instantaneous	
Material	Copper Alloy (Body)	
	Cast Iron (Handwheel)	
Finishing	Red or Yellow	

Breeching Inlet Cabinet



TECHNICAL DATA		
Part No.	CAB-2W	CAB-4W
Model	2 Way Breeching Inlet	4 Way Breeching Inlet
Size (mm)	595(W)x395(H)x295(D)	555(W)x565(H)x300(D)
Material	Mild Steel	
Thickness	0.9mm	
Outlet	(4") Flange 100mm Table E	(6") Flange 150mm Table E
Finishing	Epoxy Powder Red	
Design	BS 5041: Part 5	

Hydrant Hose Cabinet



TECHNICAL DATA		
Part No.	CAB-HCL	CAB-HC
Model	With Legs	Without Legs
Size (mm)	560(W)x1170(H)x330(D)	560(W)x600(H)x330(D)
Material	Mild Steel	
Finishing	Epoxy Powder Coating	

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RRE ENGINEERING SDN. BHD. (520469-P)

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FIRE SPRINKLER SYSTEM

CD Alarm Check Valve



TECHNICAL DATA		
Part No.	SAV-CD-100 (Alarm Valve) SAG-CD (Alarm Gong)	SAV-CD-150 (Alarm Valve) SAG-CD (Alarm Gong)
Size (mm)	100mm (4")	150mm (6")
Standard	UL 193 Alarm Valves for Fire Protection Service	
Material	Cast Iron ASTM A48 Class No. 35	
Rated Pressure	175 psi	
Test Pressure	350 psi	
Marking	UL Listed 3558 Co A 175 psi 4/6 Alarm Check Valve	
Flange Dimension	ANSI B16.1 Class 125 / ANSI B 16.5 Class 150	
Installation	Vertical 1/2" NPT (PT) Thread Female Inlet 3/4" NPT (PT) Thread Female Outlet 1/2" NPT (PT) Thread Female Drain	

VIKING Alarm Check Valve (Model J-1)



TECHNICAL DATA			
Part No.	SAV-VK-100 (Alarm Valve) SAG-VK(Alarm Gong)	SAV-VK-150 (Alarm Valve) SAG-VK(Alarm Gong)	SAV-VK-200 (Alarm Valve) SAG-VK(Alarm Gong)
Size	100mm (4")	150mm (6")	200mm (8")
Friction Loss (equivalent length)	4.0m	6.0m	7.0m
Working Pressure	12 bar(175psi)		
Hydrostatics Test Pressure	24 bar(350psi)		
Flange Connections	ANSI B16.42 Class 150		

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CD Conventional Sprinkler



TECHNICAL DATA	
Part No.	SHC-C-68C-15(R1) UL Approved
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

CD Pendent Sprinkler



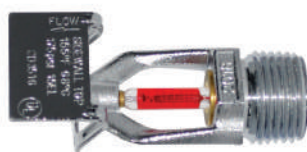
TECHNICAL DATA	
Part No.	SHC-P-68C-15
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

CD Upright Sprinkler



TECHNICAL DATA	
Part No.	SHC-U-68C-15
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

CD Horizontal Side Wall



TECHNICAL DATA	
Part No.	SHC-S-68C-15
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

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VIKING Conventional Sprinkler



TECHNICAL DATA	
Part No.	SHV-C-68C-15
SIN No.	VK 118
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

VIKING Pendent Sprinkler



TECHNICAL DATA	
Part No.	SHV-P-68C-15
SIN No.	VK 102
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

VIKING Upright Sprinkler



TECHNICAL DATA	
Part No.	SHV-U-68C-15
SIN No.	VK 100
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

VIKING Horizontal Side Wall



TECHNICAL DATA	
Part No.	SHV-S-68C-15
SIN No.	VK 104
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chrome Finished
Working Pressure	12 bar (175 psi)

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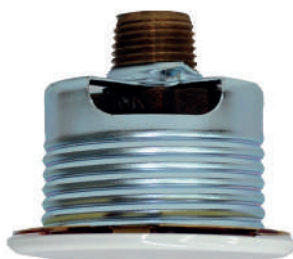


CD Concealed Pendent Sprinkler



TECHNICAL DATA	
Part No.	SHC-CH-15 (Concealed Sprinkler)
	SHC-CC-15 (White Cover Plate)
Size (NPT)	15mm (1/2")
Type	Standard Response
Bulb	5mm
Activation Temperature	68 °C
K-Factor	5.6 (80.6)
Finishing	Chromed Finished
Working Pressure	12 bar (175 psi)

VIKING Concealed Pendent Sprinkler



TECHNICAL DATA		
Part No.	SHV-CCH20034AB-SR-68C-15 (Concealed Pendent)	Standard Response
	SHV-CCF-13504-57W-15 (White Cover Plate)	
	SHV-CCH13503-68C-15 (Concealed Pendent)	Quick Response
	SHV-CCF-13504-57W-15 (White Cover Plate)	
Sin	VK 492 (Standard Response)	
	VK 462 (Quick Response)	
Size (NPT)	15mm (1/2")	
Type	Standard Response & Quick Response	
Bulb	5mm	
Activation Temperature	68 °C	
K-Factor	5.6 (80.6)	
Finishing	White	
Working Pressure	12 bar (175 psi)	

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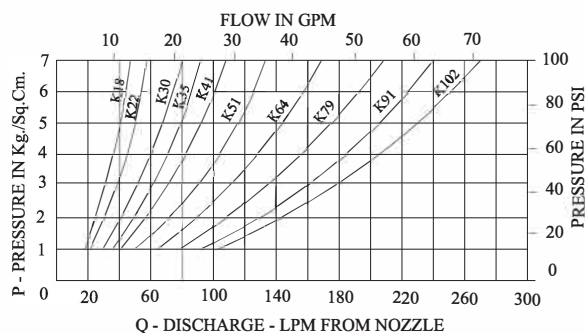
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HD Medium Velocity Water Spray Nozzle



DISCHARGE CHARACTERISTICS



$Q = K \sqrt{P}$ where P is supply pressure in Kg/sq.cm.,
K = nozzle constant (K-factor) in metric
US K factor = Metric K factor $MK \div 14.2745$

TECHNICAL DATA

Model No.	MV-A without Strainer , MV-AS with Strainer	
Part No.	SSN-SNI-15	
Max. Working Pressure	12 bar (175 psi)	
Effective Working Pressure	1.4 to 3.5 bar (20 to 50 psi)	
End Connection	1/2" BSPT (1/2" NPT Optional)	
Included Water Spray Angle for Each K-factor	65°, 80°, 90°, 100°, 110°, 120° and 140°	
K-Factor	Metric	US
	K-22	1.54
	K-30	2.10
	K-35	2.45
	K-41	2.87
	K-51	3.57
	K-64	4.48
	K-79	5.53
	K-91	6.37
	K-102	7.14
Weight	0.115 kg (approx.)	
Finishing	Brass or Nickle Plated & Chrome Plated	
Approval	UL Listed	
Ordering Information	Specify K-Factor, spray angle, finish, model and end connection.	

CONSTRUCTION MATERIAL

Component	Model MV-A	Model MV-AS
Housing	Forged Brass, IS:291, GR.-1 (Equivalent to ASTM B21)	Forged Brass, IS:291, GR.-1 (Equivalent to ASTM B21)
Pin	Brass, IS:291, GR.-1 (Equivalent to ASTM B21)	Brass, IS:291, GR.-1 (Equivalent to ASTM B21)
Deflector	Brass, IS:2768 (Equivalent to ASTM B36)	Brass, IS:276 (Equivalent to ASTM B36)
Strainer	N/a	Copper

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Sprinkler Guard



TECHNICAL DATA	
Part No.	SR-SG
Size	15mm (1/2")
Material	Mild Steel
Finishing	Chrome Plated

Recessed Sprinkler Rosette



TECHNICAL DATA	
Part No.	SR2-CH
Size	15mm (1/2")
Material	Mild Steel
Finishing	Chrome Plated

Plain Sprinkler Rosette



TECHNICAL DATA		
Part No.	SR-CH-15	SR-CH-20
Size (mm)	15mm (1/2")	20mm (3/4")
Material	Stainless Steel 430	
Finishing	Natural	

Sprinkler Box



TECHNICAL DATA	
Part No.	CAB-SB-15 & CAB-SB-20
Size (mm)	355 (W) x 110 (D) x 180 (H)
No. of Sprinklers	24 units
Material	Mild Steel
Finishing	Epoxy Powder Red

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Sprinkler System Flow Meter



TECHNICAL DATA			
Part No.		Type	Orifice Size(mm)
Flow Meter	Gauge		
SFM-XLH	SFM-XLH	XLH	21.0/18.5
SFM-OH1	SFM-OH1	OH1	31.0
SFM-OH2	SFM-OH2	OH2	40.0
SFM-OH3	SFM-OH3	OH3	43.0
SFM-OH3S	SFM-OH3S	OH3 Special=OH4	50.0
SFM-XHH-7.5	SFM-XHH-7.5	XHH 7.5mm/min	58.5
SFM-XHH-10	SFM-XHH-10	XHH 10mm/min	62.0

Hazard Class	Sprinkler height h above the control valve set(s) (m)	Pump nominal data		Flow Characteristic (see Note)			
				Max Demand flow		Design flow	
		Pressure at pump outlet 'A' gauge (bar)	Flow (L/min)	Pressure at 'C' Gauge (bar)	Flow (L/min)	Pressure at 'C' Gauge (bar)	Flow (L/min)
LH (Wet or pre-action)	$h \leq 15$	1.5	300	3.7	225	-	-
	$15 < h \leq 30$	1.8	340	5.2	225	-	-
	$30 < h \leq 45$	2.3	375	6.7	225	-	-
OH1 (Wet or pre-action)	$h \leq 15$	1.2	900	2.2	540	2.5	375
	$15 < h \leq 30$	1.9	1 150	3.7	540	4.0	375
	$30 < h \leq 45$	2.7	1 360	5.2	540	5.5	375
OH1 (Dry) OH2 (Wet or pre-action)	$h \leq 15$	1.4	1 750	2.5	1 000	2.9	725
	$15 < h \leq 30$	2.0	2 050	4.0	1 000	4.4	725
	$30 < h \leq 45$	2.6	2 350	5.5	1 000	5.9	725
OH2 (Dry) OH3 (Wet or pre-action)	$h \leq 15$	1.4	2 250	2.9	1 350	3.2	1 100
	$15 < h \leq 30$	2.0	2 700	4.4	1 350	4.7	1 100
	$30 < h \leq 45$	2.5	3 100	5.9	1 350	6.2	1 100
OH3 (Dry) OH4 (Wet or pre-action)	$h \leq 15$	1.9	2 650	3.0	2 100	3.5	1 800
	$15 < h \leq 30$	2.4	3 050	4.5	2 100	5.0	1 800
	$30 < h \leq 45$	3.0	3 350	6.0	2 100	6.5	1 800

NOTE: The flow characteristic pressures shown are as measured at the 'C' gauge of the control valve set(s).

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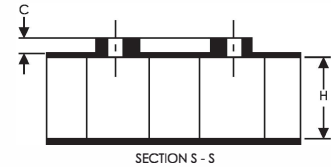
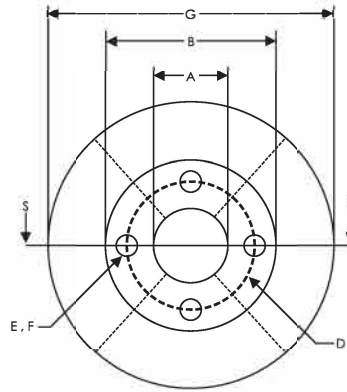
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Vortex Inhibitor



TECHNICAL DATA

Material	Mild Steel											
Finishing	Galvanised Coating											
Thickness	Top Plate						Bottom Plate					
	4mm						4mm					
Part No.	Size (B.S 10 Table E Flanges)											
	Internal Diameter		External Diameter		Flange Thickness	Bolt Circle Diameter		Diameter of Bolt		No. of Holes	External Plate Diameter	Height
	(A)		(B)		(C)	(D)		(E)		(F)	(G)	(H)
	Approximately											
	mm	inch	mm	inch	mm	mm	inch	mm	inch	nos	mm	mm
SVI-050	50	2"	152	6"	14.3	114	4-1/2"	16	5/8"	4	272	76
SVI-065	65	2 ½"	165	6-1/2"	14.3	127	5"	16	5/8"	4	272	76
SVI-080	80	3"	184	7-1/4"	14.3	146	5-3/4"	16	5/8"	4	319	76
SVI-100	100	4"	216	8-1/2"	16	178	7"	16	5/8"	8	380	100
SVI-150	150	6"	279	11"	17.5	235	9-1/4"	19	3/4"	8	468	100
SVI-200	200	8"	336	13-1/4"	19	292	11-1/2"	19	3/4"	8	502	100
SVI-250	250	10"	406	16"	22.2	355.6	14"	19	3/4"	12	587	100
SVI-300	300	12"	578	22-3/4"	25	406	16"	22.5	7/8"	12	637	100

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Firesure FM and LPC Type Flowmeters



APPROVED FOR SPRINKLER FIRE PUMP TESTING

- FM and LPC approvals.
- Groove or wafer flange connections.
- Horizontal and vertical pipe-lines.
- Highly stable flow readings.
- Easy to read flow scales.
- Simple and quick installation.
- FM meter scale in USGPM and l/min.

TECHNICAL DATA

Pipe OD	MM	Flowmeter test ranges l/min		LPCB Grooved connection order code	LPCB Wafer flange connection order code	Inches	Flowmeter test ranges USGPM		FM Grooved connection order code	FM Wafer flange connection order code	Pump Duty USGPM
MM		min	max				min	max			
60.3	50	150	700	464a/06	464a/01	-	-	-	-	-	-
88.9	80	300	1600	464a/07	464a/02	3	100	400	FS80FGFM	FS80FLFM	200
114.3	100	500	3500	464a/08	464a/03	4	150	900	FS100FGFM	FS100FLFM	250 300 450
165.1	150	900	7900	464a/09	464a/04	6	250	2000	FS150FGFM	FS150FLFM	500 750 1000
168.3	150	900	7900	464a/22	-	6	250	2000	FS6FGFM	-	500 750 1000
219.1	200	2000	15000	464a/10	464a/05	8	750	4000	FS200FGFM	FS200FLFM	1250 1500 2000
219.1	-	-	-	-	-	8	1500	6000	FS8FGFM	-	2500 3000



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PLATON Fire Sprinkler Flow Meter



TECHNICAL DATA							
Model		SGUV Mark 2					
Part No.		SPFM-100-F			SPFM-150-F		
Size (mm)		100			150		
Orifice Plate		Stainless Steel mounted in a 38mm thick, red polyester coated steel carrier ring					
Measuring Tube		Borosilicate glass with 100mm fused-in ceramic scale					
Float		Stainless Steel					
Accuracy		±5% at various test flows specified by LPCB					
'O' Seals		Nitrile					
Indicator Housing		Die-cast aluminium with white polyester coating, black bezel and perspex window					
Impulse Pipe		Bright nickel plated copper with plated brass connections					
Filter Unit		316 Stainless Steel element with 1.5mm perforations, TPX tube, plated brass connections and nitrile 'O' seals					
Flow Range		150-12,500 dm³/min					
Pressure Limitation		12 bar g @ 20°C					
Pressure Test		30 bar hydraulic					
Pressure Drop		At max flow rate 65% of the orifice pressure loss of 354"WG is recovered					
Standard Flow Ranges							
Flanged		Grooved		Nominal Pipe Size (mm)	Flow Ranges (dm³/min)	Test Flows (dm³/min)	Test Flows Accuracy (dm³/min)
LPCB	PLATON	LPCB	PLATON				
088a/5	F1/5	088a/10	F1/10	50	150 - 750	500 800	± 25 ± 40
088a/6	F1/6	088a/11	F1/11	80	300 - 2300	1300 1500	± 65 ± 75
088a/7	F1/7	088a/12	F1/12	100	500 - 3500	2200 2500	± 110 ± 125
						3500	± 175
088a/8	F1/8	088a/13	F1/13	150	900 - 8200	4500 5000	± 225 ± 250
088a/9	F1/9	088a/14	F1/14	200	2500 - 12500	7000 9000	± 350 ± 450

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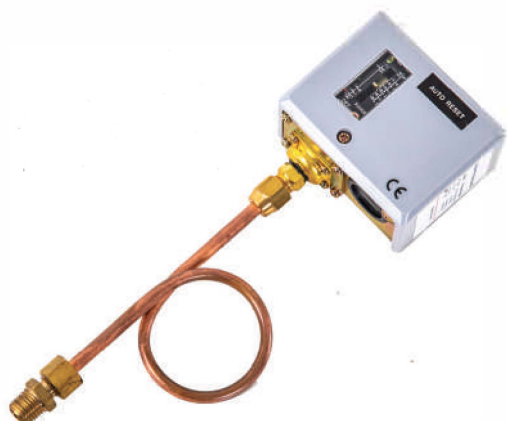
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FIRE SPRINKLER SYSTEM



UNIQUE Control Pressure Switch (Single Type)



TECHNICAL DATA									
Model No.	Part No.	Use	Pressure Range (bar)		Differential Pressure (bar)		Factory Setting Pressure (bar)		Max. Bellows Pressure (kgf/cm ²)
			Min	Max	Min	Max	On	Off	
GP-106	SPU-06B	Hose Reel Pump	0	6	0.6	4	2	3	11
GP-110	SPU-10B	Sprinkler Pump	1	10	1	3	4	6	16.5
GP-120	SPU-20B	Wet Riser & Hydrant Pump	5	20	3	5	15	12	16.5
GP-130	SPU-30B	Hydrant Pump over 20 bar	5	30	3	10	20	15	40

Note:

- Allowable fluid temperature : -10°C to 120°C
- Micro switch ensures reliable switching
- In-built SPDT contact mechanism

UNIQUE Water Flow Switch



TECHNICAL DATA	
Model No.	HFS-25
Part No.	SPU-FS
Size (NPT)	1"
Operating Pressure	10 bar
Max Temperature	100°C
Electric Amps	15 Amps 250Vac
Switch Acting	SPDT
Paddle	Stainless Steel
Bellows Life	50k Cycles
Cover	ABS, SUS, Mild Steel
Min. Flow Rate	8 L/min
Ingress Protection	IP45

IRON MAN Water Flow Detector



TECHNICAL DATA						
Part No	SWD-IM-050	SWD-IM-065	SWD-IM-080	SWD-IM-100	SWD-IM-150	SWD-IM-200
Size (mm)	50	65	80	100	150	200
Flow Sensitivity	4 – 10 GPM (15 – 38 LPM)					
Contact Rating	8A @ 250 VAC 3A @ 24 VDC 2.5A @ 30 VDC					
Working Pressure	450 psi					
Working Temperature	0°C to 68°C					



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SYSTEM SENSOR Water Flow Detector



TECHNICAL DATA						
Model No.	WFD20	WFD25	WFD30-2	WFD40	WFD60	WFD80
Part No.	SWD-050	SWD-065	SWD-080	SWD-100	SWD-150	SWD-200
Size	2"	2 1/2"	3"	4"	6"	8"
Static Pressure Rating	450 psi					
Operating Temperature	0° to 49°C					
Compatible Pipe	Steel water pipe, Sch 10 to 40					
Enclosure Rating	NEMA 4 - Suitable for indoor/outdoor use					

SYSTEM SENSOR Supervisory Switch



OSY2



PIBV2



TECHNICAL DATA	
Model No.	OSY2
Part No.	SWD-OSY
Description	Outside Screw and Yoke Valve Supervisory Switch
Overall Switch Dimension	146mm(H) x 89mm(W) x 82mm(D)
Bracket Span	57mm(H) x 171mm(W) x 25mm(D)
Operating Temperature Range	0° to 49°C
Enclosure Rating	NEMA 3R mounted with the actuator vertical

TECHNICAL DATA	
Part No.	PIBV2
Overall Switch Dimension	108mm(H) x 89mm(W) x 82mm(D)
Mounting	1/2" NPT Nipple
Operating Temperature Range	-40°C to 49°C
Enclosure Rating	NEMA 3R mounted with the actuator vertical

* It can be used for indoor and outdoor

SYSTEM SENSOR Alarm Pressure Switch



TECHNICAL DATA		
Model No.	EPS 10-1	EPS 10-2
Part No.	SWD-APS-10-1	SWD-APS-10-2
Maximum Operating Pressure	250 psi	
Maximum Adjustment Pressure	4-20 psi	
Factory Setting	Operates at rising pressure 4 to 8 psi	
Dimension	130mm(H) x 84mm(W) x 108mm(L)	
Operating Temperature Range	-40°C to 71°C	
Enclosure Rating	NEMA 4 for indoor and outdoor use	

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FIRE DETECTION & ALARM SYSTEM

SYSTEM SENSOR Photoelectric Smoke Detector



TECHNICAL DATA	
Part No.	FAU-P882(Detector), FAU-PB882(Base)
Model No.	882 (Detector) , B801RA(Base)
Operating Temperature Range	0-49°C
Operating Humidity Range	10% to 93% Relative Humidity
Latching Alarm	Reset by momentary power interruption
Operating Current	8.5-35 V DC
Standby Current	≤ 90μA
Alarm Current	Min-10mA Max-130mA
Diameter	102mm (4")
Height	50mm (2")

SYSTEM SENSOR Mechanical Heat Detector



TECHNICAL DATA	
Model No.	5601
Part No.	FAU-H5601
Maximum Installation Temperature	38°C
Operating Humidity Range	5% to 95% Relative Humidity
Dimension with Mounting Bracket	Ø116mm x 43mm (H)
Alarm Temperature	57°C
Weight	170g
Rate-of-Rise Threshold	8.3°C rise per minute
Operating Voltage/Contract	6-125 VAC/3A
Input Terminal	14-22 AWG

UNIQUE Call Point



TECHNICAL DATA	
Model No.	UNI-118
Part No.	FAE-MCP
Size	88mm(W) x 88mm(H) x 55mm(D)
Current Ratings	12/24 V DC 10A
	48V DC 3A
	250V AC 10A
Net/Gross Weight	0.15/0.18kg
Connection	Terminal – Max 2.5mm ² Cable
Material	ABS plastic with polycarbonate panel

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UNIQUE Single Station Smoke Detector



TECHNICAL DATA		
Model No.	QA22	
Part No.	FAE-SSQA22	
Indicator	Standby: Flash every 40 sec	
	Alarm: Flash and beep continuously	
	Battery Abnormal: Beeps and flash intermittently	
Sound	90dB	
Operating Temperature Range	-10°C to 55°C	
Operating Humidity Range	10% to 93% Relative Humidity	
Power	9V Battery	
Sensitivity Setting	Complies with EN 54	
Material	Fire- proof plastic	
Size	Ø105mm x 40mm (H)	
Weight	150g	
Colour	White	
Optional Function	Type 1: 9V Battery	
	Type 2: Includes signal transfer COM. N.O. N.C	
	Type 3: Built-in 100-240 V AC Plug	
	Type 4: Type 2 + Type 3	
EFFECTIVE ALERT AREA		
Building Height	Under 4m	4m to 20m
Area Covered	150m ²	75m ²

CE EN54

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**UNIQUE227
FIRE SUPPRESSION SYSTEM**

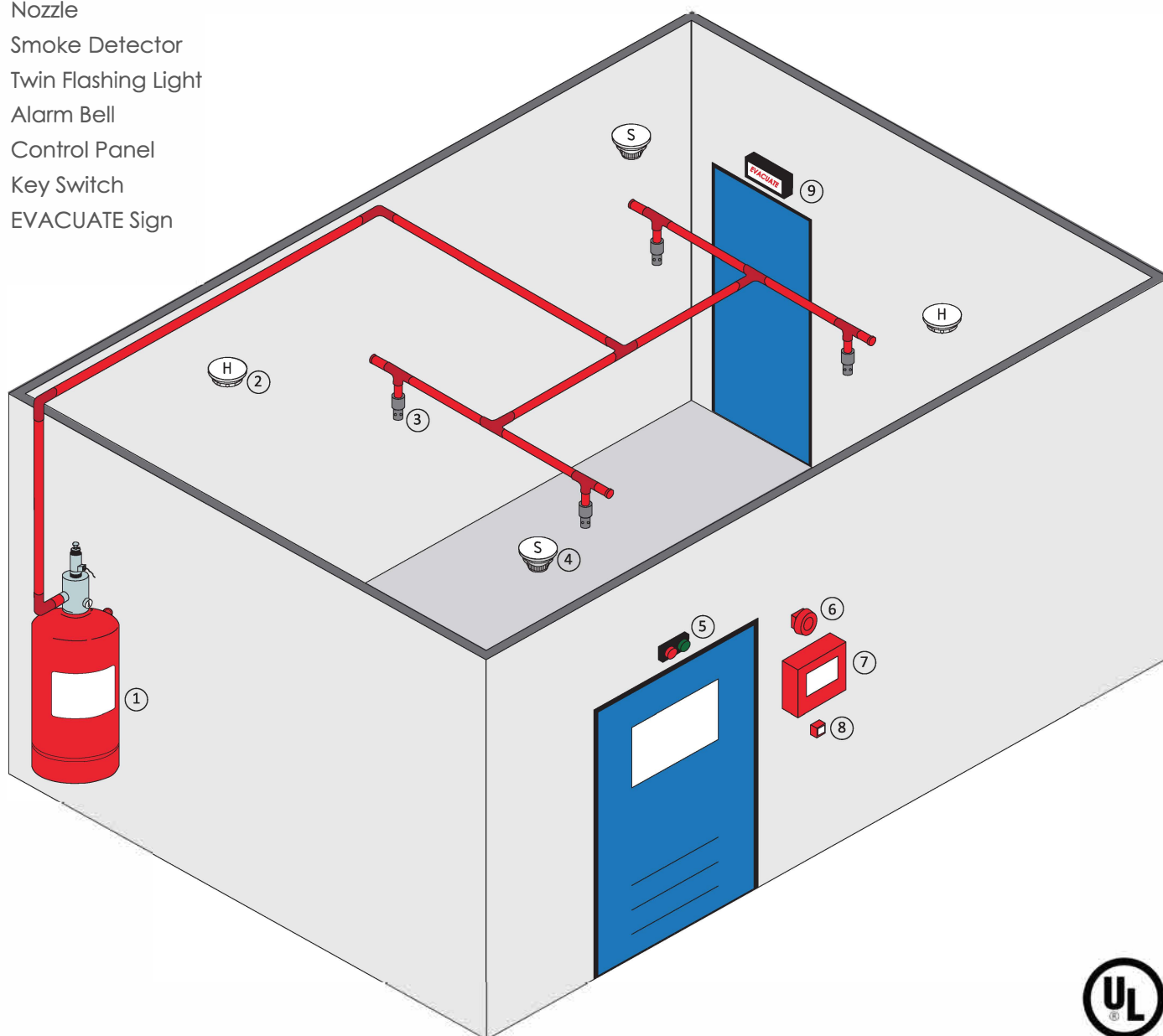
Unique227 Fire Suppression System are agency tested for total flooding applications and should be used in accordance with the guidelines contained in NFPA 2001. The design of such a system requires that the Unique227 chemical agent be discharged from its container within 10 seconds and be thoroughly mixed throughout the protected volume, reaching a minimum concentration level of 7%.

UNIQUE227 Fire Suppression System Features

- Safe for people
- Safe for environment
- Leaves no residue after discharge

UNIQUE227 System Typical Arrangement

1. Cylinder and Valve Assembly
2. Heat Detector
3. Nozzle
4. Smoke Detector
5. Twin Flashing Light
6. Alarm Bell
7. Control Panel
8. Key Switch
9. EVACUATE Sign



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DESCRIPTION

Unique 227 is a trademark of Unique's HFC-227ea, Heptafluoropropane. Unique 227 is an effective fire extinguishing agent that can be used on many types of fires ranging from sensitive electrical equipment to industrial applications using flammable liquids. Unique 227 is ideal for applications where clean-up of other medium presents a problem, where an electrically non-conductive medium is needed and where people compatibility is an overriding factor. When environmental impact becomes a consideration, Unique 227 is particularly useful. It has Zero ozone-depleting potential, low global warming potential and short atmospheric lifetime. These characteristics make it suitable not only for new installations using Unique's total flooding system, but also for Halon 1301 replacement applications. Unique 227 is an odorless, colorless liquefied compressed gas. It is stored as a liquid and dispensed into the hazard as a colorless, electrically non-conductive vapor that is clear and does not obscure physical vision. It leaves no residue and has acceptable toxicity for use in occupied spaces at design concentration. Unique 227 extinguishes a fire by a combination of chemical and physical mechanisms. Unique 227 does not displace and therefore is safe for use in occupied spaces without fear of oxygen deprivation.

TECHNICAL DATA	
PHYSICAL AND CHEMICAL CHARACTERISTICS	
Chemical Name	Heptafluoropropane (CF ₃ CHFCF ₃)
General	Colorless, Odorless Liquefied Gas
Molecular Weight	170.03
Boiling Point	-16.4°C/2.48°F
Freezing Point	-131°C/-203.8°F
Vapor Pressure@21°C/70°F	58.8 psia
Critical Temperature	101.7°C/215.1°F
Critical Pressure(psia)	422.3 psia
Vapor Density(AIR=1)	6.04
Water Reactive	No
Specific Gravity(H₂O=1)	1.46
Percent Volatile(by volume)	n/a
Evaporation Rate(Butyl acetate=1)	n/a
Viscosity@ 20°C/68°F	n/a
Water Solubility(V/V@20°C/68°F)	260mg/L
Ozone Depletion Potential	0
Estimated Atmospheric Lifetime(years)	31-42

Unique 227 fully complies with the standards of ASTM D6064 and NFPA 2001 and has achieved a minimum purity of 99.95 percent and less than 10 ppm of moisture. It has less than 1 ppm acidity as HF. The non-volatile residue is less than 0.05g/100ml.



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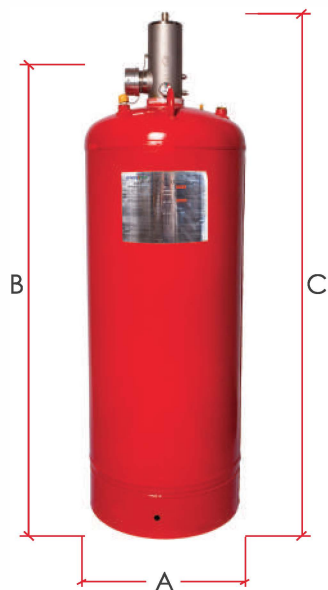
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Clean Agent Cylinders



TECHNICAL DATA							
Part No.	Cylinder Size	Valve Size	Dimension			Max Fill	Min Fill
			A	B	C		
UFI 90020-E*	20 lb	1"	10.750"	13.632"	18.633"	20 lb	9 lb
UFI 90035-E*	35 lb	1"	10.750"	18.677"	23.678"	35 lb	16 lb
UFI 90070-E*	70 lb	1"	10.750"	28.166"	33.167"	71 lb	31 lb
UFI 90100-F*	100 lb	1"	12.795"	26.709"	31.709"	100 lb	44 lb
UFI 90150-E*	150 lb	1-1/2"	12.795"	37.343"	43.172"	152 lb	66 lb
UFI 90250-E*	250 lb	1-1/2"	16.000"	40.099"	45.928"	253 lb	109 lb
UFI 90375-E*	375 lb	2-1/2"	16.000"	57.248"	65.351"	379 lb	163 lb
UFI 90560-E*	560 lb	2-1/2"	20.000"	55.516"	63.619"	561 lb	241 lb
UFI 90650-E*	650 lb	2-1/2"	20.000"	63.335"	71.438"	665 lb	285 lb

Note: * add "-SS" when using Stainless Steel Valve



TECHNICAL DATA							
Part No.	Cylinder Size	Valve Size	Dimension			Max Fill	Min Fill
			A	B	C		
UFI 90800-E	800 lb	4"	30.000"	46.680"	57.254"	840 lb	360 lb
UFI 90800-F	800 lb	3"	30.000"	46.680"	53.710"	840 lb	360 lb
UFI 91000-E	1000 lb	4"	30.000"	54.767"	64.617"	1038 lb	445 lb
UFI 91000-F	1000 lb	3"	30.000"	54.570"	61.600"	1038 lb	445 lb
UFI 91200-E	1200 lb	4"	30.000"	62.135"	71.985"	1211 lb	519 lb

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Clean Agent Bracket



TECHNICAL DATA			
Part No.	Description	Cylinder O.D	Mounting
UFI 50139	20, 35 & 70 lb Cylinder Bracket	10.75"	Wall
UFI 60780	100 & 150 lb Cylinder Bracket	12.80"	Wall
UFI 60760	250 & 375 lb Cylinder Bracket	16.00"	Wall
UFI 60770	560 & 650 lb Cylinder Bracket	20.00"	Wall
UFI 60790	800, 1000 & 1200 lb Cylinder Bracket	30.00"	Wall
UFI 60792	800, 1000 & 1200 lb Cylinder Bracket	30.00"	Floor

Discharge Nozzle



TECHNICAL DATA			
Part No.	Description	Part No.	Description
UFI 60704-2	½" (180°) Sidewall	UFI 60707-2	1 ¼" (180°) Sidewall
UFI 60704-3	½" (360°) Central	UFI 60707-3	1 ¼" (360°) Central
UFI 60705-2	¾" (180°) Sidewall	UFI 60708-2	1 ½" (180°) Sidewall
UFI 60705-3	¾" (360°) Central	UFI 60708-3	1 ½" (360°) Central
UFI 60706-2	1" (180°) Sidewall	UFI 60709-2	2" (180°) Sidewall
UFI 60706-3	1" (360°) Central	UFI 60709-3	2" (360°) Central

Note: Aluminum Material: UFI 6070*; Brass Material: UFI 7070*; SS Material: UFI 8070*;

Local Manual Control (Plunger Type)



P/N: UFI 61033 2

The Local Manual Control Plunger Type features a local lever driven push rod that depresses a schrader check valve through the latching solenoid when fitted onto the top of the solenoid, thereby venting the pressure from the top of the piston in the cylinder valve, allowing the piston to slide upward and commence cylinder discharge.

- Use for manual actuation of cylinder
- Equipped with safety pull pin to prevent accidental discharge
- Solid brass construction
- Stainless steel operation lock-pin

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Latching Solenoid

DESCRIPTION

Latching Solenoid is utilized to open a Schrader valve on the top fitting connector of the cylinder valve. The application gives an answer to a quick reaction and a high latching power to be utilized with the UNIQUE Fire Extinguishing Liquid Agent. It was resolved that a latching solenoid with a discretionary nearby manual control head is the best answer for the application.

The actuator is held in the latching position without power until a flag from the operator discharge control board removes the permanent magnet. Whenever discharge, the latching solenoid opens the cylinder valve enabling the quenching medium to release from the cylinder into the system. The latching solenoid is designed with an emergency release local manual control to manually force the pin to depress the cylinder valve to release the extinguishing medium when needed. In order to reset the system, the solenoid is to be manually returned to the latched position. This custom latching solenoid designed specifically for fire protection systems is UL listed and tested in accordance with UL508.

FEATURES

- High latching forces
- Fast response
- Options
 - Manual release button cap
 - Reset tool
- UL approval-recognized to UL864
- Tested in accordance with UL508

SPECIFICATION

- Manual actuation force : 12-40lbf (5.44-18kgf) max
- Operating force : 20.25-14.6lbf (90-65 N) min
- Power requirement : 24 VDC
- Current : 0.5A @ 24 VDC
- Electrical Connection : DIN 43 650-A/ISO 440 3 pin
- Operating Temperature Range : -4 to 131°F (-20 to 55°C)
- Weight : 1.9lbs (.86 kg)
- Dimensions
 - Body Diameter : 1.61 in (41 mm)
 - Length : 4.17 or 5.9 in (106 or 150 mm) with manual actuation cap



P/N: UFI 50026-A

Part Number	Description	Electrical Rating
UFI 50026-A	Latching Solenoid	24 VDC



Context Plus EP203/CON



Part No. : UFI227-ARCP

POWER SUPPLY SPECIFICATION	
Main supply voltage	230 Vac , 50/60 Hz
Internal power supply	24 Vdc nominal
Max. output current	3A @ 230 Vac
Power rating (including charging)	1.5A cont, 3A peak
DETECTOR CIRCUIT SPECIFICATION	
Number of conventional circuits	3 @ 21-28 Vdc
Max. no. of smoke/heat detectors per circuit	20
Max. combined no. of detectors & manual call points per circuit	32
SOUNDER CIRCUIT SPECIFICATION	
Number of conventional circuits	3 (two x 1st stage, one x 2nd stage)
Max. number of polarised sounder per circuit	10 @ 20mA each
DIMENSION	
Front Cover	467mm(W) x 293mm(H) x 100mm(D)
Back Cover	439mm(W) x 276mm(H) x 70mm(D)



Quality System Certificate No: 176
Assessed to ISO9001 : 2008



LPCB Ref. 176a
to BS EN 54 pts 2 & 4

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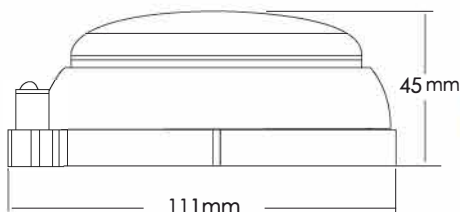


AH-0626 Heat Detector



TECHNICAL DATA			
Model	AH-0626-2	AH-0626-3	AH-0626-4
Alarm Contact	N/A	N/A	0.8A @30V DC 0.4A @ 125V AC
Voltage Range	12 ~ 30V DC		
Alarm Current @ 24V DC 470Ω	40mA	40mA	45mA
Standby Current	20 ~ 90μA		
Thermal Setting	60°C		
Ambient Temperature	0°C ~ +37.8°C		
Material	Fire-proof plastic		
Dimensions	102mm (Dia.) x 46mm(H)		
Weight	120g	120g	130g
Color	White		
ORDER INFORMATION			
AH-0626-2	2-wire		
AH-0626-3	3-wire with remote indicator input		
AH-0626-4	4-wire with relay output		
EFFECTIVE ALERT AREA			
Construction/ Height	Under 4M		4M~ 8M
Fire-proof Building	90m ²		45m ²
Ordinary Building	50m ²		30m ²

UNIQUE AH-0333 Heat Detector



TECHNICAL DATA		
Model No.	AH0333	
Part No.	FAE-H0333	
Description	2 Wire	
Alarm Current @ 24V DC 470 Ω	40mA	
Operating Temperature Range	0°C to 55°C	
Operating Humidity Range	10% to 93% Relative Humidity	
Voltage Range	12V-30V DC	
Standby Current	25 - 75 μA	
Sensitivity Setting	Complies with UL 521	
Material	Fire- proof plastic	
Size	Ø111mm x 45mm (H)	
Weight	137g	
Colour	White	
EFFECTIVE ALERT AREA		
Building Height	Fire Proof Building	Ordinary Building
Under 4m	90m ²	50m ²
4m to 8m	45m ²	30m ²

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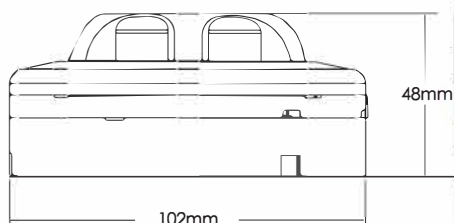
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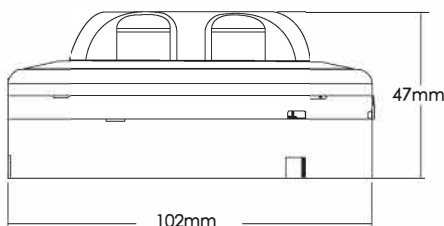


AH-0621 Photoelectric Smoke Detector



TECHNICAL DATA			
Part No.	F AE-P0621	F AE-P0621-3	F AE-P0621-4
Model No.	AH-0621-2	AH-0621-3	AH-0621-4
Alarm Contact	N/A	N/A	0.8A @30V DC 0.4A @ 125V AC
Voltage Range	12 ~ 30V DC		
Alarm Current @ 24V DC 470Ω	40mA	40mA	45mA
Standby Current	140μA		
Sensitivity Setting	Comply to UL 268		
Ambient Temperature	0°C ~ +37.8°C		
Material	Fire-proof plastic		
Dimensions	102mm (Dia.) x 48mm(H)		
Weight	130g	130g	145g
Color	White		
ORDER INFORMATION			
AH-0621-2	2 -wire		
AH-0621-3	3-wire with remote indicator input		
AH-0621-4	4-wire with relay output		
EFFECTIVE ALERT AREA			
Building Height	Under 4m	4m to 20m	
Area Covered	150m ²	75m ²	

UNIQUE AH-0711 Photoelectric Smoke Detector



TECHNICAL DATA	
Model No.	AH-0711
Part No.	FAE-P0711
Description	2 Wire
Alarm Current @ 24V DC 470 Ω	40mA
Operating Temperature Range	-10°C to 55°C
Operating Humidity Range	10% to 93% Relative Humidity
Voltage Range	12V-30V DC
Standby Current	25 - 75 μA
Sensitivity Setting	Complies with UL 268
Material	Fire- proof plastic
Size	Ø102mm x 47mm (H)
Weight	130g
Colour	White
EFFECTIVE ALERT AREA	
Building Height	Under 4m 4m to 20m
Area Covered	150m ² 75m ²

DEMCO Dome Bell



TECHNICAL DATA				
Model	Size	Part No.	Decibel Rating @ 3M (10ft)	Gross Weight
D-122-6	6"	FAD-6DB-UL	95dB	700g
AVAILABLE MODEL				
Model	Size	Type	Voltage	
D-122-6	6"	Motorize	24V DC	
CURRENT CONSUMPTION				
Operating Current		0.05 A		

UNIQUE Fire Alarm Bell



TECHNICAL DATA				
Model No.		UNI-102		
Part No.		FAE-6AB		
Supply Voltage		110/ 240V (AC)		
		12/24V (DC)		
Sound Output		92 - 105 dB		
Current Consumption		0.05 A		
Size		150mm(6")		
Finishing		Red		
DECIBEL SPECIFICATION				
AC Type		Decibel Rating @ 1m (3 ft)		
Voltage	Amps	100mm(4")	150mm (6")	200mm (8")
110	0.0097	92dB	95dB	97dB
240	0.0033	98dB	105dB	106dB
DC Type		Decibel Rating @ 1m (3 ft)		
12	0.008	95dB	99dB	100dB
24	0.005	96dB	103dB	105dB

GP Sealed Lead Acid Battery



TECHNICAL DATA			
Part No.	GPP1272	GPP12120	GPP12170
Model No.	BAT-007AH-GP	BAT-012AH-GP	BAT-017AH-GP
Nominal Voltage (V)	12	12	12
Capacity (AH)	7.2	12.0	17.0
Length (mm)	151	151	181
Width (mm)	65	98	77
Height (mm)	94	95	167
Total Height (mm)	100	101	167
Weight (kg)	2.35	3.70	5.50

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UNIQUE Twin Flashing Lights



TECHNICAL DATA	
Model No.	UNI-104 WP/L
Part No.	FAE-FLO-LED
Lens	High efficient prismatic polycarbonate lens optimized for omnidirectional viewing.
Luminary	Filament Bulb/Ultra Bright LED
Size	210mm(W) x 77mm(D) x 108mm(H)
Material (Casing & Hood)	Mild Steel
Finishing	Black casing with green and red lens
Operating Current	0.02A

Evacuate Sign



TECHNICAL DATA	
Model No.	UNI-110L
Part No.	FAE-ES
Dimension	260 mm (L) x 110 mm (H) x 80 mm (D)
Lens Colour	Red
Casing Colour	Black
Lens Material	Polycarbonate
Casing Material	Mild Steel
Operating Voltage	24V DC
Operating Current	0.03A

UNIQUE Manual Key Switch



TECHNICAL DATA	
Model No.	UNI-105
Part No.	FAE-KS
Size	105mm (W) x 100mm(D) x 105mm (H)
Material	Mild Steel
Weight	0.76kg
Colour	Signal Red

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Power Line Surge Protector



TECHNICAL DATA	
Model No.	240-5APKD10
Part No.	UFI227SP_S.FILTER
Location Category	Indoor, Boundary LPZ1 – LPZ2
Standard Compliance	IEC 61643-1 Class III, AS / NZS 1768, IEEE C62.41, IEC 6-1000-4-5, UL1449 3rd Edition
Number Of Ports	1
Method Of Mounting	Fixed (DIN 35mm Railway)
Maximum Continuous Operating Voltage (Uc)	300V
Nominal Continuous Operating Voltage (Un)	240V
Maximum Discharge Current (Imax)(8/20µs)	10kA
Nominal Discharge Current (In)(8/20µs)	3kA
Rated load current (Il)	5A
Protection Level (Up)	<600V
Mode of protection	L-L, L-E, L-N & N-E
IP Code	IP20
Dimensions	92mmx17mmx62mm
Working environments	Temperature -40°C to +70°C, Relative Humidity ≤ 95%
Cable size	0.75 – 2.5mm ²



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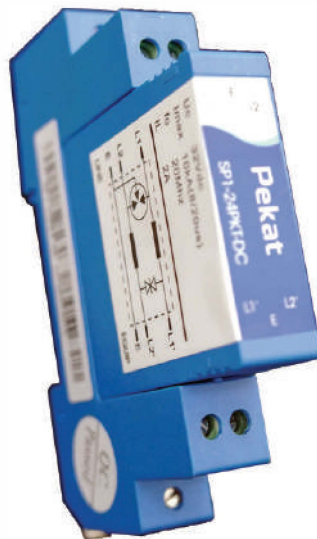
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Signal Line Surge Protector



TECHNICAL DATA	
Model No.	SP1-24PKT-DC
Part No.	UFI227SP_S.LINE
Standard Compliance	5kV (10/700 μ s) to International Telecommunication Union (ITU-T K.20, K.21 and K.45)
Maximum Operating Voltage, U_c	32Vdc
Nominal Voltage, U_n	42Vdc
Maximum discharge current, I_{max} (8/20 μ s)	10kA
Nominal discharge current, I_n (8/20 μ s)	5kA
Load Current, I_L	2A
Voltage protection level, U_p (10/700 μ s, 5kV)	<48Vdc
In-line resistance (per line \pm 10%)	<1.0 Ω
Response time, t_A	\leq 1ns
Frequency (at -3dB)	20MHz
Insertion loss	\leq 0.5dB
Protection Mode	Line-Line and Line-PE
Method of mounting	DIN 35mm railway
IP code	IP20
Dimensions	90mm x 65mm x 13mm :Pluggable
Working environments	Temperature -20°C - +80°C, Relative humidity \leq 95%

*Applicable for Unique 227 Fire Suppression System



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Unique227 Filling and Nozzle Drilling Stations

Unique227 filling and nozzle drilling processes are in accordance with UL's requirements, including the Follow-Up Service Procedure. Having passed the Initial Production Inspection (IPI) by a UL representative, we are authorized for shipment bearing the UL Mark.

Our clients can be assured that only Unique227 (trademark of Unique's HFC-227ea) will be used in our UL-approved fire suppression systems. Only original parts will be assembled for the UL tested performance under normal conditions and in the event of fire.

Our UL-certified filling and nozzle drilling stations also allow us to replace discharged cylinders in a much more efficient manner, and ensure that the full discharge of system within 10 seconds can be achieved, with precise nozzle drilling and checking methods practiced.

Follow-up Service Inspection Report EX15295111/0531121952			
			
INSPECTION DETAILS			
Name	1001101-10	Ref Number	EX 152952
Responsible Officer	Michael	Volume	11
Inspection Center	UL	Code	0000
Product Type	UL Approved Engineering	UL Reg Name	UL Reg No
Deliverable Type	UL Reg No	UL Reg No	UL Reg No
Party Site Number	1001101-10	Subcontract Factory No	1001101-10
Manufacturer Name	Unique Fire Industry Sdn Bhd	Factory Reg Name	UL Reg No
Manufacturer Address	Lot 119, Jalan Industri 6, Kawasan Perindustrian Jerantut, 27000 Jerantut, Pahang Darul Makmur, Malaysia	Factory Reg No	UL Reg No
Name of site	Initial Production Inspection	Sample Status	Sample Not Required
UL Mark Used	Yes	UL Mark Number	Yes
UL Mark Number	1001101-10	UL Mark Number	1001101-10
Comments After Submission			
PRODUCT DOCUMENTATION READY VISA			
Model	Product	Section	Multiple Listed
1001101-10	Engineered Engineering	UL Reg	UL Reg
1001101-10	System Unit	UL Reg	UL Reg
SAMPLE DOCUMENTS			
A sample is required to be sent to UL Laboratory, details below. If no sample is sent, explain in the comments area.			
No Sample			
Additional Comments			
<small>In addition to the requirements specified in the applicable UL Device Agreement and Private-Use Device Procedure, UL further defines responsibilities, duties and requirements for sub-manufacturers and UL representatives. In the document that UL Mark Compliance representatives may also be issued in accordance with the appropriate terms and conditions of the document at www.ul.com/ulmark. Sub-manufacturers and UL representatives may obtain the sub-manufacturers or UL representatives from their local UL customer service representatives or UL field representatives.</small>			
<small>UL Logo UL Product Mark, Trademark & Registered USA UL is a registered trademark of UL LLC</small>			



UL - Certified Nozzle Drilling Station



UL - Certified Filling Station

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Room Integrity Test

Enclosure Integrity Test

Now, the NFPA 2001, NFPA 12A, ISO 14520 and EN 15004 recognize an enclosure integrity test as part of the acceptance procedure for all clean agent systems. This includes halocarbon and inert agents. The comprehensive test and calculation procedure predicts how long the agent would stay in the room if it were ever discharged.

The Enclosure Integrity Test's primary goal is to predict the enclosure's retention time in the event that the Clean Agent Fire Suppression System is discharged. This is accomplished by performing a Door-Fan test.



What is a Door Fan Test ?

Door Fan Test, also known as a Room Integrity Fan Test, is simply a way to measure the leakage of a protected room. A large fan is temporarily installed in the doorway of the protected room to be tested, with the fan blowing into the room (pressurizing the room). The fan speed is adjusted to obtain flow pressure equivalent to the pressure exerted during a fire suppression system discharge. The fan is then reversed on the door to draw air from the room (depressurizing the room). The airflow and pressure readings obtained are entered into a computer program designed to calculate the equivalent leakage area (ELA) for the room. Then, the software will calculate the retention time and determine whether it exceeds the minimum retention time of 10 minutes.

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Liquid Level Indicator

DESCRIPTION

The liquid level indicator is a simple, manually operated device, which provides a means to determine the Clean Agent liquid level in vertically mounted agent storage containers. Once the liquid level is determined, it can then be converted into the weight of Clean Agent present in the agent storage container.

OPERATION

A magnet equipped float moves with the liquid level along the unit stem. Level readout is obtained by simply removing the protective cap and pulling out a calibrated tape until magnetic interlock with the float is felt. With the tape in this position, the reading is obtained at the point where the tape emerges from the unit housing.

When the liquid level is determined, the reading is then referred to a chart in the Engineering Manual and the corresponding weight of Clean Agent is determined. Accurate readings can be obtained over a +40°F to +90°F temperature range.

FEATURES

- Reduced maintenance time – weight in an agent storage container can be determined in a fraction of the time it would take to remove and weigh them.
- Continuous fire protection – use of the liquid level indicator does not require taking out the cylinder from the system, thus providing uninterrupted fire protection.
- Field installation capability – the indicator can easily be installed in the field using a single wrench as long as the container is empty and is equipped with a mounting boss.
- Compact – when not in use, the unit requires no more space than that required by the container.
- Flexibility – the flexible tape design allows the unit to be used in tight spaces that would otherwise hinder the use of a rigid type indicator “stick”.
- Availability – units are available for all Unique containers from sizes of



Part Number	Description
UFI 60020	Liquid Level Indicator for 150 LB & 250 LB cylinders
UFI 60020-1	Liquid Level Indicator for 375 LB & 560 LB cylinders
UFI 60020-5	Liquid Level Indicator for 650 LB cylinders
UFI 60020-4	Liquid Level Indicator for 800 LB cylinders
UFI 60020-3	Liquid Level Indicator for 1000 LB cylinders
UFI 60020-2	Liquid Level Indicator for 1200 LB cylinders

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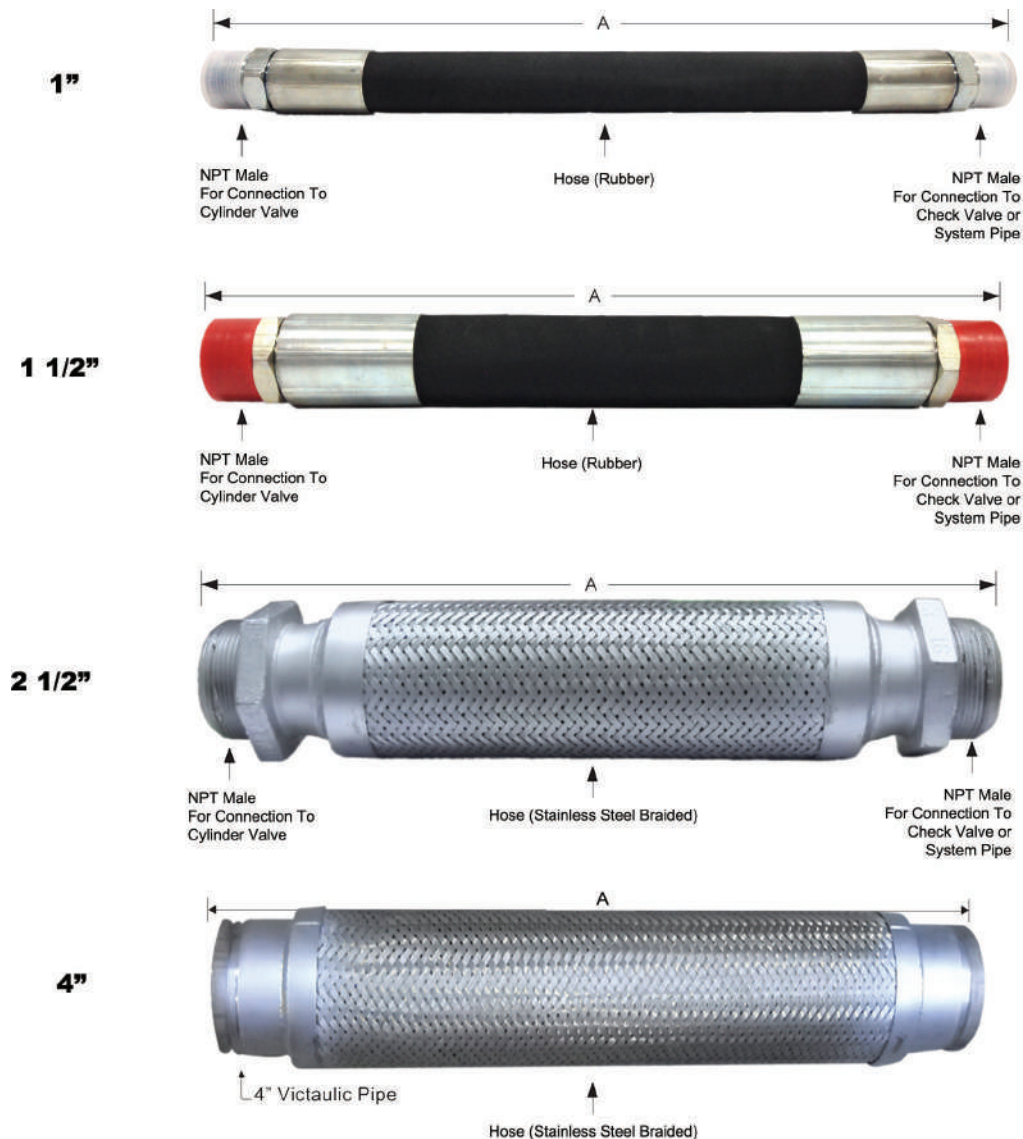
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Flexible Hoses



TECHNICAL DATA			
Part No.	Diameter	A	Material
UFI 60255	1"	18"	Rubber
UFI 60256	1-1/2"	18"	Rubber
UFI 60257	2-1/2"	18"	Stainless Steel Braided
UFI 91230	4"	18"	Stainless Steel Braided



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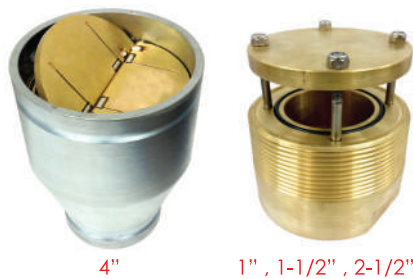


Pressure Supervisory Switch



TECHNICAL DATA		
Part No.	Description	Operation
UFI 50138-1	360psi	Normally Closed
UFI 50138-2	360psi	Normally Open

Check Valve



TECHNICAL DATA		
Part No.	Description	Valve Size
UFI 60261	Check Valve	1"
UFI 60262	Check Valve	1-1/2"
UFI 60263	Check Valve	2-1/2"
UFI 91231-2	Check Valve Assembly	4"

Piston Actuator Assembly



P/N: UFI 61041

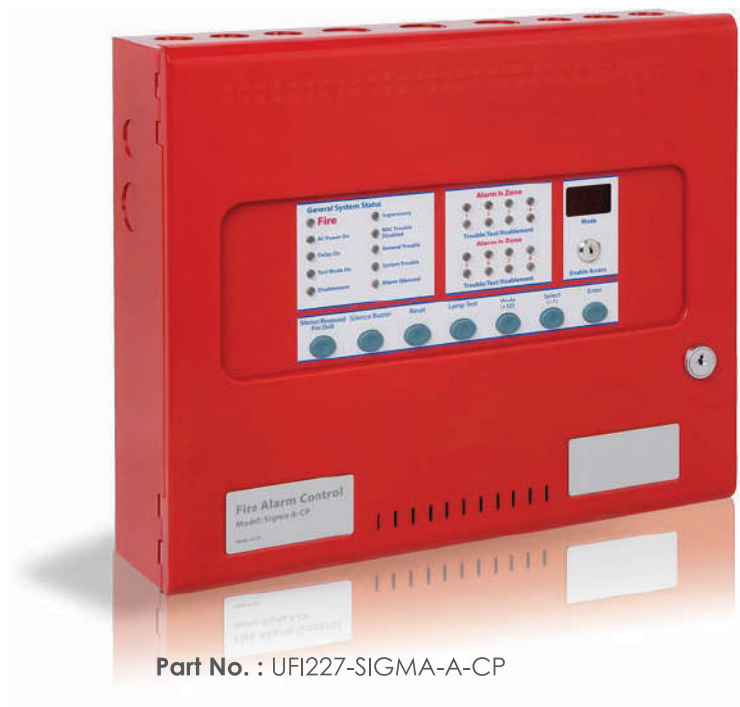


- High quality brass construction
- Mounts directly on top of cylinder valves
- Self-venting

The Piston Actuator features a pneumatically driven piston that depresses a Schrader check valve, thereby venting the pressure from the top of the piston in the cylinder valve, allowing the piston to slide upward and commence cylinder discharge. The pneumatic pressure required to operate the Piston Actuator is obtained from the "M" port of a cylinder, which is designated as "Master" cylinder that is either mechanically and/or electrically actuated. Multiple cylinders equipped with Piston Actuators can be activated from one master cylinder using 1/4" copper tubing or 1/4" metal flex hose. The Piston Actuator mounts directly to a top plug adapter, which is located on top of the cylinder valve.

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Kentec Sigma A-CP Conventional Fire Alarm Panel



TECHNICAL DATA	
Model No.	K1842-11
Construction	1.2mm mild sheet steel
IP Rating	IP30
Finish	Epoxy powder coated
Colour - lid & box	Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
Supply Voltage	115V AC or 230V AC
Mains Supply Fuse	3 Amp 250V 20mm SB
Power Supply DC Rating	24V 6.5 Amps
Maximum Battery Size	12Ah 12V (2 per panel)
Trouble Contact Rating	30V DC 1 Amp
Supervisory Contact Rating	30V DC 1 Amp
Fire Contact Rating	30V DC 1 Amp
NAC Rating	2A per circuit 4A Total
Detection Zone Current	1.6 milliamps
Detection Zone EOL Resistor	6k8 5%
NAC EOL resistor	10k 5%
Cable Capacity	12 AWG
Operating Temperature	-5°C to 50°C
Operating humidity	<95% (non condensing)



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Kentec Sigma A-XT Extinguishant Control Panel



TECHNICAL DATA	
Model No.	K1810-13
Construction	1.2mm mild sheet steel
IP Rating	IP30
Finish	Epoxy powder coated
Colour - lid & box	Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
Mains Supply	230V AC or 115V AC
Mains Supply Fuse	1.6 Amp (F1.6A L250V)
Power Supply Rating	3 Amps total including battery charge 28V +/- 2V
Maximum Ripple Current	200 millivolts
Battery Type (Yuasa NP)	Two 12 Volt 7Ah sealed lead acid in series
Battery Charge Voltage	27.6VDC nominal (temperature compensated)
Battery Charge Current	0.7A maximum
Battery Fuse	20mm, 3.15A glass
Maximum Current Draw from Batteries	3 Amps
Quiescent Current of Panel In Mains Fail	0.095A
R0V Output	Fused at 500mA with electronic fuse
Sounder Outputs	24V Fused at 500mA with electronic fuse
Fault Relay Contact Rating	30VDC 1A Amp maximum
Fire Relay Contact Rating	30VDC 1A Amp maximum
Local Fire Relay Contact Rating	30VDC 1A Amp maximum
First Stage Contact Rating	30VDC 1A Amp maximum
Second Stage Contact Rating	30VDC 1A Amp maximum
Extract Contact Rating	30VDC 1A Amp maximum
Zone Quiescent Current	2mA maximum
Terminal Capacity	12 AWG
Number of Detectors Per Zone	Dependent on type (maximum 32)



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Electronic Sounder Series 65B

Description

DEMCO Electronic Sounder/Beacon D-155's compact design is acoustically very efficient, capable of generating high sound output (103 dBA) at low current levels (13mA at 24V DC). It also has a wide angle uniform sound distribution providing good audibility in all directions, thus making it ideal for fire, security and hazard warning. This conventional wall mount device is available in 4 tone versions with locally controllable output levels to enable the sound intensity to be adjusted to suit the application.

D-155 operates over a wide input voltage range of 8 to 35V DC, and is optimised for use at 12V and 24V systems. If required, the use of a third wire enables a second stage alarm to be switched to override the selected tone. These versatile features allow the model to work seamlessly with most detection systems incorporating central control equipment.

Combining performance and functionality, DEMCO D-155 is designed to fully comply with EN 54 and meet protection rating of IP65.



Part No.: FAD-FBS-4T-D155

TECHNICAL DATA

D-155 (Sounder / Beacon)

	Lowest	Highest
Output @ 1 metre 24VDC	68dB	95dB
Current @ 24VDC	13mA	22mA
Voltage Range	8 to 35VDC	
Operating Frequency	800Hz to 1000Hz	
Numbers of Tones	4	
Volume Control	Adjustment Screw	
Operating Temperatures	-20°C to +70°C	
Size (H x W x H)	107 x 95 x 99 mm	
Protection Classification	IP 65	
Approximate Weight	182g	

Demco Advantages

- Automatic sounder synchronization.
- High sound output, low current consumption.
- 4 On-board selectable tones.
- Adjustable volume control screw.
- ABS plastic body with polycarbonate Fresnel lens.
- High reliability and stable performance.
- High brightness LED.
- Fully EN54 compliance.
- Excellent value/price ratio.

EN54



**CARBON DIOXIDE
FIRE EXTINGUISHING SYSTEM**



A. Liquefied Carbon Dioxide (CO₂)

CO₂ is an odourless, colourless, and incombustible gas present in the atmosphere. Not only is this gas non-corrosive in nature, it is also non-conductive and will not cause any form of electrical damage.

CO₂ extinguishes fire mainly by reducing the concentration of oxygen and /or the gaseous phase of fuel in the air, to the point where combustion stops.

This makes it ideal for use in the protection of:-

- Gaseous and liquid flammable materials
- Electrical Hazards
- Engines using gasoline and other flammable fuels
- Ordinary combustibles
- Hazardous solids

However, CO₂ will not extinguish fires when the following materials are actively

involved in the combustion process:-

- Chemicals containing their own supply of oxygen
- Reactive metals
- Metal hydrides

B. CO₂ Cylinder Modules

Our CO₂ cylinders can be connected to a manifold via a non-return valve. This enables the removal of cylinders individually, without compromising on the general protection of the system.

The cylinders can generally be grouped in rows, in any combinations desired. However, a single or double row arrangement would be recommended for economical space utilisation.

The cylinders are tested to 225 bars and conform to DOT-3AA & BS 5045 PART 1, NFPA 12.

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C. Solenoid Operated Pilot Cylinder

The pilot cylinder provides nitrogen gas at the pressure of 550 psi, and based on the pressure calculation it can operate the pneumatic actuation of up to 210 units of cylinder within a system.

The solenoid valve opens upon the supply of 24VDC, allowing gas to flow from the cylinder onto the manual / pneumatic actuator fitted to the pilot valve. The pilot valve then opens, releasing gas onto the CO2 pneumatic valve. The pilot cylinder may also be operated manually, either locally at the pilot cylinder or remotely by pull cable and pull box.

NOTE:

1. The pilot cylinder would have to be recharged should the pressure falls below 400 psi, or the required pressure.
2. The solenoid pilot cylinder would have to be installed away from the 45kg CO2 cylinder(s).



D. Release Unit

The release and subsequent discharge of the CO2 gas can be effected either manually and / or automatically.

Manual Actuation

The manual release actuation is effected by just pulling the release handle at the cylinder valve.

Automatic Actuation

Detectors responding to a fire condition transmit a signal to the detection panel, which then activates the release mechanism.

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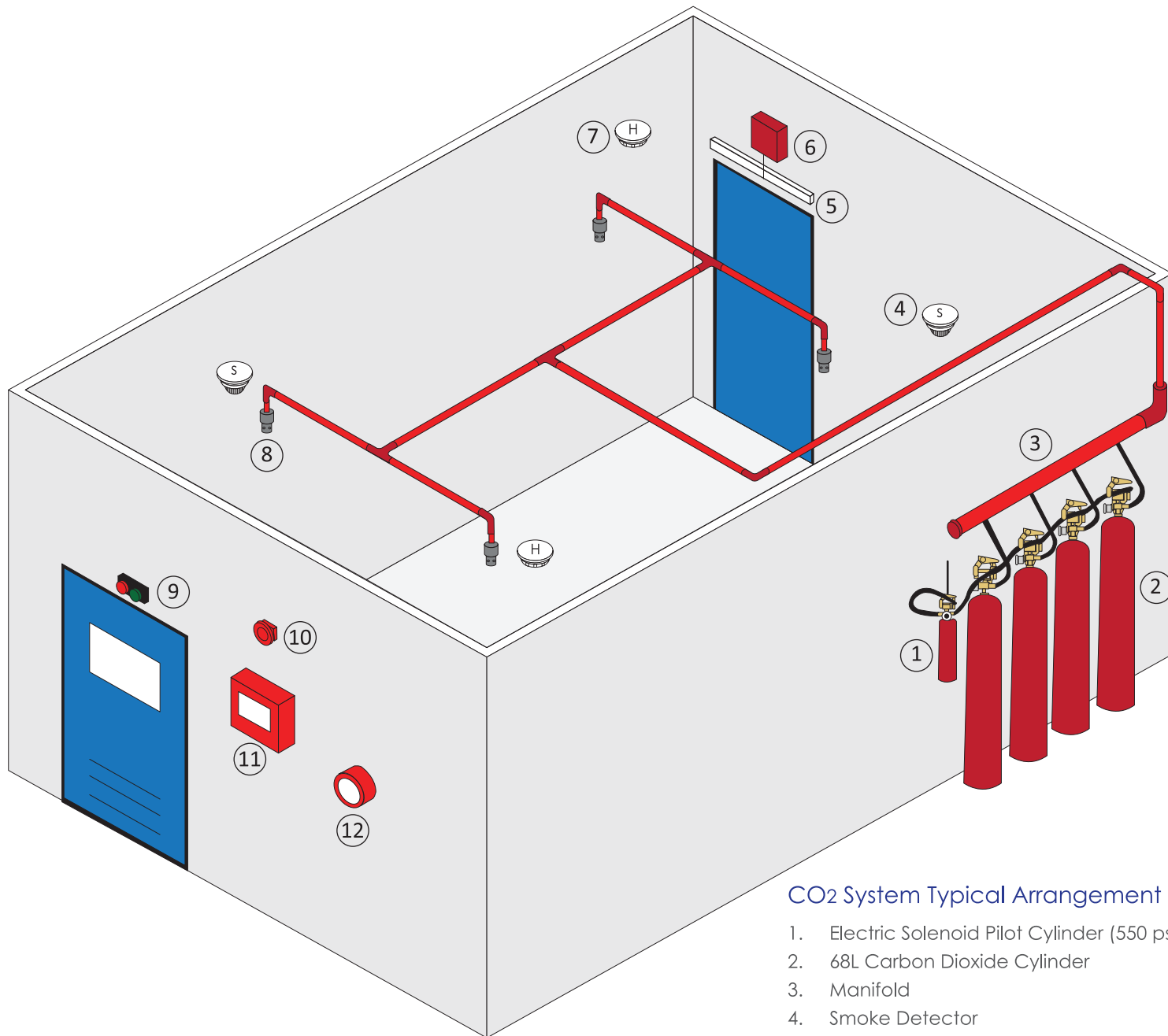


CO₂ System Features

- Leaves no residue after discharge
- Eco-friendly agent
- Non-damaging to property
- Effective on a wide range of flammable and combustible materials.

System Applications

- Electrical Room
- Generator Room
- Switch Room



CO₂ System Typical Arrangement

1. Electric Solenoid Pilot Cylinder (550 psi)
2. 68L Carbon Dioxide Cylinder
3. Manifold
4. Smoke Detector
5. Smoke Curtain
6. 24V DC Tripping Device
7. Heat Detector
8. CO₂ Discharge Nozzle
9. Twin Flashing Light
10. Fire Alarm Bell
11. CO₂ Control Panel
12. Manual Pull Station

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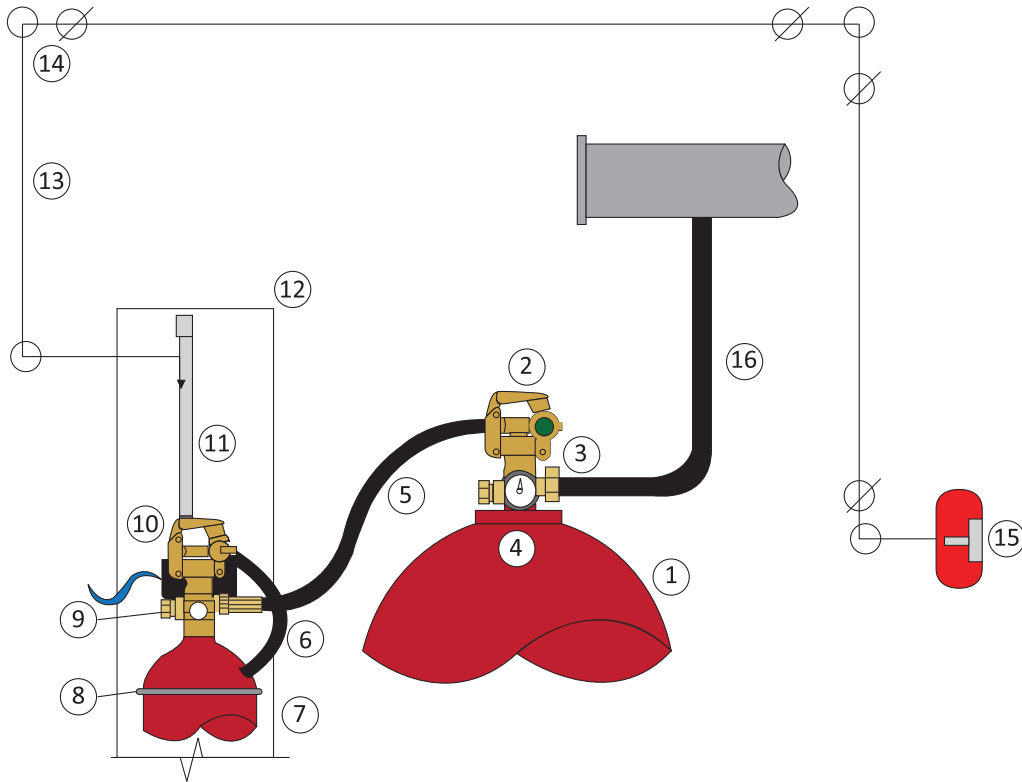
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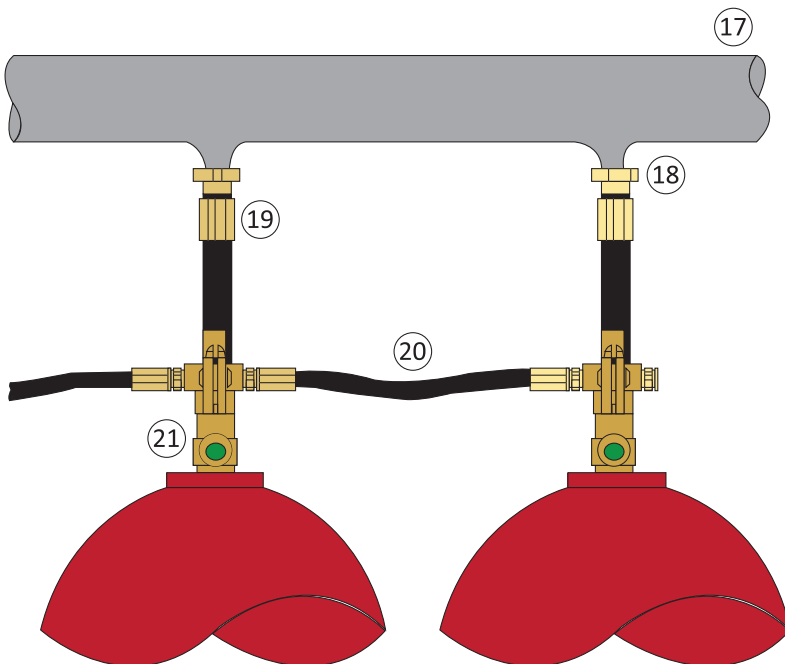
CARBON DIOXIDE FIRE EXTINGUISHING SYSTEM



Pilot Cylinder Arrangement



Pilot & Cylinder Arrangement



1. 68L CO₂ Cylinder c/w 45kg CO₂ gas
2. Ø20mm Pneumatic Operated Cylinder Valve
3. Ø20mm Outlet Valve
4. Pressure Gauge
5. Ø6mm x 600mm (L) Flexible Hose
6. Ø6mm x 300mm (L) Flexible Hose
7. Pilot Cylinder
8. Ø6mm Galvanised U-Bolt
9. Ø6mm Plug
10. Solenoid Valve
11. Manual Pull Handle
12. Pilot Cylinder Mounting Bracket
13. Ø1.5mm Stainless Steel Cable in G.I Conduit
14. Corner Pulley
15. Manual Pull Handle
16. Ø15mm x 430mm (L) Discharge Hose
17. Cylinder Manifold
18. Ø20mm NPT Manifold Socket
19. Ø20mm Non Return Valve
20. Ø6mm x 345mm (L) Connecting Hose
21. Ø11mm x 7mm x 0.5mm Copper Washer

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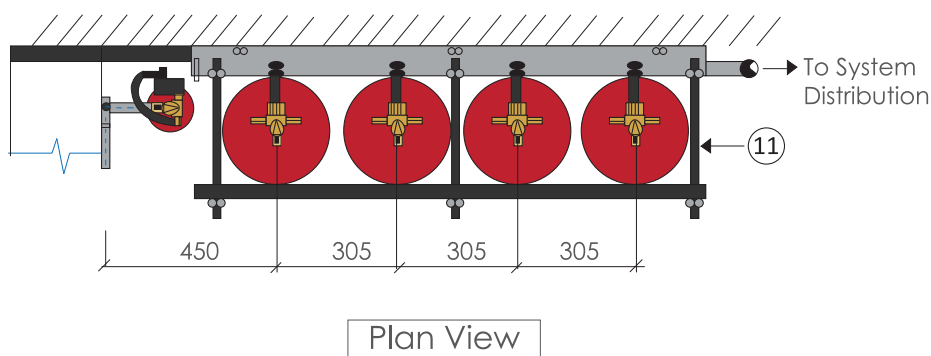
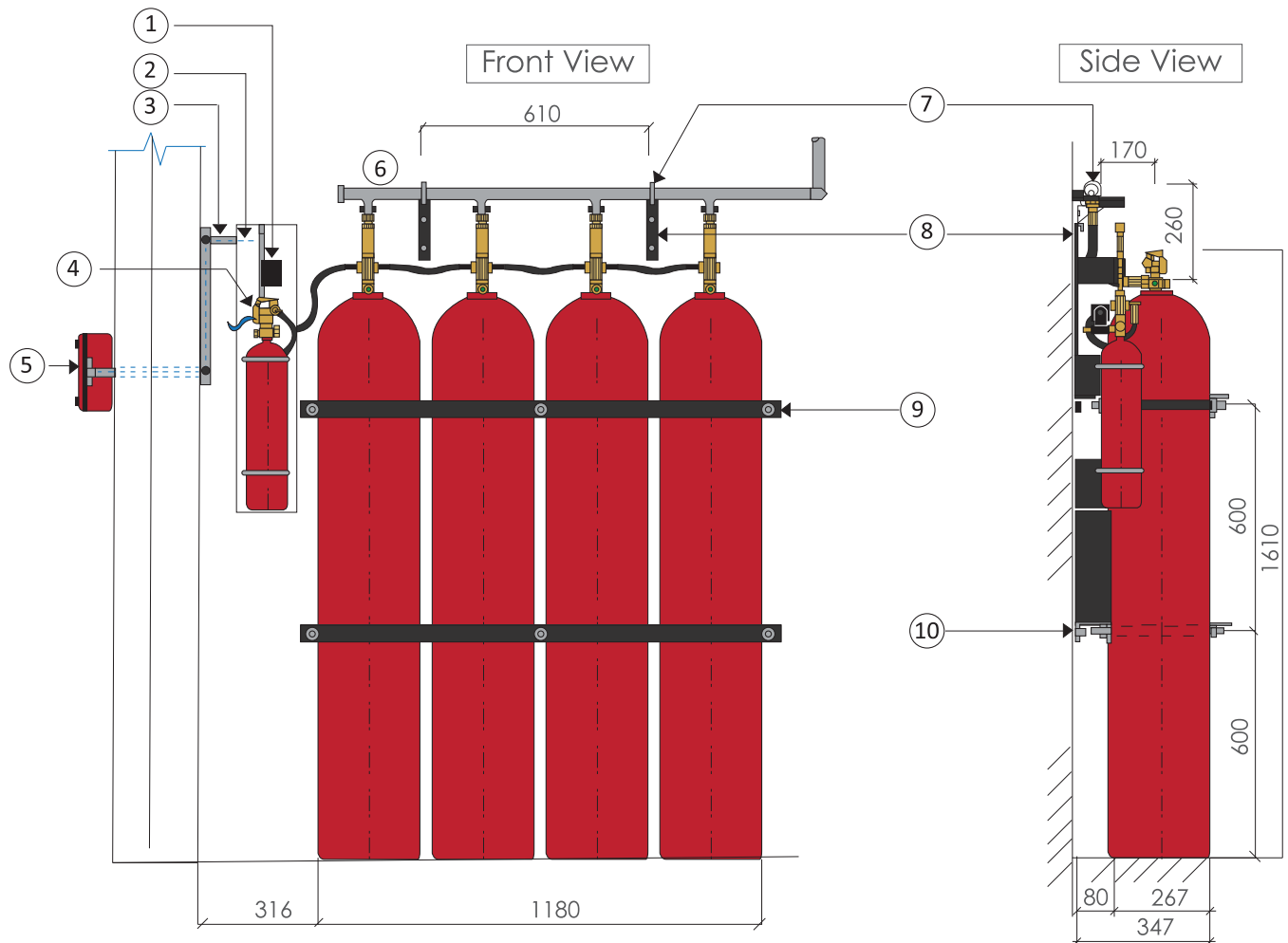
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CARBON DIOXIDE FIRE EXTINGUISHING SYSTEM



General Arrangement CO₂ Cylinder



Front View

1. Limit Switch
2. Ø1.5mm Stainless Steel Wire
3. Ø19mm Conduit to Manual Pull Box
4. Solenoid Valve
5. Manual Pull Handle
6. Ø40mm Schedule 40 Manifold
7. Ø10mm U-Bolt
8. 50mm x 50mm x 5mm (thk) Angle Iron with Ø10mm Bolt + Washer
9. 50mm x 50mm x 5mm (thk) Angle Iron with Ø10mm Nut Washer

Side View

10. 80mm x 40mm x 5mm (thk) U-Channel with Ø10mm Bolt + Washer

Plan View

11. Ø10mm Tie Rod

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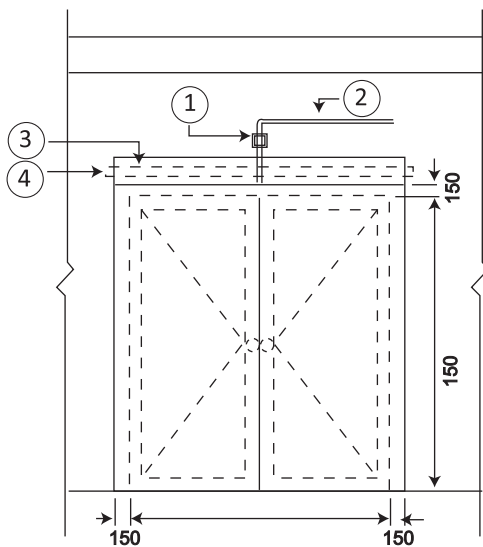
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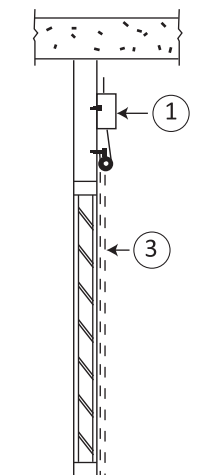
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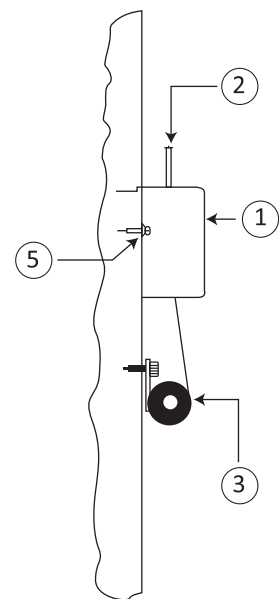
Smoke Curtain Mounting Detail



Front Elevation



Side Elevation

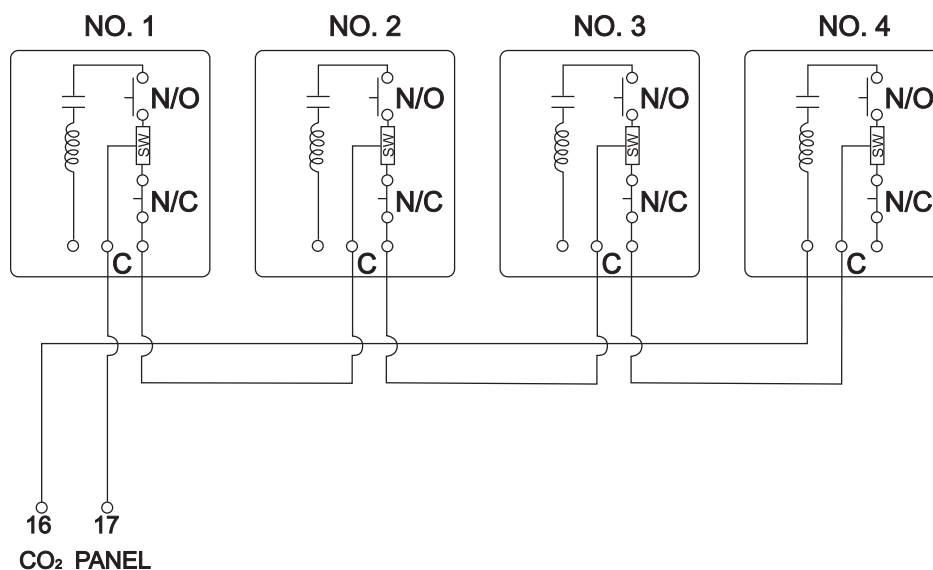


Assembly Drawing

Smoke Curtain Mounting Detail

1. 24V DC Solenoid Tripping Device
2. Electrical Conduit
3. Fibre Glass Curtain
4. Iron Bar
5. Ø6mm Bolt & Drop In Anchor with Washer

Detail of Multiple Solenoid Tripping Device Connection



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45kg Seamless Cylinder with CO₂ Gas



TECHNICAL DATA	
Part No.	CYL-N
Water Capacity	68L
CO ₂ Gas Capacity	45kg
Working Pressure	150 bar
Test Pressure	225 bar
Empty Weight	75kg (Approx.)
Material	Mn Steel
Manufactured	DOT-3AA
	BS 5045 Part 1
	GB5099-94

Solenoid 24V DC Pilot Cylinder



TECHNICAL DATA	
Part No.	PC-S, PC-T
Gas	Nitrogen
Stored Pressure	38 bar (550 psi)
Power	24 V DC

Cylinder Valve



TECHNICAL DATA	
Part No.	45KG-NV
Size	Forged Brass CuZn 3963
Type Mode	UP-05
Working Pressure	150bar
Type	Manual/Pneumatic/Electric
Weight of Valve	700g
Standard	DIN 477

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Connecting Hose



TECHNICAL DATA	
Part No.	HH-CH-13
Size	6mm (1/4")
Length	330mm (13")
Type	High Pressure Hose
Material	Steel Braided Rubber Hose
Test Pressure	150 bar
Thread	BSPT

Discharge Hose



TECHNICAL DATA	
Part No.	HH-DH-17
Size	13mm (1/2")
Length	432mm (17")
Type	High Pressure Hose
Material	Steel Braided Rubber Hose
Test Pressure	150 bar
Thread	BSPT

Discharge Nozzle



TECHNICAL DATA			
Part No.	DN-UH15	DN-UH20	DN-UH25
Size	15mm	20mm	25mm
Material	Brass		
Finishing	Chrome		
Discharge Pattern	Uni-bilateral		
Discharge	With Orifice		
Type	Pendent		

Pyrocharge with Fitting



TECHNICAL DATA	
Part No.	45KG-PC
Material	Steel
Finishing	Galvanised
Voltage	24V

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Vent Plug



TECHNICAL DATA	
Part No.	HHF-VP-3/8
Size	10mm(3/8")
Material	Brass
Finishing	Galvanised

Tee



TECHNICAL DATA	
Part No.	HHF-TEE-1/2"
Size	13mm (1/2") x 13mm(1/2") x 6mm(1/4")
Material	Steel
Finishing	Galvanised
Thread	BSPT

Plug



TECHNICAL DATA	
Part No.	HHF-PG-3/8
Size	10mm(3/8")
Material	Steel
Finishing	Galvanised
Thread	BSPT

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CARBON DIOXIDE FIRE EXTINGUISHING SYSTEM



Auto Gas Releasing Control Panel



Indoor Type



Outdoor Type



SIRIM
Certified To:
MS 1745-1/2: 2004
SIRIM QAS INT. NO. PC000552

PE-GRP 200/400 Series

Program Auto Gas Releasing Control Panel GRP 200/400 Series manufactured in accordance to MS 1745-2 : 2004 and conformed to local CIFS requirement. PE-GRP 200/400 series is a microprocessor programmable user friendly control panel with a digital ammeter, voltmeter and a countdown timer displayed on the front panel. Count down timer is pre-set for 30 seconds upon two (2) activated zone. Timer can be programmed to required specification.

The built-in power pack with an intelligent charger allows to charge up a set of completely flat 24 volts battery and automatically cuts off charging once battery is fully charged.

The controls and indications are housed in a compact enclosure finished with signal red polyester epoxy powder paint. Indoor and outdoor type of enclosure are available.

STANDARD FEATURES

- Power Source Indicators
- Power Failure Indicators
- Zone Fire, Fault and Isolate Indicators
- Bell Isolate Switch and Indicator
- Gas Isolate Switch and Indicator
- Fault Buzzer Mute Switch
- Master Reset Switch
- Test Lamp Switch
- Test Battery Switch
- Earth Fault Supervisory
- Built-in Delay Discharge Timer (Programmable)

NEW FEATURES

- GAS Abort Function (Optional)
- Digital Voltmeter & Ammeter
- Intelligent Battery Charger
- Digital Countdown Timer
- Common Fault Contact
- Low Pressure Indicator

SIZE				
No. of Zones	Model no.	Part no.	Size (mm) (W x D x H)	
			Indoor	Outdoor
2	PE-GRP 200i	FAP-02ZCP-N	430 x 370 x 170	430 x 380 x 170
4	PE-GRP 400i	FAP-04ZCP-N	550 x 390 x 170	550 x 400 x 170
TECHNICAL DATA				
Power Supply Input		240V AC 50Hz/60Hz		
Operating System		24V DC		
Operating Battery		18-27.6V DC		
Battery Cut Off		18V		
Intelligent Charger (S1)		0.67A - 1.3A @ 30%		
Intelligent Charger (S5)		1.2A -1.8A @ 100%		
End of Line		8K2 Ohms		
Auxiliary Output		24V, 2 Amp		
Alarm Signal		N/O Contact		
Gas Discharged Signal		N/O Contact		
STANDBY MODE				
Master		75mA		
Per zone (with Detectors)		5mA		
Flashing Lights (Green LED)		75mA		
ALARM MODE				
Master		140mA		
Per Trigger Zone		70mA		
Output Devices		200mA		
Flashing Lights (Red LED)		75mA		
Per Bell		30mA		

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RRE ENGINEERING SDN. BHD. (520469-P)

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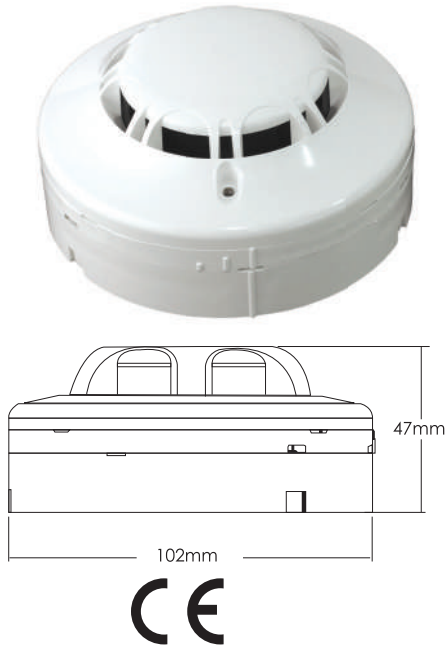
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Website : www.rreeng.com



UNIQUE AH-0711 Photoelectric Smoke Detector



TECHNICAL DATA		
Model No.	AH-0711	
Part No.	FAE-P0711	
Description	2 Wire	
Alarm Current @ 24V DC 470 Ω	40mA	
Operating Temperature Range	-10°C to 55°C	
Operating Humidity Range	10% to 93% Relative Humidity	
Voltage Range	12V-30V DC	
Standby Current	25 - 75 μA	
Sensitivity Setting	Complies with UL 268	
Material	Fire- proof plastic	
Size	Ø102mm x 47mm (H)	
Weight	130g	
Colour	White	
EFFECTIVE ALERT AREA		
Building Height	Under 4m	4m to 20m
Area Covered	150m ²	75m ²

UNIQUE AH-0333 Heat Detector



TECHNICAL DATA		
Model No.	AH0333	
Part No.	FAE-H0333	
Description	2 Wire	
Alarm Current @ 24V DC 470 Ω	40mA	
Operating Temperature Range	0°C to 55°C	
Operating Humidity Range	10% to 93% Relative Humidity	
Voltage Range	12V-30V DC	
Standby Current	25 - 75 μA	
Sensitivity Setting	Complies with UL 268	
Material	Fire- proof plastic	
Size	Ø111mm x 45mm (H)	
Weight	137g	
Colour	White	
EFFECTIVE ALERT AREA		
Building Height	Fire Proof Building	Ordinary Building
Under 4m	90m ²	50m ²
4m to 8m	45m ²	30m ²

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UNIQUE Twin Flashing Lights



TECHNICAL DATA	
Model No.	UNI-104WP/L
Part No.	FAE-FLO-LED
Lens	High efficient prismatic polycarbonate lens optimized for omnidirectional viewing.
Luminary	Filament Bulb/Ultra Bright LED
Size	210mm(W) x 77mm(D) x 108mm(H)
Material (Casing & Hood)	Mild Steel
Finishing	Black casing with green and red lens

UNIQUE Fire Alarm Bell



TECHNICAL DATA				
Model No.		UNI-102		
Part No.		FAE-6AB		
Supply Voltage		110/ 240V (AC)		
		12/24V (DC)		
Sound Output		92 - 105 dB		
Current Consumption		0.05 A		
Size		150mm(6")		
Finishing		Red		
DECIBEL SPECIFICATION				
AC Type		Decibel Rating @ 1m (3ft)		
Voltage	Amps	100mm(4")	150mm (6")	200mm (8")
110	0.0097	92dB	95dB	97dB
240	0.0033	98dB	105dB	106dB
DC Type		Decibel Rating @ 1m (3ft)		
12	0.008	95dB	99dB	100dB
24	0.005	96dB	103dB	105dB

UNIQUE Sealed Lead Acid Battery



TECHNICAL DATA							
Model	Part No.	Nominal Voltage (V)	Capacity (AH)	Length (mm)	Width (mm)	Height (mm)	Approx. Weight (kg)
12V 7AH	BAT-007AH	12	7	151	65	100	1.99
12V 10AH	BAT-010AH	12	10	151	98	100	3.23
12V 12AH	BAT-012AH	12	12	151	98	100	3.48
12V 17AH	BAT-017AH	12	17	180	76	166	5.05
12V 24AH	BAT-024AH	12	24	176	166	127	7.72
12V 40AH	BAT-040AH	12	40	197	165	170	12.30
12V 65AH	BAT-065AH	12	65	355	167	193	21.31
12V 100AH	BAT-100AH	12	100	330	170	240	29.90
12V 120AH	BAT-120AH	12	120	405	174	233	35.60

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Solenoid 24V DC Tripping Device



TECHNICAL DATA

Part No.	TD
Size	180mm(W) x 90mm(D) x 205mm(H)
Working Current	0.4A
Material	Mild Steel
Finishing	Epoxy Powder Coating

Smoke Curtain



TECHNICAL DATA

Part No.	FC
Material	Woven Fibreglass Fabric
Colour	White
Coating Finish	Loomstate
Operating Temperature	Basic Fabric 600°C
Standard	BS 476: Part 7

Manual Pull Box



TECHNICAL DATA

Part No.	MPB
Size	Ø200mm x 65mm(H)
Material	Aluminium Alloy (Body)
	Aluminium Alloy (Handle)
Finishing	Epoxy Powder Coating

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FIRE SUPPRESSION FOR COMMERCIAL KITCHEN

RANGE GUARD WET CHEMICAL SYSTEM FOR COMMERCIAL KITCHEN



Cylinder Assembly



TECHNICAL DATA			
Part No.	Model No.	Karbaloy Wet Chemical Agent Fill Qty (Litres)	Charge Weight (kg)
WC – 1.25	60-120001-001	5.03	14
WC – 2.5	60-120002-001	10.07	25
WC-4	60-120006-001	15.14	35
WC-6	60-120005-001	22.71	51

System Valve Actuator



TECHNICAL DATA			
Part No.	Model No.	Thread	Description
WC-SVA	87-120042-001	1/8" NPT Port	System Valve Actuator (SVA) must be mounted to every system cylinder valve assembly. The SVA has ports for low profile tubing runs, and is also equipped with a spring loaded plunger that locks the piston in the discharged position, ensuring complete discharge of the cylinder(s) contents.

Agent Discharge Nozzle



TECHNICAL DATA	
Part No.	WC-ADP
Nozzle Type	ADP
Model No.	87-120016-001
Thread	3/8" NPT Female Thread
Material	Nickle - Chrome Plated Brass Body

Fusible Link



TECHNICAL DATA					
Part No.	Model No.	Detector Type	Detector Temperature Rating	Colour	Maximum Exposure Temperature
WC-FL	WK-282664-000	ML	360°F(182°C)	Unpainted	300°F(149°C)



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RANGE GUARD WET CHEMICAL SYSTEM FOR COMMERCIAL KITCHEN



FENWAL Heat Detector



TECHNICAL DATA

Model	Part No.	Model No.	Temperature Setting
Detect-A-Fire	WC-FHD450	12-G27121-000-OT	450°F (232°C)

Universal Control Head



TECHNICAL DATA

Part No. Model No.	Size (mm)	Operating Temperature Range	Actuation Mode	Number of Extinguishing System Cylinders	Maximum Total Length Copper Actuation Tubing	Minimum Total Length of Copper Tubing
WC-UCH 60-120099-002	215(W) x 245(H) x 95(D)	-18°C to 49°C	Electrical, Pneumatic & Manual	1 -12	32.30m (106 ft)	1.52m (5 ft)
				13-20	27.73m (91 ft)	

A+ Control Box



TECHNICAL DATA

Part No. Model No.	Size (mm)	Operating Temperature Range	Actuation Mode	Number of Extinguishing System Cylinders	Maximum Total Length Copper Actuation Tubing	Minimum Total Length of Copper Tubing
WC-MB 60-120010-002	155(W) x 180(H) x 40(D)	-18°C to 49°C	Pneumatic & Manual	1 - 5	0.91m (3 ft) from A+ to 1st system cylinder	7.0m (23 ft)

Combination Remote Manual Release



TECHNICAL DATA

Part No. Model No.	Size	Description
WC-PB 60-120110-001	91 (W) x 125(H) x 52(D)	The combination Remote Manual Release (RMR) pull station is provided as means of manually actuating the Range Guard fire suppression system from a remote location.

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FIRE SUPPRESSION SYSTEM FOR COMMERCIAL KITCHEN.



R-102 RESTAURANT FIRE SUPPRESSION SYSTEMS



Features

- Low pH Agent
- Proven Design
- Reliable Gas Cartridge Operation
- Aesthetically Appealing
- UL Listed – Meets Requirements of UL 300
- ULC Listed – Meets Requirements of ULC/ORD-C1254.6
- CE Marked

Application

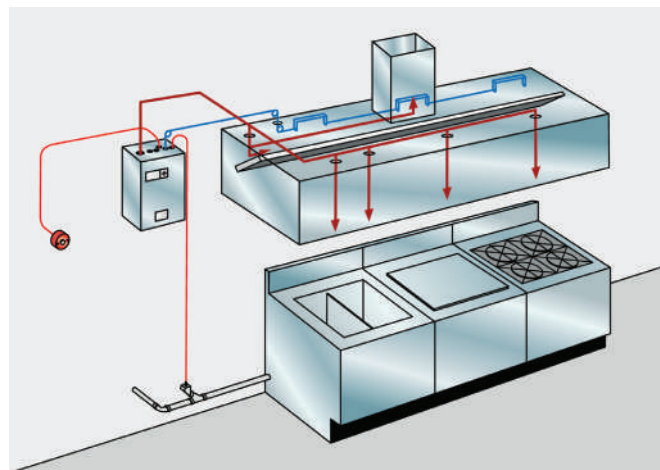
The ANSUL® R-102 Restaurant Fire Suppression System is an automatic, pre-engineered, fire suppression system designed to protect areas associated with ventilating equipment including hoods, ducts, plenums, and filters. The system also protects auxiliary grease extraction equipment and cooking equipment such as fryers; griddles and range tops; upright, natural charcoal, or chain-type broilers; electric, lava rock, mesquite, or gas-radiant char-broilers; and woks.

The system is ideally suitable for use in restaurants, hospitals, nursing homes, hotels, schools, airports, and other similar facilities.

Use of the R-102 system is limited to indoor applications or locations that provide weatherproof protection within tested temperature limitations. The regulated release and tank assemblies must be mounted in an area where the air temperature will not fall below 32 °F (0 °C) or exceed 130 °F (54 °C). The system must be designed and installed within the guidelines of the UL/ULC Listed Design, Installation, Recharge, and Maintenance Manual.

System Description

The restaurant fire suppression system is a pre-engineered, wet chemical, cartridge-operated, regulated pressure type with a fixed nozzle agent distribution network. It is listed with Underwriters Laboratories (UL/ULC).



The system is capable of automatic detection and actuation as well as remote manual actuation. Additional equipment is available for building fire alarm panel connections, electrical shutdown and/or interface, and mechanical or electrical gas line shut-off applications.

The detection portion of the fire suppression system allows for automatic detection by means of specific temperature-rated alloy type fusible links, which separate when the temperature exceeds the rating of the link, allowing the regulated release to actuate.

A system owner's guide is available containing basic information pertaining to system operation and maintenance. A detailed technical manual, including system description, design, installation, recharge and resetting instructions, and maintenance procedures, is available to qualified individuals.

The system is installed and serviced by authorized distributors that are trained by the manufacturer.

The basic system consists of an AUTOMAN regulated release assembly which includes a regulated release mechanism and a wet chemical storage tank housed within a single enclosure. Nozzles with blow-off caps, detectors, cartridges, agent, and pulley elbows are supplied in separate packages in the quantities needed for fire suppression system arrangements.

Additional equipment includes a remote manual pull station(s), mechanical and electrical gas valves, and electrical switches for automatic equipment and gas line shut-off. Accessories can be added such as alarms, warning lights, etc., to installations where required.

Additional tanks and corresponding equipment can be used in multiple arrangements to allow for larger hazard coverage. Each tank is limited to a listed maximum amount of flow numbers.

All specifications and information indicated in this catalogue are subjected to change without prior notice.

UNIQUE FIRE INDUSTRY SDN BHD Co. No. 418731-U

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FIRE SUPPRESSION SYSTEM FOR COMMERCIAL KITCHEN.



PIRANHA RESTAURANT FIRE SUPPRESSION SYSTEMS

Features

- UL and ULC Listed – Meets requirements of UL 300
- Overlapping appliance protection
- Four nozzle styles cover all hazards
- Dual agents
- Rapid flame knockdown
- Proprietary agent with increased performance
- Fifteen times faster than single wet agent systems in reducing the temperature of the grease below the reflash point
- Reliable cartridge operation
- Aesthetically appealing
- CE Marked

Application

The ANSUL® PIRANHA Restaurant Fire Suppression System is an automatic, pre-engineered, fixed, fire suppression system designed to protect cooking equipment and ventilation equipment including:

Ventilation Equipment

- Hoods
- Plenums
- Ducts
- Filters

Cooking Equipment

- Fryers
- Upright
- Range Tops
- Woks
- Griddles
- Broilers: Natural Charcoal Or Chain-Type
- Char-broilers: Electric, Lava Rock, Mesquite Or Gas-Radiant

The system is ideally suited for use in restaurants, hospitals, nursing homes, hotels, schools, airports, and other similar facilities.

Use of the PIRANHA Restaurant System is limited to interior applications only, or locations that provide weather proof protection to the PIRANHA equipment within tested temperature limitations. The regulated release and tank assemblies must be mounted in an area where the air temperature will not fall below 32 °F (0 °C) or exceed 130 °F (54 °C). The system must be designed and installed within the guidelines of the UL Listed Design, Installation, Recharge, and Maintenance Manual.

System Description

The PIRANHA Restaurant Wet Agent Fire Suppression System is a dual-agent, pre-engineered, fixed, automatic fire suppressing system developed specifically for improved fire protection of commercial restaurant cooking appliances, exhaust hoods and ducts.

The PIRANHA system is available in three sizes:

- PIRANHA-7 (1.5 gal (5.7 L), 7 nozzle capacity)
- PIRANHA-10 (2.25 gal (8.5 L), 10 nozzle capacity)
- PIRANHA-13 (3.0 gal (11.4 L), 13 nozzle capacity)



When actuated, the system discharges a fixed amount of proprietary wet chemical agent followed by water through the same nozzles. Water is provided by a connection to the domestic or sprinkler water supply. Advantages of the dual system over single wet agent systems include: (1) more robust suppression of hostile fires in protected restaurant hazards; (2) greater hazard area protection with less wet agent; (3) faster flame knockdown and securement of hot fuels such as cooking shortening; (4) overlapping protection of cooking appliances from fixed nozzle spacings, allowing most appliances to be interchanged freely without changing nozzles; (5) more rapid cooling of hot fuels and appliances to prevent re-ignition; (6) simplicity of design and installation; (7) higher nozzle placement for aesthetics.

The addition of the water discharge significantly aids in increasing and prolonging the foam blanket generated by the wet chemical agent. The longer retention of the foam blanket helps the hot grease to cool below the auto-ignition temperature.

The system design for appliance protection under the hood allows the nozzles to be positioned uniformly from one end of the appliance line to the other. Most appliances under the hood can be protected in this overlapping manner; therefore, it is not necessary to protect each appliance individually. Appliances are free to be shifted around under the hood. The only exceptions to this overlapping type coverage are upright broilers, salamanders, and chain broilers. These types of appliances require dedicated nozzle protection.

The system is capable of automatic detection and actuation and/or remote manual actuation. Additional equipment is available for mechanical or electrical power shut-off applications.

The detection portion of the fire suppression system allows for automatic detection by means of specific alloy rated fusible link detectors or electric thermal detectors which, when the temperature exceeds the rating of the link, separate, allowing the regulated release to actuate.

A system owner's guide is available containing basic information pertaining to system operation and maintenance. A detailed technical manual is also available including system description, design, installation, recharge, and maintenance procedures, plus additional equipment installation and resetting instructions.

The system is installed and serviced by authorized ANSUL distributors that are trained by the manufacturer.

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FIRE BLANKET & SMOKE CURTAIN

Fire Blanket



TECHNICAL DATA					
Part No.	Size(mm)	Material	Colour	Coating Finish	Operating Temperature
FB-4x4	1200 x 1200 (4' x 4')	Woven Fibreglass Fabric	White	Loomstate	Basic Fabric 600°C
FB-4x6	1200 x 1800 (4' x 6')				
FB-6x6	1800 x 1800 (6' x 6')				

UNIQUE Smoke Curtain



TECHNICAL DATA	
Part No.	FC
Material	Woven Fibreglass Fabric
Colour	White
Coating Finish	Loomstate
Operating Temperature	Basic Fabric 600°C
Standard	BS 476 : Part 7

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1 kg Portable Dry Powder Fire Extinguisher



TECHNICAL DATA	
Part No.	FEU-ID
Model No.	UF-1
Capacity	1.0 kg
Type of Extinguishant	ABC Dry Powder
Type	Stored Pressure
Pressurized Agent	Nitrogen
Working Pressure	12 bar (175 psi)
Test Pressure	25 bar (250 psi)
Temperature Range	-20°C to 60°C
Discharge Time (Approx.)	7 sec
Overall Height	330 mm
Cylinder Diameter	79 mm
Approx. Full Weight	1.9 kg
Body Material	Cold Rolled Steel
Finishing	Red (RAL 300)
Class of Fire	A, B, C, E
Fire Rating	5A 21B
Design & Manufacture	MS 1539 PART 1 : 2002



UNIQUE Single Station Smoke Detector



TECHNICAL DATA	
Part No.	FAE-SSQA22
Model No.	QA22
Indicator	Standby : Flash every 40 sec
	Alarm : Flash and beep continuously
	Battery Abnormal : Beeps and flash intermittently
Sound	90dB
Temperature Range	-10°C to 55°C
Power	9V Battery
Sensitivity Setting	Complies with EN 54
Material	Fire Proof Plastic
Size	Ø 105mm x 40mm
Weight	150g
Colour	White

Fire Blanket



TECHNICAL DATA	
Part No.	FB-4X4
Material	Woven Fibreglass Fabric
Colour	White
Coating Finish	Loomstate
Operating Temperature	Basic Fabric 600°C
Size (mm)	1200 x 1200 (4' x 4')

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Maluri Station



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Merdeka Station



Pasar Seni Station



Tun Razak Exchange Station