

COMPANY PROFILE

PT. SKOTFIRE & SAFETY TECHNOLOGY



Komp. Ruko Villa Nusa Indah II Blok W3/12 RT 002/021 Bojongkulur, Gunung Putri, Bogor 169669
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TENTANG SKOTFIRE

EXPERIENCE SINCE 2008

PT. SKOTFIRE & SAFETY TECHNOLOGY

PT Skotfire merupakan perusahaan terpercaya yang bergerak di bidang distribusi perlengkapan Safety kebakaran serta jasa perencana, kontraktor, dan perawatan sistem kebakaran yang meliputi fire alarm, fire detection dan fire suppression systems. PT Skotfire konsisten menggeluti bisnis sistem kebakaran sejak tahun 2008. Berbekal pengalaman di bidang sistem proteksi kebakaran menjadikan kami lebih profesional dalam layanan dan selalu meningkatkan mutu atas produk-produk yang dihasilkan.

PT Skotfire selalu meningkatkan hubungan kemitraan baik dengan pelaku bisnis lokal maupun internasional. Sehingga kami mampu memberikan produk dan layanan yang lebih baik kepada pengguna layanan sistem kebakaran di Indonesia. PT Skotfire sebagai distributor, dan jasa servis kini hadir di Bogor dan Balikpapan untuk memberi solusi proteksi kebakaran terbaik. Kebutuhan proteksi Anda adalah prioritas kami.

"PROTECTING YOUR LIFE"

"ProtectingYourLife" Adalah moto dari Perusahaan kami,danhal itudilakukan dengan kerja keras danmenjadi mitra yang terpercaya danhandal serta mampu memberikan produk dan layanan terbaik untuk pelanggan kami. Tujuan utama dari SKOTFIRE adalah untuk mamou mencapai sebuah pertumbuhan dan profitabilitas usaha yang konsisten, disertai rasa tanggung jawab yang tinggi dalam memberikan pelayanan kepada para pelanggan kami.

VISI

**MENJADI PENYEDIA PRODUK DAN JASA DI
BIDANG FIRE & SAFETY DENGAN KUALITAS
DUNIA**

MISI

Mengembangkan perusahaan dengan memperhatikan nilai-nilai berikut ini:

- **Pengembangan Kompetensi Karyawan yang berkesinambungan**
- **Pertumbuhan Finansial, Produk dan layanan jasa yang konsisten**
- **Penjunjungan tinggi Standard Kesehatan dan Keselamatan Kerja dalam setiap aktifitas perusahaan**
- **Menjaga standard kode etik yang tinggi dalam melaksanakan usaha**



Head Office

Head Office Address:

Komp. Ruko VilaNusaIndah II Blok W3 No. 12,
Bojong Kulur, Kab. Bogor 16969 – INDONESIA
Phone: +622182401515 Fax: +622182415181

Branch Office Address: Jl. Kol. Syarifuddin
Yoes.Ruko Centra Bizpark 2, Blok HRM, No. 02.
Kel. Sepinggan Baru, Kec. Balikpapan Selatan,
76114 –INDONESIA Phone: +625428525941

Est. Since August 28, 2008 **Deed of**
Incorporation No. 310 By Notary Ingrid Lannywaty
SH Tax ID # 02.831.975.4-403.000 **Import**
Identification Number: 100102434-P





Branch Office

ISO 9001:2015 by TNV UK

OSHAS 18001:2007 by ITCC

International

Business License:

510.41/028/00617.U/DPMPTSP/2017

Decree of the Minister of Law and

Human Rights: AHU-AH.01.10-24128

**Certificate of Registered Certificate
of the Directorate General of Oil and
Gas:** 1288/SKT-02/DMT/2015

**Certificate of Registered Certificate
of the Directorate General of Mineral
and Coal:** 1782/30/DJB/2016

Total Employee: 65 Persons





CATEGORY

PRODUCT

1

FIRE EQUIPMENT

2

SAFETY EQUIPMENT

3

GAS DETECTION SYSTEM

4

FIRE ALARM SYSTEM

5

FIRE SUPPRESION SYSTEM

6

MILITARY EQUIPMENT

7

FIRE SYSTEM

8

SERVICES

FIRE EQUIPMENT

SKOTFIRE memiliki berbagai macam jenis Fire Equipment yang dibutuhkan dalam berbagai jenis industri yang berbeda-beda, seperti migas, pertambangan, industri menengah maupun besar, transportasi, perkapalan, gedung dengan potensi bahaya tinggi, dan kehutanan/perkebunan.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

GENERASI TERBARU SKOTFIRE

Alat Pemadam Api Ringan (APAR) SKOTFIRE adalah produk yang paling efektif yang ada saat ini. Ketika terjadi kebakaran dan dibutuhkan APAR maka pilihan yang terbaik adalah SKOTFIRE. Product ini memiliki nilai ekonomis dan serba guna. Terdapat dalam beberapa pilihan dari ABC Dry Chemical Powder, CO2 dan FOAM.

APAR SKOTFIRE menawarkan perlindungan dengan memenuhi Standard Internasional dan memiliki keunggulan yang tinggi dibanding pesaingnya.

KEUNGGULAN:

- Tersedia dengan jenis ABC Dry Chemical Powder, CO2 dan FOAM
- Menggunakan ABC Dry Chemical Powder dengan standard EN 615
- Lengkap dari berbagai ukuran
- Dapat diisi ulang
- Dilengkapi dengan Indikasi Warna yang berbeda di setiap jenisnya
- Masing-masing Tabung Pemadam dilengkapi Serial Number untuk memudahkan proses perawatan dan perbaikan
- Diproduksi dengan mengacu kepada standard BS EN3



MODEL	SKT-A-01	SKT-A-02	SKT-A-04	SKT-A-06	SKT-A-09	SKT-A-12	SKT-C-03	SKT-C-05	SKT-C-68	SKT-F-09
Part Number	MFZL1-1	MFZL2-2	MFZL4	MFZL6-3	MFZL9-1	MFZL12-1	WN/M3	WN/M5	WN/M6.8	MJP29-1
Fire Rating	8A 34B C	13A 55B C	21A 113B C	34A 183B C	43A 233B C	55A 233B C	34B	89B	89B	13A 183B
Jenis	ABC	ABC	ABC	ABC	ABC	ABC	CO 2	CO 2	CO 2	FOAM
Kapasitas	1 KG	2 KG	4 KG	6 KG	9 KG	12 KG	3 KG	5 KG	6.8 KG	9 L
Tekanan Kerja	18 Bar	18 Bar	18 Bar	18 Bar	18 Bar	18 Bar	174 Bar	174 Bar	174 Bar	18 Bar
Tekanan Uji	27 Bar	27 Bar	27 Bar	27 Bar	27 Bar	27 Bar	250 Bar	250 Bar	250 Bar	27 Bar
Temperature Standard	-30°C - 60°C EN BS3	-30°C - 60°C EN BS3	-30°C - 60°C EN BS3	-30°C - 60°C CE	-30°C - 60°C EN BS3	-30°C - 60°C EN BS3	-20°C - 60°C CE	-20°C - 60°C EN BS3	-20°C - 60°C CE	5°C - 60°C EN BS3



PT. SKOTFIRE & SAFETY TECHNOLOGY • www.skotfire.com • skotfire@skotfire.com • 021 - 82401515 • 0542 - 7212650



SKOTFIRE® EXTINGUISHER

“protecting your life”

FIRE EQUIPMENT

SKOTFIRE memiliki berbagai macam jenis Fire Equipment yang dibutuhkan dalam berbagai jenis industri yang berbeda-beda, seperti migas, pertambangan, industri menengah maupun besar, transportasi, perkapalan, gedung dengan potensi bahaya tinggi, dan kehutanan/perkebunan.

PRODUK-PRODUK

TERSEBUT TERDIRI DARI:

BRITANNIA FIRE

P50 Composite Extinguisher
THE NEXT GENERATION



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THE P50 RANGE

Britannia Fire has chosen to provide three types of P50 extinguisher. Foam with a fire rating of 27A / 183B, ABC powder with a fire rating of 34A / 183B and Super BC powder with a fire rating of 233B. The high ratings achieved gives better fire cover than many larger extinguishers.

6LTR FOAM

The P50F 6ltr Foam fire extinguisher has fire fighting capabilities that make it effective on Class A materials, wood, paper and textiles and class B fires fuelled by paints, solvents and oils. The unit has also passed the EN3 safety requirements for accidental use on live electrical equipment. With the addition of antifreeze the foam has an improved operational temperature range from +60°C to -10°C.

6KG ABC POWDER

The P50P 6kg ABC Powder fire extinguisher is designed to be installed in areas where there are a variety of fire hazards. ABC powder fire extinguishers can tackle fires on Class A materials, wood, paper and textiles, Class B fires, those fuelled by oils, paints and solvents etc; and class C fires which are fuelled by flammable gases such as propane and methane.

4KG SUPER BC POWDER

The P50S 4kg Super BC powder fire extinguisher is based on potassium bicarbonate/urea complex, this unique extinguishing mechanism makes it up to five times more effective on high risk petrochemical installations.

10 YEAR GUARANTEE

P50 extinguishers are manufactured to the highest standards and are supplied with a 10 year manufacturer's parts guarantee and a 20 year life cycle and is 100% recyclable.



	SIZE CAPACITY	CONTENTS	STANDARD CODE	MARINE CODE	TYPES OF FIRE	FIRE RATING	FILLED WEIGHT	HEIGHT	EN3 APPROVED
FOAM	6ltr	AFFF	P50F	P50FM	AB	27A / 183B	8.5	570	Yes
POWDER	6kg	ABC	P50P	P50PM	ABC	34A / 183B	8.5	570	Yes
POWDER	4kg	Super BC	P50S	P50SM	B	233B	6.5	570	Yes

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

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ESCHBACH

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ESCHBACH



SYNTHETIC SPECIAL 500

Standard Fire-Fighting hose

High quality lay flat hose for all fire-fighting operations. Circular woven jacket out of 100% high tenacity synthetic yarn with an inner liner made out of a vulcanized high quality EPDM-compound.



ADVANTAGES

- Lightweight lay flat hose
- Good abrasion resistance
- Low friction loss
- High aging resistance
- Cold-resistant up to -40°C
- Heat-resistant up to +100°C
- Easy maintenance and handling

APPROVALS

- DIN 14811:2008-01 Class 1
- MED 96/98/EC SBG
- ONORM F 2106
- Russian Maritime Register

SERVICES

- Individual marking available
- Binding with international couplings available on request
- Other diameters on request
- Available in lengths up to 1000 m depending on diameter

Diameter Inch (mm)	Weight g/m	Burst pressure bar	Working pressure bar	Test pressure bar
1" (25)	130	60	16	24
1 1/4" (32)	165	60	16	24
1 1/2" (38)	195	60	16	24
1 3/4" (45)	245	60	16	24
2" (52)	300	60	16	24
2 1/2" (65)	340	60	16	24
2 3/4" (70)	370	60	16	24
3" (75)	470	60	16	24

Changes in technical specification without prior notice

SYNTHETIC POLYDUR

Inside and outside rubberlined fire hose

Supreme heavy duty lay flat hose for all fire-fighting operations. Circular woven jacket out of 100% high tenacity synthetic yarn, embedded in a vulcanized high grade Nitrile/PVC compound using the "Through-the-weave-extrusion-process". Offers high resistance to acids, salt solutions, oil, fuel and many more chemicals.



ADVANTAGES

- Lightweight lay flat hose
- Low friction loss
- High aging resistance
- Coating for improved resistance to oil, chemicals and dirt
- Cold-resistant up to -40°C
- Heat-resistant up to +100°C
- Easy maintenance and handling

APPROVALS

- DIN 14811:2008-01 Class 2
- BS 6391:1983 Type II
- MED 96/98/EC SBG
- Russian Maritime Register

SERVICE

- Standard colour red, other colours on request
- Relief version for better abrasion-resistance
- Individual marking available
- Binding with international couplings available on request
- Other diameters on request
- Available in lengths up to 120 m depending on diameter

Diameter Inch (mm)	Weight g/m	Burst pressure bar	Working pressure bar	Test pressure bar
1" (25)	135	60	16	24
1 1/4" (32)	185	60	16	24
1 1/2" (38)	265	60	16	24
1 3/4" (45)	295	60	16	24
2" (52)	315	60	16	24
2 1/2" (65)	350	60	16	24
2 3/4" (70)	375	60	16	24
3" (75)	480	60	16	24

Changes in technical specification without prior notice

FIRE EQUIPMENT

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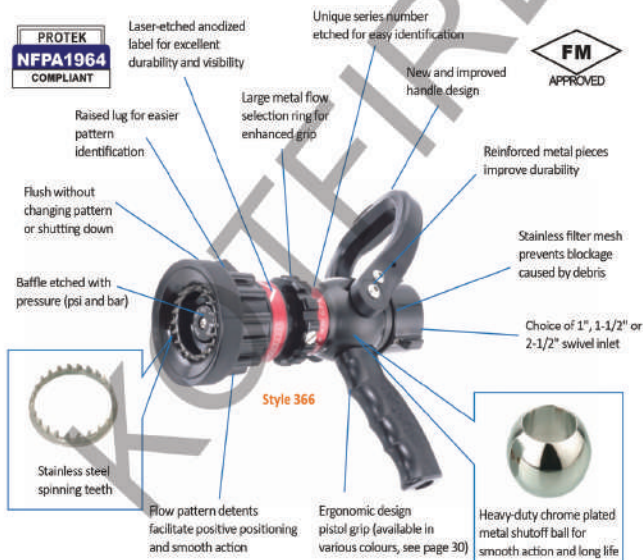
PRODUK-PRODUK TERSEBUT TERDIRI DARI:

SELECTABLE GALLONAGE NOZZLES

Protek's Selectable Gallonage Nozzles are combination pattern nozzles with versatile multiple flow settings. The unique stainless steel teeth produce a wide range of patterns from straight stream to full fog. Inlet size is available in 1" (25mm), 1-1/2" (38mm) or 2-1/2" (65mm). Nozzles are available in either lightweight hardcoat anodized aluminium or corrosion resistant brass construction. All nozzles are compatible with Protek's foam aeration tubes. Nozzles are available in tip only configuration and shutoff/playpipe combinations. All Protek nozzles are NFPA compliant.

Features:

- Superb wide fog pattern for optimum fire fighter protection
- Standard operating pressure at 100 psi (7bar), optional 85 psi (6 bar) or 75 psi (5 bar)
- Standard NH inlet or optional BIM/Machino/Storz inlets
- Optional stainless steel spinning teeth or one-piece moulded fixed teeth
- Meets European standards
- Minimal maintenance reflected in robust design, precision machining and quality materials



INDUSTRIAL MONITORS

636 Industrial Monitor

- Full 2-1/2" waterway for flow rate of up to 750 GPM (2480 LPM)
- Full 360° rotation
- Vertical travel of 135° from 75° above to 60° below horizontal
- Positive friction locks for both horizontal and vertical travel to hold desired position
- Operating pressure of 200 psi (14 bar)
- Stainless steel lever for durability and easy control
- Standard unit painted red
- FM approved



Style 636 monitor shown with Style 823-BC nozzle

Style 636				
Max. GPM (LPM)		750 (2900)		
Inlet	Size	3"	4"	2-1/2"
	Type	Flange	Flange	Female Thread
Outlet		2-1/2"		
Control		Tiller Bar		
Material		Brass		
Finish		Red Powder Coating		
Friction Loss		35 psi at 750 gpm		
		18 psi at 800 gpm		
Travel		135° Vertical		
		360° Rotation		
Weight		44 lbs. (20kg)		
Certification		FM		

648 Industrial Monitor

- Full 3" waterway for flow rate of up to 1250 GPM (4800 LPM)
- Cast-in turning vanes for efficient flow and minimal friction loss
- Full 360° rotation
- Vertical travel of 135° from 90° above and 45° below horizontal
- Positive friction locks with brass knob for both horizontal and vertical travel to hold desired position
- Operating pressure of 200 psi (14 bar)
- Stainless steel lever for durability and easy control



Style 648 monitor shown with Style 835-BC nozzle

Style 648				
Max. GPM (LPM)		1250 (4800)		
Inlet	Size	3"	4"	3"
	Type	Flange	Flange	Female Thread
Outlet	2-1/2"			
Control	Tiller Bar			
Material	Brass			
Finish	Red Powder Coating			
Friction Loss	18 psi at 1250 gpm			
	15 psi at 1000 gpm			
Travel	135° Vertical			
	360° Rotation			
Weight	52 lbs. (23.5 ke)			

FIRE EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

STRUCTURAL FIRE FIGHTING

PAB FIRE 05
GLASS FIBRE REINFORCED
THERMOPLASTIC



New, modern design and excellent protection properties. Optimal relationship between protection and comfort with a broad spectrum of optional upgrades. Structural firefighting has never been safer.

PERFORMANCE

- Extreme temperature resistance (up to 1,000°C in a 10 second flash over flame)
- Long-term temperature resistance (radiant heat test 14 kW/m²)
- High resistance to mechanical impacts
- Low-temperature classification -30°C

SAFETY

- Electrical insulation capacity E2 and E3
- Full head protection including neck and face
- Interior shock absorber
- Reflective elements for better visibility in low-light conditions
- Neck protector available in aluminium fibre, Kevlar or wool for radiant style
- 3 point chinstrap device to prevent skin irritation, fire resistant against tape
- Chemical resistance (according to EN 443)
- Type B3b

COMFORT

- Lightweight
- Integrated adjustment system
- One shell size for head sizes from 52 to 64 cm
- Wide range of accessories and high level of personalisation

WEIGHT

- 1445 g ± 30 g (basic configuration without accessories)
- 1515 g ± 30 g (basic configuration with aluminium neck protector)

HIGH TECH MATERIALS

- Flame retardant and high temperature resistant glass-fibre reinforced thermoplastic
- Anti-scratch and anti-fog coated integrated visor (EN 1443)
- Anti-scratch and anti-fog coated integrated goggles (EN 1443)

MADE IN EUROPE



CERTIFICATES
EN 443:2008 | EN 14458:2018

ACCESSORIES



COLOR SCALE



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FIRE EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

HEAT PROTECTION



HEAT PROTECTION

GLAPAN PERFORMANCE FACTS

Industrial applications – GLAPAN® + GLAPAN FR® (to EN ISO 11612)

EN ISO 11612: Protective clothing for employees exposed to heat and flames. This clothing protects the wearer from brief contact with a flame and – to a certain extent – from convective and radiated heat.

GLAPAN material

- 100% Thermo-E glass fabric, lightweight:

GLAPAN FR material

- 100% Thermo-E glass fabric, lightweight:
- NOVICA-STEPP 3D insulation lining
- Fabric: 50% meta-aramide + 50% Lenzing FR (quilted)
- Flame: 40% meta-aramide + 60% Lenzing FR
- Up to 25% better moisture absorption than one-dimensional insulation linings
- Up to 25% better air insulation through special quilting (and air insulation) compared to one-dimensional insulation linings

Less moisture adheres to the wearer's skin. This (perspiration) is temporarily held in the intermediate insulation layer (transfer thermo-liquid buffer). As soon as the environment's diffusion potential allows lower air moisture content than inside the fabric system, the fabric transports the moisture to the outside effectively and with rapid re-drying. In the same insulation zone, the system also uses the wearer's own body heat to protect them from overheating and by minimizing heat dissipation in cold atmospheres. This can be achieved only through an ideal mix of meta-aramide and flame-retardant cellulosic and fibres, as found in NOVICA-STEPP®.

GLAPAN/FR - Hard Facts

- Temperature-resistant (thermo-glass fabric) from -200 °C to +500 °C

• Properties according to EN ISO 11612:

A1: 10 seconds direct flame exposure, horizontal

B: Convective heat, time to 10s of 24 °C on direct flame exposure

B1: 4 to 14 seconds direct contact (GLAPAN, tested)

B2: 10 to 14 seconds direct contact (GLAPAN FR, (H-chose tested))

C: Exposure to a radiation heat source –

C1 = 30 + 30 seconds (best value)

D1: Protection from molten aluminium splashes at 100 > 200 grammes (filled)

D2: Protection from molten iron splashes at 60 + 120 grammes (filled)

F1: Contact heat to ISO 12127, 5 to 10 seconds (filled)

- Good mechanical (tear) strength also at higher temperatures.
- E-glass, R-glass and C-glass fabrics are resistant to oils, grease, solvents and organic acids.
- Their water resistance is classified into hydrolytic classes according to DIN 12111. E-glass and R-glass are of hydrolytic class 1 (the highest class).

GLAPAN und GLAPAN FR – Soft Facts

- All protective clothing is individually and securely packed in a protection bag
- Recommended storage and service life (10 years)*
- * Can be less depending on degree of use
- Every model features high-quality pale-aramide seams
- Tear strength and tear propagation strength (four times higher than conventional fabrics)
- Increased abrasion and tear resistance through quality materials
- Optimum fit through range of sizes (see models)
- Perfect design also at critical points

For available models, see the model description.

Property rating, GLAPAN® to ISO 11612

Radiated heat	(Level 1):	
Contact heat	(Level 1):	
Convective heat	(Level 1): GLAPAN	
Convective heat	(Level 1): GLAPAN FR	
Mechanical properties (tear and tear propagation strength)		
Water-tightness		
Hot vapour		

*The thermal and physical resistance ratings have been determined according to the applicable standards and based on our current knowledge.

For further information and advice, get in touch with us. We are always pleased to advise you.

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

Specialization

- Consistent production quality
- Embedded RFID chips to SUPER ARMOR suits management digitally (Resupply, Repair, Inventory control and Service Life)
- All SUPER ARMOR suits have passed EN469 certificate tests
- EC Directive 89/686/EEC Article 11 B Quality Control Certification
- Certified by ISO 9001 Quality Management System
- Certified by ISO 14001 Environmental Management System

Utmost

- Suits with ripstop shell prevents risk of large area surface tearing
- Extra reinforcement on armpits further prolongs HTL when every second counts
- High tensile strength brace
- Twice the performance of tensile strength, residual strength, tearing strength required in EN469

Protection

- Excellent fire resistant characteristic, pathogen barrier, and anti-static
- Direct contact with flame does not cause flaming or hole
- Chemical liquid resistance
- Water repellent
- All SUPER ARMOR suits exceed EN469 level II protection requirements

Endurance

- Composed of inherent fire resistance fibers
- Excellent abrasion resistance contributes to longer service life of fire suits
- When exposing to sunlight, our suits' UV resistant trait remains 3 times longer than competitor's name brand fabric

Rapidity

- Lightweight suits
- Low water vapor resistance (Lower resistance equals better wear: comfort)

Mannequin Burning Test - Burn Distribution

Material	1st degree burn ratio	2nd degree burn ratio	3rd degree burn ratio
PREMIUM 701	2%	2%	5%
PBI	10%	2%	5%
NOMEX	6%	18%	28%

Cost + Scauer Weight: PREMIUM 701 < 4.5kg, PBI < 4.5kg, NOMEX < 4.5kg

Mannequin Burning Test - After Burning Status

Surface of SUPER ARMOR suit, after burning test. Inside of SUPER ARMOR suit, after burning test.

ISO 15927 Abrasion Test Rate

Material	Light Use	Medium Use	Heavy Use	Maximum Use
PREMIUM 701	6,000 - 8,000 cycles	8,000 - 10,000 cycles	10,000 - 15,000 cycles	15,000 - 20,000 cycles
PBI	6,000 - 8,000 cycles	8,000 - 10,000 cycles	10,000 - 15,000 cycles	15,000 - 20,000 cycles
NOMEX	6,000 - 8,000 cycles	8,000 - 10,000 cycles	10,000 - 15,000 cycles	15,000 - 20,000 cycles

ISO 15927 Abrasion Test Rate

Material	Light Use	Medium Use	Heavy Use	Maximum Use
PREMIUM 701	6,000 - 8,000 cycles	8,000 - 10,000 cycles	10,000 - 15,000 cycles	15,000 - 20,000 cycles
PBI	6,000 - 8,000 cycles	8,000 - 10,000 cycles	10,000 - 15,000 cycles	15,000 - 20,000 cycles
NOMEX	6,000 - 8,000 cycles	8,000 - 10,000 cycles	10,000 - 15,000 cycles	15,000 - 20,000 cycles

EN469 Performance Requirements

Properties	Test Method	EN469 Performance Requirements	SUPER ARMOR Results Obtained
Water vapor resistance	EN 11062	Level 2 (High performance level) Max < 35 m ² Pa/W	Max < 18 m ² Pa/W

SUPER ARMOR

**SPECIALIZATION
UTMOST
PROTECTION
ENDURANCE
RAPIDITY**

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SAFETY EQUIPMENT

Produk SAFETY Equipment yang kami miliki sangat dikenal oleh karena ketahanan dan ketangguhan. Penggunaan alat ini sebagian besar sama dengan pengguna dari FIRE & RESCUE EQUIPMENT. Hanya saja dalam jajaran Produk terdapat produk khusus untuk Kepolisian dan Militer.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:



SCOTT
Fire & Safety

3M™ Scott™ Air-Pak 75i NIOSH- Approved Self-Contained Breathing Apparatus



Redundancy of Safety Features

- The 3M Scott Air-Pak 75i SCBA features the Scott E-Z Flo regulator with Vibrant end-of-service-time indicator. This audible, tactile alarm warns the user of low pressure or a reduction in primary pressure by primary pressure by gently vibrating the user's facepiece. This tactile personal alarm minimizes the chance the user's alarm will go unnoticed or be confused with another SCBA user's alarm or outside noise.
- The 3M Scott Air-Pak 75i SCBA features a unique dual-redundant pressure reducer. Unlike all other SCBAs, 3M Scott actually provides two pressure reducers in one, interconnected through an automatic transfer valve. A reduction in primary pressure for whatever reason would trigger an automatic transfer to the secondary circuit. The user is alerted to this transfer by 3M Scott's Vibrant alarm, enabling the user to focus attention on safely exiting the hazardous area while providing an uninterrupted supply of air through the secondary circuit.

Ease of Use

- The E-Z Flo regulator's quick-don mounting system has a track record of proven performance. A quick quarter turn of the regulator ensures a positive locking mount that prevents it from being accidentally knocked loose. This easy breathing regulator automatically activates the flow of air with the user's first breath. Air entering the facepiece is directed over the lens to help reduce fogging.
- An air-saver switch, angled for easy operation with a gloved hand, stops the free flow of air during donning and doffing. This gives the user the advantage of placing the SCBA in a standby mode with an activated cylinder. That means the user can be suited up and ready for action without expending cylinder air.

5.5: The Lighter, Smaller Cylinder For Your SCBA

Responding to the need for a smaller, lighter SCBA, 3M Scott created the new 5.5 Air-Pak SCBA. By increasing the pressure in the cylinder to 5500 psig, 3M Scott was able to maintain the traditional form, durability and capacity of the standard cylinder while offering a reduction in both weight and profile. The 5.5 cylinders are available in 30-minute, 45-minute, 60-minute and 75-minute durations. The 75-minute cylinder, an industry first, is ideal for HAZMAT teams as well as for long-duration cylinder supply to mobile air sources, such as the 5.5 compatible 3M Scott TRC-1 cart or Mobile Air Cart.

AIR-PAK 75i SCBA



5500 psi Cylinder

SAFETY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

Safety and performance features for today's firefighters.

3M® Scott® Air-Pak® X3 Pro SCBA

Built on a foundation of redundant safety features, the 3M® Scott® Air-Pak® X3 Pro SCBA provides performance you can trust to help protect firefighters in critical life safety environments.



SAFETY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

PROPAK-SIGMA

HIGH PERFORMANCE, RUGGED DEPENDABILITY, TRUSTED TECHNOLOGY



The ProPak-Sigma has been designed specifically for use as a compliance set in Marine or Industrial fire fighting environments.

The entire ProPak range has been approved to EN137:2006 Type 2, incorporating the stringent Full Flame Engulfment Test, and to the 9th amendment of the MED meaning that it has the latest approval for the Marine market.

PRODUCT HIGHLIGHTS

- EN137:2006 Type 2 MED Approved Breathing Apparatus
- Compliance set for Marine and Industrial firefighting environments
- Rigid backframe construction
- Easily removable pneumatics
- Simple to service and maintain

PROPAK-SIGMA

SELF CONTAINED BREATHING APPARATUS



MAJOR COMPONENTS

Compact positive pressure demand valve featuring servo-assisted, tilting diaphragm mechanism with low inspiratory resistance and responsive dynamic performance, automatic first breath actuation and hands free bypass facility

REDUCING VALVE

First stage pressure reducing valve featuring non-adjustable, spring loaded piston mechanism and outlet supply protected by pressure relief valve

HOSES

Stainless steel swivel hose fittings
Medium pressure hose
High pressure hose
Medium working pressure 16 bar
Minimum burst pressure 90 bar
Maximum working pressure 450 bar
Minimum burst pressure 900 bar

PRESSURE INDICATOR & WARNING WHISTLE

Bourdon tube type dial indicator
Heat and impact resistant polycarbonate lens

COMMUNICATIONS

The Sabrecom 2 is a radio communication interface designed for use with Scott Safety's range of positive pressure full facemasks. Fully integrated and ready to use the Sabrecom 2 is approved to EN136 class 3, meeting the stringent flame and radiant heat test requirements.

OPTIONS

The Scott Safety ProPak-Sigma can be specified in many configurations including Duo, Split Demand Valve Coupling (SDC), Y Piece (Y2C) and attachments for Airline, which can be used for Rescue Second Man and Decontamination.

Product Specifications		
Weight		
Single Configuration (less cylinder)		2.6kg
Single Configuration and facemask (less cylinder)		3.2kg
Dimensions		
Length		630mm
Width		265mm
Depth (with a 6 litre 200 bar cylinder)		215mm
Ordering Information		
Part Number	Description	Application
ProPak-Sigma	EN137 Approved, Type 2	Marine / Industrial Fire Fighting



Scott Safety is a global business unit of Tyco International that supplies a variety of industries through manufacturing facilities located in the United States, United Kingdom, Asia, Finland and Australia.

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SAFETY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

TECHNICAL DATASHEET

VISION 3 - POSITIVE PRESSURE FACEMASK FOR SCBA



DESCRIPTION

The Scott Vision 3 is offered in 4 different sizes and will accommodate a wide range of facial shapes and sizes. The facemasks are positive pressure and feature a Liquid Silicone Rubber outer mask with reflex seal and EDME ori-nasal inner mask. The facemask visor is multi curvature and made of a scratch and impact resistant polycarbonate material with a flame retardant coating and provides excellent panoramic vision. The visor is held in place by two U-shaped clamps. The mask allows the wearer to wear integrated spectacle frames, without compromising the facemask seal. The facemask is available with either a five-point fully adjustable neoprene strap style harness, a two-point adjustable polyester or Kevlar™ net style harnesses or a clamping system for the Gallet F1 Helmet.

The facemask features a left hand side bayonet connection for the demand valve. An option of an additional right quick-fit port is available to take a communications interface if required.

A speech diaphragm is mounted at the front of the mask to offer unimpeded speech transmission and will include a low resistance positive pressure exhalation valve that allows for normal breathing with no extra effort. The mask is designed with separate inspiratory and expiratory paths to minimise the risk of cross contamination of second stage regulators.

APPLICATIONS

The Vision 3 is specifically designed for use with the Scott range of breathing apparatus from the Professional Fire Fighting SCBA through to the Airline and escape breathing apparatus range. In conjunction with Scott breathing apparatus it is suitable for providing respiratory protection for an IDLH environment.



TECHNICAL DATASHEET

APPROVALS

CE marked in accordance with EN136 Class III
CE marked in accordance with EN137:2006 Class II when used in conjunction with Scott Propak
CE marked in accordance with EN139 when used with Scott airline equipment
AS1716/NZ

TECHNICAL SPECIFICATIONS

MATERIALS	
Visor	Polycarbonate with silicone coating
Inhale Valve Flaps	Silicone rubber
Exhale valve flaps	Polyisoprene Rubber
Exhale valve housing	Polyamide
Exhale valve spring	Stainless Steel
Speech Diaphragm	Mylar (Polyester) film membrane in a moulded polyethylene grid with anodised aluminum coating
Visor Surround	Polyamide 6-6
Outer mask	Injection moulded liquid silicone
Front Cover	Glass filled polyamide
Demand Valve Port	Glass filled polyamide
Inner Mask	Thermoplastic elastomer
Screws	Stainless Steel
Nuts	Nickel plated brass
Buckles	Polyamide
Headharness	5 point Neoprene, net head harness in polyester or Kevlar material
Clamping System (optional)	Stainless steel brackets, plastic clamp mechanism
Packing specification	265x190x150mm 0.75kg

MAINTENANCE/CLEANING/SERVICING

N.B. - Cleaning should only be carried out as specified in the user instructions. Maintenance and Servicing must only be performed by trained personnel following the procedures in the Service and Maintenance manual.

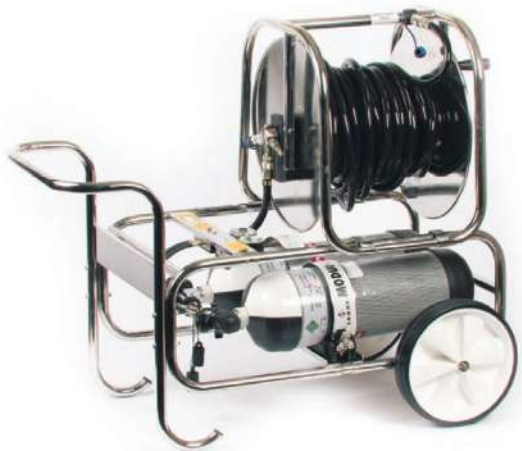


SAFETY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

AIRLINE BREATHING APPARATUS



SCOTT
SAFETY

MODULAIR Airline Trolley



The Modulair is a compact, easy to use airline trolley system designed to provide portable clean air in restricted access areas.

Versatile and robust, it consists of a lightweight stainless steel hose reel unit and cylinder frame that can be used independently or together. The frame is designed to carry a pair of cylinders and, where required, an additional frame can be vertically stacked to allow connection of up to four cylinders. This, in conjunction with proven 300 bar high performance pneumatics delivering up to 1000 litres of breathing air per minute, permits four people to work at the same time.

Long duration operation is made simple through adjustable cylinder bands and high pressure cylinder connectors to accommodate a variety of cylinder sizes at both 200 and 300 bar. Non-return bleed valves fitted to the cylinder connectors enable cylinders to be replaced independently for continuous operation.

To safeguard against any drop in air supply pressure the Modulair can be fitted with a medium pressure warning whistle or a DS4 (automatic distress signal unit) for both audible and visual alarms if the airline supply pressure falls below 3.8-4.1 bar (55-60 psi). In either case, the operation of the alarm informs safety rescue personnel to switch over to the reserve air supply, change cylinders or initiate evacuation procedures as appropriate.

- Robust and reliable, stainless steel construction
- 2 or 4 man operation
- 2 or 4 cylinder capability
- High performance pneumatics



SAFETY EQUIPMENT

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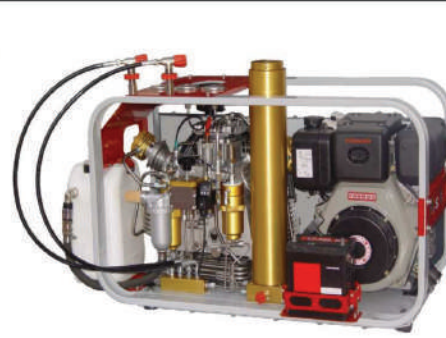
PRODUK-PRODUK TERSEBUT TERDIRI DARI:





Dimension
Dimensioni

Lenght - Lunghezza 99 cm - 39 in
Width - Profondità 53 cm - 21 in
Height - Altezza 65 cm - 25,6 in


Dimension
Dimensioni

Lenght - Lunghezza 109 cm - 42,9 in
Width - Profondità 57,5 cm - 22,6 in
Height - Altezza 65 cm - 25,6 in

New line Pacific E
Nuova linea Pacific E

- Aluminum and stainless steel Frame
Telaio in alluminio e acciaio inox
- New purification filter
Nuovo sistema filtrante
- * New electronic control
* Nuovo controllo elettronico
- * New condensate drain system with PATENTED low-flow
* Nuovo scarico condensa BREVETTATO
- * Handle for easy transport
* Manico per un facile trasporto

Optional
Accessori Opzionali

- Extra filling, max. 4 pieces (1,0 m)
Uscita supplementare, max. 4 (1,0 m)
- Autostop and automatic water drain
Stop e scarico condensa automatico
- Double pressure 225 Bar - 330 Bar
Doppia uscita a 225 Bar e 330 Bar
- Dimension of filtration
Dimensione del sistema filtrante

water resistant frame
aluminum - stainless steel

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water resistant frame
aluminum - stainless steel

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All technical data may be changed without notice
Le caratteristiche tecniche e i dati forniti possono subire modificazioni
MADE IN ITALY by NARDI COMPRESSORI

All technical data may be changed without notice
Le caratteristiche tecniche e i dati forniti possono essere modificati senza preavviso
MADE IN ITALY by NARDI COMPRESSORI

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:



Charging rate - Aria resa
100 l/min - 6 m³/h - 3,5 cfm

Compact and portable
Compatto e portatile

Light with Aluminum frame
Leggero con telaio in alluminio

Easy operation
Facile da usare

Breathing air according to EN 12021
Aria Respirabile conf. alla EN 12021

Pressure - Pressioni
225 / 330 Bar - 3200 / 4700 psi



Dimensions
Dimensioni

Length - Lunghezza 75,5 cm - 29,7 in
Width - Profondità 39 cm - 15,3 in
Height - Altezza 41 cm - 16,1 in

Subject to technical modifications - Soggetto a modifiche tecniche

www.nardicompressori.com

MADE by NARDI COMPRESSORI in ITALY

Art. ATLANTIC G (ING-ITA)

Rev. 01/2013

Proprietà di NARDI COMPRESSORI



SPECIFICATIONS

Product Description:
Part Number:
Style:

PANEL, AIR FILTRATION
9874-MR and 9876-MR
PORTABLE, 4 and 6 WORKER SYSTEMS

GENERAL DESCRIPTION:

Allegro air filtration panels filter impurities and hydrocarbons from an air compressor to convert to breathable air. A CO monitor is integrated to meet OSHA requirements for continuous monitoring of carbon monoxide levels. The panels provide 60 CFM (101.94 m³/hr) or 100 CFM (169.9 m³/hr) of air within a 5-125 PSI (0.34-8.62 bar) range. The unique design of these panels allows each regulator to be individually adjusted at different pressure settings, allowing as well, separate outlets to be used for air tools (fittings used for breathing air must not be compatible with other plant/tool air fittings, contact Technical Support for details).

CONSTRUCTION:

- Housed in a portable, rugged Pelican case with carrying handle and latches for protection and security
- Acrylic window to monitor pressure gauges
- Black powder coated, 16-gauge steel stand for support
- All brass plumbing with Quick-Disconnect Hansen couplers

CO MONITOR:

Power source: 115V AC to 9 VDC adapter for continuous power
9V DC Alkaline battery (back-up for AC adapter)
Alarm Setting: 10 PPM (Canada: 5PPM)
Ext. Connections: For optional Remote Strobe Alarm
Audible: 90 decibel Piezo Alarm
Visual: External power LED light signal
Sensor: Electrochemical, replaceable
Display: Liquid crystal
Keys: Mode & Set
Modes: Normal operation, peak, battery charge and calibration mode
Calibration: Self adjusting calibration to 20 PPM CO

FILTRATION SYSTEM:

First Stage: 5-micron particulate filter element and automatic mechanical drain
Second Stage: 0.010-micron coalescing filter element and manual drain
Third Stage: 0.003 ppm activated carbon filter element and manual drain
Regulator: Individual, high pressure, adjusting pressure knob, ABS cover, 0-160 psi (0-11.03 bar) pressure gauge and an external relief valve set at 125 psi (8.62 bar)
Flow Meter: Adjustable metering valve, range from 0.0 -1.0 LPM

DIMENSIONS:

PN	Length	Width	Height	Weight
9874-MR	21" (53.3 cm)	6 3/4" (17.1 cm)	14 1/2" (36.83 cm)	21 lbs. (9.5 kg)
9876-MR	23" (58.4 cm)	7 1/2" (19.05 cm)	16 1/2" (41.9 cm)	27 lbs. (12.2 kg)



9874-MR



9876-MR

SAFETY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

SCOTT BREATHING APPARATUS

All Scott respiratory protection equipment is designed to the same exacting standards, to be simple and comfortable to use, robust and easy to maintain. With respiratory protective equipment experience all over the world, Scott are the respiratory protection specialists.

SELF CONTAINED BREATHING APPARATUS

The Scott range of SCBA offers first breath activated positive pressure sets designed to the latest European Standards and combine low cost and simple maintenance with high levels of comfort.

ESCAPE BREATHING APPARATUS

Out-performing the latest EN Standards – the pioneering Scott Escape range includes Constant Flow, Positive Pressure Demand Systems and Airline Escape Equipment with durations between 10 and 15 minutes.

AIRLINE BREATHING APPARATUS

Automatic first breath positive pressure systems and airline escape sets supported by airline trolley units, filter units and accessories.

SUPPORTED BY SCOTT

Scott treats the role of after sales support very seriously offering a comprehensive level of technical support and certified training courses for wearers, instructors and service technicians. This is backed up by our head office in the United Kingdom and through a global network

of regional support centres and distributors. For queries regarding the location of our service centres visit www.scottsafety.com or call our technical support helpline on +44 (0)1695 711790.

ELSA ORDERING INFORMATION

Part Number	Description
ELSA-10-B	10 minute ELSA, standard bag
ELSA-15-B	15 minute ELSA, standard bag
ELSA-10-B-AS	10 minute ELSA, anti-static bag
ELSA-15-B-AS	15 minute ELSA, anti-static bag

QUALITY ASSURANCE



ISO 9001
(Certificate No.)
149512



0194
CE approval
conformity



M.B.
approval
UK/authorised

LLOYD'S REGISTER APPROVED TO SOLAS



ELSA

THE FIRST NAME IN EMERGENCY
LIFE SUPPORT APPARATUS

For further information please contact:

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Fax: +44 (0)1695 711772
scott.sales.uk@tycsent.com

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Distributor



www.scottsafety.com



0086

In accordance with our
policy of continual product
improvement, equipment
supplied may differ from the
specification described herein.

16011010-0001-0001-1001-0001

ELSA

EMERGENCY LIFE SUPPORT APPARATUS



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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

CHEMICAL PROTECTION

GS 3 / GS 3 M SERIES

Can be combined with various full-face masks



One glove for all tasks - WIPANG / CK / CK+



HPF CHEM BOOT (HP 1) Safety boots



GS 3 SERIES

CHEMICAL PROTECTION

GS 3 & GS 3 M SERIES - DESIGN

Suit description, GS 3 & GS 3 M series

- One-piece complete chemical/fire brigade protection suit (CPS) for unlimited use by fire brigades. One-piece protection suit with form rubber seal in the hood for secure fit under full-face breathing masks. This CPS unites an excellent workmanship with high-grade materials.
- GS 3 SERIES (DIN EN 943 type 1b ET) - Protection suit with detachable mask. The open field of vision is sealed with a special high-performance fluorelastomer seal in combination with a (flue/lighting) approved respiratory mask (flexible). The GS 3 series can be used with most and breathing apparatus and full-face masks (see also usage and care instructions) - mask externally secured.
- GS 3 M series (DIN EN 943 type 1b ET) - Protection suit with permanently fitted mask. The open field of vision is sealed with a special high-performance fluorelastomer collar in combination with an integrated, permanently fitted (flue/lighting) approved respiratory mask. The GS 3 M series can be used with most full-face masks (see also usage and care instructions) - mask internally fitted.
- The protection suits (CPS) of this series have been tested and certified to DIN EN 943:2015 Part 1 and DIN EN 943 Part 2 (emergency teams (ET), for unrestricted use in fire brigades) according to Directive 89/686/EEC and EN ISO 13688:2013.
- Further approvals: DIN EN 14126 (biological risk), DIN EN 14126, Ex zone ATEX 1000 (ATEX 1000), Section 7.1, electrostatic properties of protective clothing, 1000 A5 (martindale), DIN EN 14753-2 (rad/ozone particles).
- Classification by standard: Type 1b - gas-tight chemical protection suit with breathing air supply worn outside the chemical protection suit, for example compressed air equipment.
- All popular firefighter helmets and industrial hard hats can be worn over the suit. We recommend a helmet, for example to EN 443:2008 for firefighter helmets, to DIN EN 397 for industrial hard hats and to EN 12492 for mountain rescue helmets (see accessories).
- Life cycle: 15 years/10 years, then inspection: + 5 years
- OPTIONAL: SMART STOOL (5 years maintenance-free, vacuum packaged with seal)
- SIZES: Four individual sizes (M to XXL)
- Health: Use of dermatologically tested and environment-friendly materials throughout.

1 Standard equipment, GS 3 series

- One-piece protection suit with form rubber seal in the hood for secure fit with a (flexible/removable) full-face breathing mask. This CPS unites an excellent workmanship with high-grade materials. The wide face cutout is surrounded with a special seal made of high-performance fluorelastomer that allows the use of most popular full-face masks.
- Five-finger exchangeable chemical protection gloves with the TESIMAX replacement system are fitted (standard: size 10). Inner or overgloves are not generally required. For models and possible alternatives, see the model description.
- HPF CHEM BOOT (1) safety boots, size 46, certified to DIN EN 15095, DIN EN ISO 20345 and DIN EN 13832-3 as exchangeable (TESIMAX replacement system). For other sizes (45-47), see Accessories.
- The protection suits conventionally be fitted with footers made of suit fabric. In combination with suitable safety boots as described.
- Some CPS models are equipped with HPF CHEM BOOT P-L safety boots to DIN EN 394 and DIN EN 395 (see models).
- These boots are resistant against chemicals such as acids and grease.
- The 130 cm long, gas- and liquid-tight zip fastener is fitted horizontally across the back. It is protected with a labyrinth cover and closes from left to right.
- The suit features one safety (pressure relief) valve with an additional splash cover made of suit fabric.
- All CPS of this series are prepared for later installation of an external F-AU 4 series forced ventilation system for internal ventilation (see Accessories).
- The suit is supplied in a black, tear-resistant storage bag for flat storage. For other bags, see Accessories.

2 Standard equipment, GS 3 M series

- As for GS 3 but with permanently fitted mask. A choice of several tested full-face masks of various makes is available. Contact TESIMAX for further information. The mask is included in the price.
- The standard normal-pressure version of the GS 3 M CPS has an EPDM full-face mask (for firefighters) or a full-face mask made of technical rubber (for industry use).

3 For further options, see CPS Series Accessories.

GAS DETECTION SYSTEM

System ini digunakan untuk mendeteksi apabila terjadi kebakaran atau kebocoran gas di suatu daerah tertentu. Kehandalan produk dan kecepatan perhitungan dan design dari system ini adalah keunggulan kami. Hampir seluruh industri membutuhkan produk ini.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

PS200
Portable 4 Gas Monitor

PS200
Portable 4 Gas Monitor

Technical Specification

Size:	121 x 59 x 32mm (4.8" x 2.3" x 1.3")
Weight:	230g (8oz) with pump 215g (7.6oz) without pump
Temperature:	-20°C to +50°C (-4°F to 122°F)
Humidity:	0 to 95% RH non-condensing
Alarm:	Highly visible flashing LED, piercing 90dB audible, vibrating
Display:	Green and red LCD backlight display
Datalogging:	Trend: Minimum of 6 months trend datalogging* Session: Minimum of 360 logs Calibration: Minimum of 8 calibration logs Bump: Minimum of 260 logs
Battery:	Lithium ion rechargeable battery Run Time Up to: **90 / 16 hrs (diffusion) Up to: **20 / 8 hrs (pumped) Charging Time < 4 hrs
Enclosure:	High impact rubberized polycarbonate case
Drop Test:	3m (10 ft)
IP Rating:	IP67
Response Times (T90):	LEL = 13 secs (IEC 60079-29-1) O ₂ = 12 secs (BS EN 50104) CO = 20 secs H ₂ S = 20 secs
Approvals:	ATEX II 2G Ex ia d IIC T4 Gb IECEx Ex ia d IIC T4 Gb ATEX II 1G Ex ia IIC T4 Gb** IECEx Ex ia IIC T4 Gb** CSA Combustible Instruments: Class I, Div. 1 Groups A, B, C, D Class I, Zone 1 AEx d ia IIC T4 Gb; Ex ia d IIC T4 Gb Class I, Div. 1 Groups E, F** Class I, Zone 0 AEx ia IIC T4 Gb; Ex ia IIC T4 Gb** Non- combustible instruments Class I, Zone 0 AEx ia IIC T4 Gb; Ex ia IIC T4 Gb TEx ia IIC T4 Gb OEx ia IIC T4 Gb MEX (2013/YY) - Module B & E***
Warranty:	2 years standard warranty against faulty goods or work- manship from date of shipment from Teledyne. Consumable parts are not included. Warranty covers monitor assembly, power supply, and sensor.

* This is based on a gas event every 1-hour during a typical 8-hour shift with a
datalog interval of every 1 minute.
** Low Power IEL sensor
*** Only applicable to portable variants with "M" prefix.

Features



Red display in
alarm conditions



Configurable
calibration options



Configurable
bump options

Automatic Bump Testing and Calibration

To complement the Personal Surveyor product line, Teledyne has developed a compact, robust and easy to use Auto Bump & Calibration Station that can provide full bump and calibration options. Data transfer is facilitated using a USB memory stick with Standalone software that is simple to set up and extensive based on end user's specifications. Standalone, PC, and ethernet variants are available.



Coloured hidden label for multi-site
or multi-application working (7
colours available)

Auto Bump & Calibration Station technical specification

Size:	200 x 140 x 135mm (7.9" x 5.5" x 5.3")
Weight:	1.2kg (43oz)
Interfaces:	Standalone / USB / Ethernet
LED Indicators:	Power (Green) / Testing (Yellow) / Pass (Green) / Fail (Red)
Testing Time:	Bump Test 60 secs Calibration Test 90 secs
Data Storage:	up to 5000 Bump & Calibration results
Power Supply:	12V dc, 2A
Operating Temperature:	-10°C to 40°C (14°F to 104°F)
Gas Ports:	3 (Air, Comb Gas & Exhaust)

Standalone

By adding the Auto Bump & Calibration Station to your PS200 package, test data can be easily retrieved using specific software in a user-friendly tree-logged format. This gives you the ability to create and print your personalised calibration certificate.

PC

Allows easy configuration (bump test or calibration) of Auto Bump & Calibration Station and allows all results to be automatically stored in a database on the PC. The stored results can be easily viewed and calibration certificates produced. The history of all units can be easily viewed and reports of instruments can be easily compiled.

Ethernet

Same as PC except multiple units can be connected to a network allowing one PC to control and receive data.

Sensor specification

Gas	Range	Increments	Sensor Type
LEL	0-100% LEL	1% LEL	Catalytic Bead
O ₂	0-25%	0.1%	Electrochemical
CO	0-1000 ppm	1 ppm	Electrochemical
H ₂ S	0-9.9 ppm 10-100 ppm	0.1 ppm 1 ppm	Electrochemical

Combustible sensor options

LEL Sensor	Benefits	Gases Detected	Certification Gas Groups	Division / Zone
Standard Filtered	Detects most combustible gases	C1 - C8 Hydrocarbons Includes, but not limited to: Methane, Ethane, Propane, Butane, Pentane, Hexane, Heptane, Octane, Hydrogen	IC A, B, C and D	Class I Div. 1, 2 Zone 1, 2
Enhanced Filtered	Enhanced H ₂ and Siloxane poisoning resistance	C1 - C8 Hydrocarbons Includes, but not limited to: Methane, Ethane, Propane, Butane, Pentane, Hexane, Heptane, Hydrogen	IC A, B, C and D	Class I Div. 1, 2 Zone 1, 2
Low Power	Improved battery life	C1 - C3 Hydrocarbons Includes, but not limited to: Methane, Ethane, Propane, Butane, Pentane	IB C and D	Class I Div. 1, 2 Zone 1, 2

GAS DETECTION SYSTEM

System ini digunakan untuk mendeteksi apabila terjadi kebakaran atau kebocoran gas di suatu daerah tertentu. Kehandalan produk dan kecepatan perhitungan dan design dari system ini adalah keunggulan kami. Hampir seluruh industri membutuhkan produk ini.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

PS500

Portable 5 Gas Monitor

PS500

Portable 5 Gas Monitor

Description

The PS500 can be configured to detect up to five gases with its electrochemical and catalytic sensors, photo ionisation detector (PID), and infrared capabilities.

"Plug and Play" maximizes flexibility by allowing other gases to be detected, by simply inserting a new smart sensor assembly.

The PS500 is effective in noisy environments, featuring a loud (95dB) penetrating and distinctive audible alarm together with a high visibility visual alarm.

With a robust, rubberized casing guaranteeing hi-impact resistance, the PS500 is ideal for the most demanding industrial environments. An optional internal pump allows both pumped or diffusion measurements. If the pump is fitted, it can be easily turned on/off, depending on application. E.g. pump on to perform pre-entry measurements correctly, pump off for confined space working.

Technical Specification

Size:	140 x 85 x 43 mm / 5.5" x 3.3" x 1.7"
Weight:	0.4 kg / 1.4 oz.
Humidity:	0-98% non condensing
Alarms:	Visual 350h full light bar: playing 95db audible low battery alarm User programmable alarms: Up to 4 alarms per toxic gas (incl. STEL / TWA) 3 alarms for CO 2 alarms for LEL
Display:	LCD backlight display
Data logging:	Timed: 24 hours of event logs at 1 log per minute Session: Minimum of 180 logs Calibration: 8 calibration logs
Sampling:	Maximum tubing length - 30m / 98 ft. (Response times increase by approx. 1 second for every metre / 3 ft. of tubing used)
Battery:	NiMH rechargeable battery - 12 hr. minimum with pump Alkaline battery pack (3 AA) - 12 hr. minimum with pump
Enclosure:	High impact rubberized polycarbonate case
IP Rating:	IP65 (Dust tight and water resistant)
Approvals:	* UL 913 Class I, Div 1 Groups A,B,C,D MED 0038/YY - Modis B&E CE ATEX II 2 G Ex ia IIC T3 / T4
ECEx:	Ex test IIC T4/T3
Warranty:	2 years

* Excludes NiMH sensor option.

Features



Automatic Bump Testing and Calibration

To provide accurate performance and results, the PS500 has to be properly used and maintained. The Auto Bump & Calibration Station (ABC) provides bump testing, calibration and data management options and is compact, robust and intuitive to use. Two versions of the ABC are available allowing either a single gas cylinder or up to three cylinders to be connected. Additionally, a special three cylinder version is available for reactive gases. The ABC is fully configurable and can operate in three distinct modes of operation:

Standalone

- No PC or network connection required
- Simple setup and configuration
- Results stored on ABC
- USB access for results extraction
- Settings App for easy printing of calibration certificates

PC

- PC / laptop connected to ABC
- Setup and configuration using flexCal Plus software
- Results stored in the PC / laptop
- Easy access to all results
- Powerful data management / calibration certificate generation

Ethernet

- Multiple ABC's can be connected to a network
- Setup and configuration using IMS Settings software
- All results stored in the IMS database
- Easy access to all results
- Powerful data management / calibration certificate generation

Auto Bump & Calibration Station Technical Station

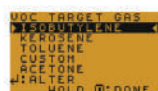
Size:	200 x 140 x 135mm (7.9" x 5.5" x 5.3")
Weight:	Single Gas - 1.2kg (43oz) Multi Gas - 1.35kg (48oz)
Interfaces:	Standalone / USB / Ethernet
LED Indicators:	Power (Green) / Testing (Orange) / Pass (Green) / Fail (Red)
Testing Time:	Bump Test 150 secs Calibration Test 150 secs
Data Storage:	Up to 6000 Bump & Calibration results
Power Supply:	12V dc, 2A
Operating Temperature:	-10°C to 40°C (14°F to 104°F)
Gas Ports:	Single Gas - 3 (Air, Gas & Exhaust) Multi Gas - 5 (Air, Gas x 3 & Exhaust)



Display in alarm conditions



Configurable calibration options



VOC target gas selection

GAS DETECTION SYSTEM

System ini digunakan untuk mendeteksi apabila terjadi kebakaran atau kebocoran gas di suatu daerah tertentu. Kehandalan produk dan kecepatan perhitungan dan design dari system ini adalah keunggulan kami. Hampir seluruh industri membutuhkan produk ini.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

Protégé ZM
Monitor Portable Monogas



Protégé ZM
Single gas monitor



Protégé ZM
Single gas monitor



Customizable settings

- Use Hibernation mode on the CO and H₂S models for up to one year additional operating life
- Custom or factory-programmed alarm set points
- User configurable keypad and calibration reminders
- Multiple LCD display options including real-time gas readings, monitor life remaining or both
- Three point-alarm (audible, visual and tactile)
- Data-logging capabilities
- Name or assign monitor using a six-character user ID

Accessories



PROTÉGÉ ZM
TEST STATION

Required computer and operating system

- PCs running the Microsoft Windows operating system and Microsoft .NET framework, using Microsoft Windows® XP, Microsoft Windows® Vista and Microsoft Windows® 7 programs



STATIONARY
TEST STATION

PROTÉGÉ ZM CONFIGURATION
SOFTWARE

IR CONNECT
MODULE

GAS DETECTION SYSTEM

System ini digunakan untuk mendeteksi apabila terjadi kebakaran atau kebocoran gas di suatu daerah tertentu. Kehandalan produk dan kecepatan perhitungan dan design dari system ini adalah keunggulan kami. Hampir seluruh industri membutuhkan produk ini.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

Meridian
Universal Gas Detector

Meridian
Universal Gas Detector

Meridian
Universal Gas Detector



Description

Designed with safety and reliability in mind, the Meridian universal gas detector is suitable for use in SIL-2 and SIL-3 rated systems under the IEC 61508 standards, certified by TÜV-Rheinland, an independent third-party agency. Third party SIL certification validates that the product meets the most rigorous standards for reliability and performance and confirms its ability to reduce your potential for downtime and increase your safety factor.
(*SIL is now pending)

Features

- Minimal drift
- High specificity
- Digital ID
- Broader toxic gas detection

One detector with global approvals and a plug-and-play design



Safety integrity levels:

Designed with safety and reliability in mind, the Meridian universal gas detector is suitable for use in SIL-2 and SIL-3 rated systems under the IEC 61508 standards, certified by TÜV-Rheinland, an independent third-party agency. Third party SIL certification validates that the product meets the most rigorous standards for reliability and performance and confirms its ability to reduce your potential for downtime and increase your safety factor.

Key regulatory approvals:

CSA
ATEX
IECEx
INMETRO
SIL-2 certified by TÜV-Rheinland
(*SIL is now pending)

Global certifications and approvals

The Meridian gas detector is certified using the highest international standards for global use. Our goal is to offer customers one instrument that can be used across regions. So whether you procure the instrument for use in a chemical plant in North America, on an FPSO in Latin America or in an oil refinery in Europe or Asia, the instrument will have the necessary approvals required for use in that region. Unlike industry standard offerings, the Meridian gas detector is not a collection of gas detectors, each certified for use in a particular region. What makes it truly universal is that it is a single detector that has all the required approvals for global use.



GAS DETECTION SYSTEM

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

Model 700

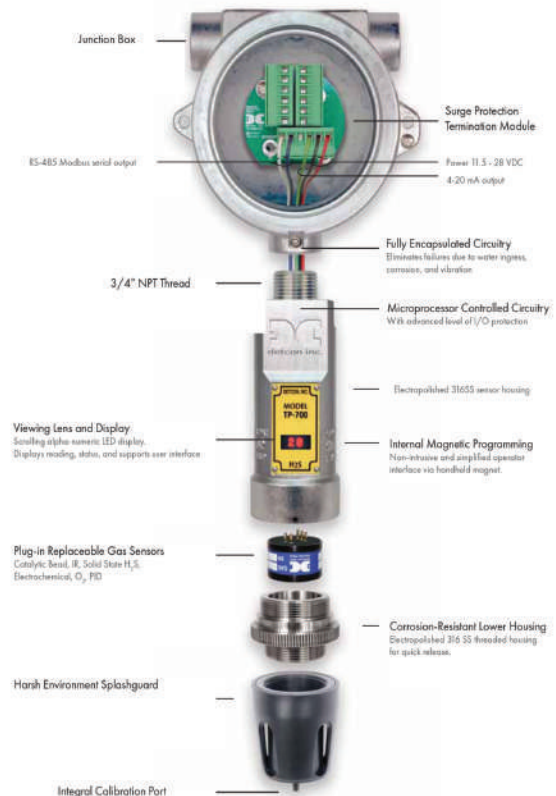
Anatomy of a Model 700

Model 700

Anatomy of a Model 700

Model 700

Industrial Gas Detection Sensor



GAS DETECTION SYSTEM

System ini digunakan untuk mendeteksi apabila terjadi kebakaran atau kebocoran gas di suatu daerah tertentu. Kehandalan produk dan kecepatan perhitungan dan design dari system ini adalah keunggulan kami. Hampir seluruh industri membutuhkan produk ini.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

Spyglass™ SG50-F Series Flame Detectors

Spyglass™ SG50-F Series Flame Detectors

The Spyglass™ family of triple IR and UV-IR flame detectors provide top-tier optical flame detection with faster detection time and performance over long distances. Spyglass™ flame detectors also have industry leading false alarm immunity to several challenging environments while performing in adverse climates. All of the Spyglass™ family are available with the option to choose built in high definition video which allows users to make critical safety decisions from a distance.

Triple Infrared Technonology

- Long detection distance
- Sensitivity to small fires
- Immunity to false alarms

Spyglass™ IR3 Detecting hydrocarbon fires

Spyglass™ IR3-H₂ Detection of hydrogen flames, ammonia, silane ...

Ultraviolet and Infrared Technology

- Proven technology
- Metal fire detection
- Indoor installation

Spyglass™ UV-IR -F Detecting hydrocarbon fires

Spyglass™ UV-IR Detection of hydrogen flames, metal and inorganic flames

Xtend

The use of triple infrared technology combined with a specific algorithm enables Spyglass™ IR3 H₂ Xtend to simultaneously detect hydrogen flames and those from hydrocarbon fires. Hydrogen flame detection performance remains identical to that of the version of Spyglass™ IR3-H₂ dedicated exclusively to hydrogen.

Typical applications: electrolyser, hydrogen station, SMR, dense industrial areas with potential hydrogen flames.

Hot CO₂ Rejection

The CO₂ rejection option, available with IR3 HC technology, offers fast, reliable detection on a wide range of hydrocarbon fires where combustion exhaust gases may be present. As well as detecting actual fires, the detector analyzes and rejects any false signal from hot CO₂ exhaust.

Typical applications: aircraft hangars, civil or military, heliports, areas with heavy automotive activity (such as tunnels or loading bays).

Ultra Fast

The NFPA33-specific detector has been optimized for ultra-fast fire detection in high-speed production processes. The detector is designed to meet the NFPA33 standard, which requires the detector to trigger an alarm in the event of an event in less than 0.5 seconds. The range of performance-tested and approved detectors is available in UVIR, IR3 and IR3-H₂ configurations.

Typical applications: spray booths for the automotive industry, high-speed printing and coating, conveyors and fast-moving vehicles.



GAS DETECTION SYSTEM

System ini digunakan untuk mendeteksi apabila terjadi kebakaran atau kebocoran gas di suatu daerah tertentu. Kehandalan produk dan kecepatan perhitungan dan design dari system ini adalah keunggulan kami. Hampir seluruh industri membutuhkan produk ini.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

7200 PLUS AND 7400 PLUS CONTROLLERS

Two and four channel gas monitoring system

7200 PLUS AND 7400 PLUS CONTROLLERS

Two and four channel gas monitoring system

7200 PLUS AND 7400 PLUS CONTROLLERS

Two and four channel gas monitoring system



The 7200 Plus and 7400 Plus Controllers are designed to provide simultaneous display and alarm functions for up to four monitored variables. A graphic LCD displays monitored data as bar graphs and engineering units. Three adjustable alarm levels are provided per channel. Relay outputs allow control of beacons, horns and other alarm events. The controllers are easy to configure and user friendly. Measurement ranges in engineering units, adjustable alarm set points, optional serial interfaces and many other features offer flexibility to meet most demanding applications. Some of the controllers offer NEMA 4X rated enclosures and are CSA certified for combustible detection and hazardous locations. An optional RS-485 MODBUS slave port allows up to 128 controllers to be multiplexed onto a single data highway for interrogation by another MODBUS master. Other 7200 Plus options include six 5 amp SPDT discrete alarm relays per channel, 4 to 20 mA outputs and light stacks. Nonvolatile memory retains all configuration data indefinitely.

Common Markets Include:

- Petrochemical Oil and Gas
- Food and Beverage
- Pulp and Paper
- Water and Wastewater Treatment

Features

- Centralized Graphic Display and Alarm Controller
- Seamless Upgrade for Current Loop and Direct Cat Bead Detectors
- MODBUS Interfacing and Output Relay Options for Any Environment
- Compatibility with Teledyne's Full Array of Gas Detection Transmitters and Detectors
- Hazardous Location Approval for Class I, Division 2 Applications (certain units only)

SYSTEM SPECIFICATIONS

Inputs

Sensor input PCBs are available for combustible sensor and 4 to 20 mA. All versions may be configured for 4 to 20 mA inputs.

Analog Outputs (Optional)

10 bit 4 to 20 mA output. Max load 800 ohms with nominal 24 VDC power supply

Common Alarm Relays (Standard)

Two 5 amp 30 VDC or 250 VAC resistive Form C

Discrete Alarm (Optional)

Six 5 amp 30 VDC or 250 VAC resistive Form C

Serial Port (Optional)

Master and slave RS-485 port equipped with Tx/Rx LEDs. Protocol = MODBUS RTU. 10-BaseT Ethernet with MODBUS TCP protocol

Display

128 x 64 pixel graphic LCD with backlight displays bar graphs, 30-minute trends and engineering units. Six discrete LEDs indicate alarm status for three alarms per channel

Temperature

-25°C to 50°C

Humidity

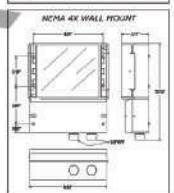
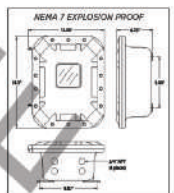
0 to 90% R.H. non-condensing

Power Supply

100 to 240 VAC or 24 VDC are standard primary power supplies. AC power source generates 24 VDC of 8 watts auxiliary power

Housing Options

NEMA 4X wall mount CSA certified for Class I, Division 2, Groups A, B, C, D
NEMA 7 explosion-proof wall mount for Division 1 areas
*Note: Adding Audible Alarm or Strobe Lights voids CSA Approval of Unit



APPROVALS

CSA C112.2 No. 152 performance requirements. This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or non-hazardous locations only. (Note: CSA for explosion-proof ATEX controller with any of the following items installed: 100db Pizao Audible Alarm, Dual Light Stack and Strobe Light)

Complete 7200 Plus Controller

Part Number	Description	Hazard Area Approval
093-0427	7200 Plus - 2 Channel, NEMA 4X, 4-20 mA Input Board, Audible Alarm	Ordinary Location
093-0428	7200 Plus - 2 Channel, NEMA 4X, Direct CatBead Input Board, Audible Alarm	Ordinary Location
093-0520	7200 Plus - 2 Channel, NEMA 4X, 4-20 mA Input Board, Alarm Relay Board, Audible Alarm	Ordinary Location
093-0516	7200 Plus - 2 Channel, NEMA 4X, 4-20 mA Input Board	CSA
093-0517	7200 Plus - 2 Channel, NEMA 4X, Direct CatBead Input Board	CSA
093-0429	7200 Plus - 2 Channel, NEMA 7, 4-20 mA Input Board	CSA
093-0430	7200 Plus - 2 Channel, NEMA 7, Direct CatBead Input Board	CSA

Complete 7400 Plus Controller

Part Number	Description	Hazard Area Approval
093-0455	7400 Plus - 4 Channel, NEMA 4X, Direct CatBead Input Board, Alarm Relay Board, Audible Alarm	Ordinary Location
093-0456	7400 Plus - 4 Channel, NEMA 4X, Direct CatBead Input Board, Audible Alarm	Ordinary Location
093-0457	7400 Plus - 4 Channel, NEMA 4X, 4-20 mA Input Board, Alarm Relay Board, Audible Alarm	Ordinary Location
093-0458	7400 Plus - 4 Channel, NEMA 4X, 4-20 mA Input Board, Audible Alarm	Ordinary Location
093-0518	7400 Plus - 4 Channel, NEMA 4X, Direct CatBead Input Board	CSA
093-0519	7400 Plus - 4 Channel, NEMA 4X, 4-20 mA Input Board	CSA
093-0459	7400 Plus - 4 Channel, NEMA 7, Direct CatBead Input Board, Alarm Relay Board	CSA
093-0460	7400 Plus - 4 Channel, NEMA 7, Direct CatBead Input Board	CSA
093-0461	7400 Plus - 4 Channel, NEMA 7, 4-20 mA Input Board, Alarm Relay Board	CSA
093-0462	7400 Plus - 4 Channel, NEMA 7, 4-20 mA Input Board	CSA

FIRE ALARM SYSTEM

Fire Alarm System berfungsi mendeteksi awal terjadinya kebakaran melalui Smoke Detector, Heat Detector, Flame Detector, etc.

System ini dapat mengaktifkan system pemadam kebakaran secara otomatis dan memberikan peringatan untuk pemadaman secara manual.

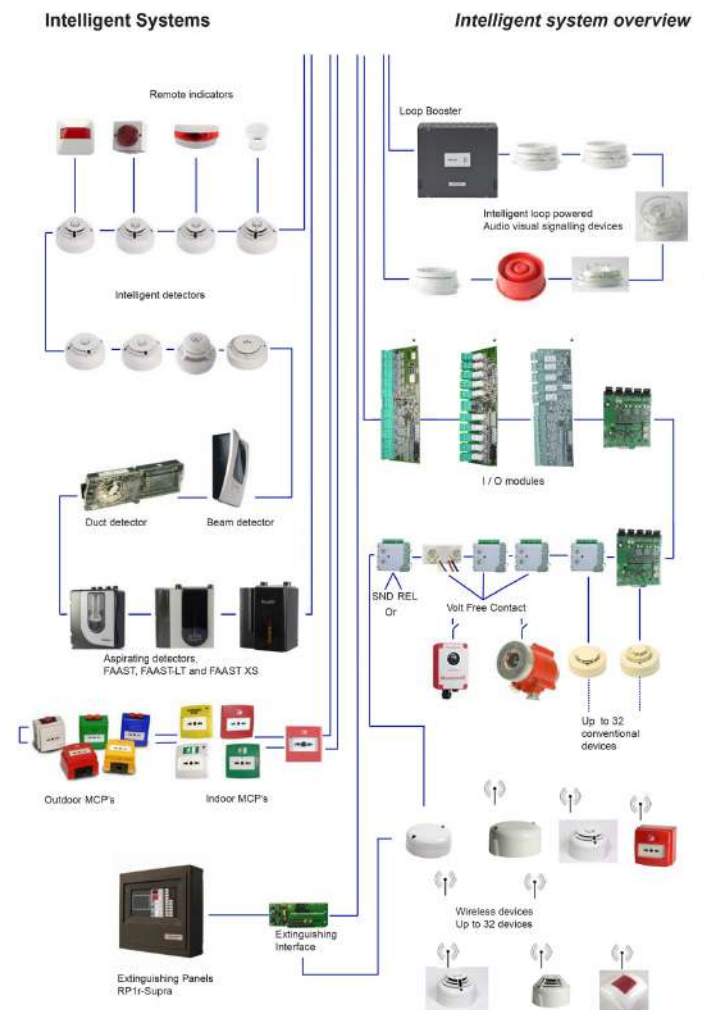
Produk dan system yang kami berikan merupakan produk unggul yang sudah teruji kualitasnya.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:



Intelligent
Systems

NOTIFIER
by Honeywell



* Note: CLIP protocol only.

NOTIFIER
by Honeywell

FIRE SUPPRESSION SYSTEM

Fire Suppression System adalah jaringan otomatis yang dirancang untuk mendeteksi dan memadamkan api di ruang tertutup dengan System Sprinkler, etc.

Sistem ini bekerja dengan melepaskan agen pemadam secara otomatis untuk menghilangkan panas, bahan bakar, atau oksigen dari segitiga api, meminimalkan kerusakan dan memberikan keamanan ketika intervensi manual tidak memungkinkan.

Produk dan system yang kami berikan merupakan produk unggul yang sudah teruji kualitasnya.

PRODUK-PRODUK

TERSEBUT TERDIRI DARI:

FIRETRACE®

POWER TO INNOVATE. FLEXIBILITY TO ADAPT.



FIRETRACE PRE-ENGINEERED SYSTEMS: THE ORIGINAL IS STILL INNOVATING

Designed for simple installation, often very near the source of a potential fire, Firetrace is a self-activating suppression system that reliably suppresses fire in seconds. We provide a low maintenance, cost-effective solution to the problem of "micro-environment" fire protection.

Micro-environments are applications where the hazard is typically contained within a critical enclosure, such as equipment, machines, vehicles, or storage compartments. Firetrace systems can be installed in virtually any enclosed space where high-value assets are located or where an increased risk of fire could be mitigated by an automatic fire suppression system.

THE FIRETRACE ADVANTAGE

The effectiveness of a genuine Firetrace system comes from our proprietary, polymer tubing that will rupture when exposed to the heat and flame of a growing fire. This specialized Firetrace Detection Tubing is UL component listed, combines leak resistance, flexibility, durability and precise temperature sensitivity, allowing it to react quickly when the heat from a fire is present. Our detection tubing connects to one of our custom engineered valves and a Firetrace cylinder that contains the best fire suppression agent for a particular hazard. Firetrace systems operate without the need for any power source – external or battery – and require no releasing panel to operate.

INTERNATIONAL APPROVALS

Firetrace has more than 20 international approvals and listings including:



CHOOSING THE RIGHT AGENT

Firetrace's systems are compatible with most commercially available fire suppression agents, including:

- 3M™ Novec™ 1230 Fluid
- Dry Chemical (ABC, BC, D)
- Black Widow
- FM-200®
- Foam
- CO₂



MILITARY EQUIPMENT

PRODUK-PRODUK

TERSEBUT TERDIRI DARI:

M 95 RESPIRATOR

FOR DEFENCE FORCES AND LAW ENFORCEMENT

IN THE FACE OF HAZARD

M 95 NBC RESPIRATOR

OUTPERFORMS STANDARDS FOR NBC PROTECTION



SCOTT
SAFETY



• The Scott M 95 respirator presents the highest standard in modern CBRN protection providing unrivalled reliability, safety and user-friendliness. Designed to meet the most critical hazards and stresses encountered in combat situations, the M 95 gas mask is user preferred.

The M 95 is in service worldwide, e.g. by the National Defence Forces of Finland and several other military forces, first responder teams, law enforcement personnel, national guards, naval forces and marines.

• OUTSTANDING PROTECTION & SAFETY

Precise fit and user comfort are the result of advanced computer aided design. Anatomical accuracy is based on a wealth of facial form data.

- The superior protection of the halo-butyl elastomer facepiece has been proven with live agent testing; it is impermeable to chemical agents such as sarin and mustard gas.
- Available in two sizes for optimum fit and safety for 100% matching of the population.
- The respirator is easy and rapid to don and doff - in only 10 seconds.
- Scott's extensive range of NBC filters provides protection against all known chemical, biological, radiological and nuclear agents and hazardous particles, like microorganisms. (See pages 6-7)

• SUPERIOR USER COMFORT

The Scott M 95 mask is comfortable to wear, even over long periods, thanks to its extremely low breathing resistance.

- Light in weight: the mask weighs only 460 g - or 720 g with the filter.
- The special small-size silicone inner mask reduces the CO₂-content to a minimum (< 4.5%), thereby eliminating fatigue.
- Moisture drainage is effective due to the practical downward positioning of the exhalation channel.
- Protected speech-diaphragm for optimal telecommunication.
- Polyester webbing band harness enhances wearer comfort and rapid donning.
- Integral drinking tube for the hygienic and convenient intake of liquids, double-threaded connector is compatible with a special M 95 bottle or a PET bottle.

• PRACTICAL CONSTRUCTION

- Filter connections on both sides of the facepiece facilitate left- or right-handed operation.
- The six-point head-harness ensures tight fit of the facepiece.
- Collision-proof construction of the mask and connector prevents accidental facial injuries.
- Spectacle frames for prescription lenses are easily secured to the anchor point in the inner mask and remain stable in hostile environments.
- Circulating the inhalation airflow across the inside of the lenses effectively prevents fogging.
- The dual lenses combined with the close-fitting profile of the mask offer an excellent downward and horizontal field of vision - over 80%.
- The two-lens construction means that the mask can be folded in half longitudinally for compact storage in a mask pouch.

MILITARY EQUIPMENT

Produk SAFETY Equipment yang kami miliki sangat dikenal oleh karena ketahanan dan ketangguhan. Penggunaan alat ini sebagian besar sama dengan pengguna dari FIRE & RESCUE EQUIPMENT. Hanya saja dalam jajaran Produk terdapat produk khusus untuk Kepolisian dan Militer.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:

M 98 RESPIRATOR

FOR CIVIL DEFENCE AND LAW ENFORCEMENT



SCOTT
SAFETY

M 98 RESPIRATOR

FOR CIVIL DEFENCE AND LAW ENFORCEMENT

Respiratory protective equipment for law enforcement and first responder teams must provide a high degree of reliable protection, as well as standard, comfortable performance to maximise operational efficiency.

- M 98 mask is designed particularly to protect against Chemical, Biological, Radiological and Nuclear (CBRN) hazards and riot control agents. Designed for extended wear times, the M 98 offers a drinking device port for quick rehydration during line rotation.
- **UNRIVALLED PROTECTION AND SAFETY**
 - Unique contoured sealing edge provides excellent fit for ultimate safety
 - Slim-line and compact design allows easy integration with police helmets and visors
 - Wide visor for extended field of vision
 - Filter connection is placed on side - no obstruction to field of vision
 - Filter connector accepts 40 mm EN 148-1 and NATO type canister
 - Optional drinking port is available for the intake of liquids with a special M'95 bottle or a standard PET bottle with 28mm thread
- **SUPERIOR COMFORT AND FIT**
 - Hypoallergenic elastomer construction
 - Available in two sizes for optimal fit
 - Special inner mask reduces the CO₂ content to a minimum - preventing fatigue
 - Lens fogging is avoided by circulating the inhalation air flow across the visor interior
 - Optional spectacle kit can be fitted with prescription lenses
 - Sweat port in the chin pocket for added comfort during extended wear periods
- **HIGH-QUALITY MATERIALS AND SECURE CONSTRUCTION**
 - The Halo-Butyl elastomer facepiece provides resistance to chemicals and ageing effects of ozone and high temperatures
 - Simple to disinfect, decontaminate and maintain
 - Polyamide visor features high tensile strength and excellent light transmission
 - Optional hard coated PC visor is available for extra solvent and scratch resistance
 - Filter canister is made from durable reinforced polyamide



MILITARY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:



OVERVIEW



WILCOX
PATRIOT 5510

On Target Respiratory Sustainment System

- CBRN Contaminated Environments
- Subterranean & Extended Time Operations

Hybrid Life Support Protection

- Air Purifying Respirator (APR)
- Powered Air Purifying Respirator (PAPR)
- Self Contained Breathing Apparatus (SCBA)
- Supplied Air Respirator (SAR)

Certified Dual Mode Standard

- Positive Pressure Air Flow
- Manufactured of materials for CBRN environments



aquaterro

PROPRIETARY INFORMATION OF WILCOX INDUSTRIES CORP.
DO NOT REPRODUCE

MILITARY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:



MOHOC

CAMERAS

MOHOC® & MOHOC IR® VISIBLE LIGHT & INFRARED MODELS

THE WORLD'S FIRST MILITARY OPTIMIZED HELMET CAMERAS

The tactically designed MOHOC® Camera revolutionizes form-factor, ruggedization, and user interface. The patented helmet-contoured base and low-profile housing eliminate snag hazards.

Waterproof to 10m/33ft and drop-proof to 2m/6.5ft, MOHOC® is military-grade tough and IP68 rated. Its single button tactile control with vibration feedback enables intuitive operation in any conditions.

MISSION CRITICAL HD IMAGES IN ALL LIGHT CONDITIONS

Both MOHOC® Cameras capture razor-sharp 1080p HD video and 12MP photos in visible light, low light, and white light. The MOHOC® IR model also records in total darkness when used with infrared illumination (black & white images).

TAC COMS

Stream live video by WiFi or HDMI, and relay to command over tactical radios or cellular networks.



TACTICAL FORM FACTOR
HELMET CONTOURED, LOW PROFILE, SNAG-FREE



MILITARY RUGGEDIZED
WATERPROOF, DROP-PROOF, MISSION READY



INTUITIVE USE
SIMPLE TACTILE OPERATION & VIBRATION ALERTS

MILITARY EQUIPMENT

Produk SAFETY Equipment yang kami miliki sangat dikenal oleh karena ketahanan dan ketangguhan. Penggunaan alat ini sebagian besar sama dengan pengguna dari FIRE & RESCUE EQUIPMENT. Hanya saja dalam jajaran Produk terdapat produk khusus untuk Kepolisian dan Militer.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:



RAPTOR 1: Emergency CBRN Protection Solution

High comfort and high protection CBRN Oversuit. This one-piece CBRN oversuit offers functionality for the military and civil security services around the world.

The Raptor 1 has been developed as a vapour barrier system that protects against chemical and biological agents providing protection to NATO standards.

Constructed using a lightweight activated carbon liner, combined with a highly breathable rugged rip stop outer, the suits maximum weight is just 1.8kg (base size).

The Raptor 1 offers 24 hours protection. The one-piece suit has been carefully designed to ease the physiological burden on the user and increase functionality, whilst maintaining well established donning procedures.

SPECIFICATIONS & KEY FEATURES:

- Conforms to NATO standards
- High protection
- 20% Lighter than conventional systems
- High air permeability
- Lower physiological burden
- 20 Times launderable
- Compatible with a wide range of ancillaries
- 15 Year shelf life
- Fire retardant and water/oil repellent
- Available in various colours and camo prints
- Used by Civil Services and Defence Forces around the world



Ensemble testing

MAN IN SIMULANT (MIST)

Physiological Protection Dosage Factor (PPDF)sys

Exceeds requirements for Class 3/Category C ensemble.

In accordance to NATO Standards.

MIST test was conducted using certified ancillary products.

Swatch testing

Mustard Agent (HD) Liquid - Laid droplet 10g/m²

24 Hours protection in accordance to NATO Standards.

Soman (GD) Liquid - Laid droplet 10g/m²

24 Hours protection in accordance to NATO Standards.

Mustard Agent (HD) Liquid after 20 times laundering -

Laid and fallen droplet 10g/m²

24 Hours protection.

Mustard gas performance

After Wash - 24 hours protection.

After Petrol - 24 hours protection.

After Salt - 24 hours protection.

After Ageing - 24 hours protection.

The Raptor 1 suit provides comfort at high and low temperature and humidity. Sweat rate at high humidity is also lower when measured against conventional over-garments.

The Raptor 1 suit has been designed as an integrated system for use with protective gloves and over-boots and a negative pressure respiratory system.

The suit is designed for use by appropriately trained and CBRN aware personnel.

Raptor 1: Emergency CBRN Protection Solution



- Used by Civil Services and Defence Forces around the world
- Functionality for the military services around the world
- 24 hours protection
- Maximum suit weight is just 1.8kg (base size)
- Exceeds the MIST physiological protection dosage factor required for a class 3 ensemble



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MILITARY EQUIPMENT

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PRODUK-PRODUK TERSEBUT TERDIRI DARI:

V5 S SERIES

VS 5 SERIES

PTFE visor
Power Resistance

WIPAN G/CK/CK+
One Glove for all

HPP CHEM BOOT (H/PA)
Safety Boots



V5 S POLYRAN-L

CHEMICAL PROTECTION

Fabric description, VS 5 POLYRAN-L

Matrix PA base fabric coated on both sides with POLYRAN (Performance TP)

Characteristics

- Extremely light-weight and flexible
- Reusable, washable, excellent mechanical properties (tear, abrasion and perforation-resistant)
- Excellent chemicals resistance to most acids and alkalis
- Applications: Industry, pharmaceuticals, clinics or as training suit for firefighters and decon

• Colour: yellow or red (optional)

• Approval: DIN EN 1481 Part 1-1a (Industry)
Ex zone area D (static inhibitor)
DIN EN 14126, DIN EN 1149, EN 1073-2, EN ISO 13688:2013

• Weight: 5.5 kg without extras

• Service life: up to 15 years according to manufacturer's guideline

• Protective gloves: Teftblue in sizes 7 to 10 (please specify when ordering)

• Alternative: Nectec Technic or 450 Alpha Tec (please specify when ordering)

• Safety boots: HPP- CHEM PA to EN ISO 20345:2011
• Boot sizes from 43 to 47 (please specify when ordering)

• Alternative: Footlets made of suit fabric

Ordering data

Sizes 160 to 175 cm Order no.: 0201-151 M

Sizes 170 to 185 cm Order no.: 0201-151 L

Sizes 180 to 190 cm Order no.: 0201-151 XL (standard)

Sizes 190 to 200 cm Order no.: 0201-151 XXL

ALTERNATIVE:

Also available with non-gas-tight zip fastener and applied "Training suit" marking.

Ordering note: TRAINING

Property rating, VS 5 POLYRAN-L

Chemical resistance	
Mechanical resistance	not tested
Heat: Contact heat at about 150 & 250 °C	not tested
Heat: Hot vapour at about 250 °C	not tested
Heat: Radiated heat at about 1000 °C	not tested
Cold: Contact cold at -30 °C	not tested
Cold: Contact cold at -80 °C	not tested
Cold: Contact cold at -100 °C	not tested

For further options, see CPS Accessories.



PRODUK-PRODUK
TERSEBUT TERDIRI DARI:



MILITARY EQUIPMENT

Produk SAFETY Equipment yang kami miliki sangat dikenal oleh karena ketahanan dan ketangguhan. Penggunaan alat ini sebagian besar sama dengan pengguna dari FIRE & RESCUE EQUIPMENT. Hanya saja dalam jajaran Produk terdapat produk khusus untuk Kepolisian dan Militer.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:



GS 3 SERIES

GS 3/GS 3M Series

Gas-tight protective hood - optionally available with various full-face breathing masks.

Gas-tight protective material (SYNAN/SILVERFLASH) with chemical-resistant, gas- and liquid-tight protective barrier foil.

Ultra clean (SYNAN/SILVERFLASH) Patented safety swim made of pure aramid with a chemically resistant flap cover including barrier film, facing outwards.

Gas- and liquid-tight protective boots with HPE elastomers, extremely robust, antistatic, highly resistant to chemicals, safety sole - flexible and safe.

HPE ULTRALIGHT Gas-tight safety zip with chemical-resistant gas- and liquid-tight protective barrier film on the back of the ZIP.

Description GS 3 (M) series: Gas-tight totally encapsulated suit - SCBA external (with mask)

One-piece gas-tight chemical/heat/lighter suit, with upper self-seal in the hood for safe gas-tight closure under full-face breathing masks, gas-tight zip on 5 x 110 cm horizontal at back, with aerial rupture on 6 x 90 cm horizontal at back, with 180 cm on right side optional - please specify when ordering, partly with laboratory cover, permanently fitted protective gloves, boots and pressure relief system, dual cover protection (not work interference).

• CPS (chemical protective suit) for industrial/industry/lighter use: The CPS series is most test workmanship with high-grade material.

• GS 3 series: GS 3 M3 Type 30 - motor two half with permanently fitted mask. The open field of vision is sealed with a special elastic high-performance elastomer (HPE) film seal for full-face use with an approved emergency mask. The GS 3 series can be used with approved (tested) breathing apparatus and full-face masks (for selection please inquire). Mask externally secured.

• GS 3 M series GS 3 M3 Type 30 - Protective suit with permanently fitted mask. The open field of vision is sealed with a special high-performance elastomer (HPE) film seal in combination with an integrated, permanently fitted, approved respiratory mask. The GS 3 M series can be used with approved breathing apparatus and full-face masks (for selection please inquire) - mask internally secured.

Protective suits - special features

- Gas-tight chemical protection according to protection level EN 439-1: 2-3-4-5 (OT) (1st and 11th Types 1A, 1B, 1C and EN 14328 Type 1).
- HAZARDOUS MATERIALS: All enclosed materials, certified by A20 test (leak test) (leak test).
- HPE film and skin-friendly materials.
- FREE FROM SOLVENTS: TESMAN suits are produced without solvents, making them extremely robust, better washable, more sustainable than other suits and safety materials.
- Unique three-dimensional construction of gas-tight, chemically and thermally resistant, ultra-clean elastomers (HPE, HPE), on robust, lightweight and tear-resistant base fabric (HPE and HPE glass weave).
- Unique fabric structure with outward facing chemical barrier (HPE film) that reliably stops hazardous substances without affecting the base fabric as with other protective suits (TEFLON, PVC, GORE).
- Outstanding chemical protection for up to 8 hours (chemical tests according to EN 439 Parts 1 and 1B according to 20-hour gas tests (20-hour standard: 1000 mg/m², 1000 mg/m²).
- Chemical permeation data list for approx. 1000 hazardous substances.
- Chemically, gas-tight base and electrical conductors: ultra-clean chemical resistance to highly corrosive acids, bases, solvents and steam (distillation and long-term stability).
- Outstanding flame resistance according to EN 11214-1 (approx. 300°C, EN 11212 (EN 11212-1) and EN 11212-2 test according to ISO 23530 (EN 11212-1) and ISO 23530-2).
- Outstanding cold protection according to EN 143 and 143 (approx. 140 °C, down to -130 °C).
- Superior tensile and tear properties, strength, puncture and abrasion resistance as well as seam strength offer extreme mechanical robustness and ensure the wearer's safety - according to EN 14122.
- Approved for use in hazardous areas - reliable protection against arcing.
- Available in different versions: Totally encapsulated suit (Type 2A ET (D25A model), 2007 (D25A model) for use in hazardous areas as well as 2C (with 5.52A, with compressed air forced ventilation) and Type 3 (Type 3M protective suits as coveralls or powered filter unit protective suits).
- Extensive range of accessories: sensors, light, forced ventilation, functional armband, optical system.
- Comprehensive service: professional decompression, Total Care, Safe and sustainable, worldwide.
- These protective suits unite excellent quality with high-grade materials and components.
- Optimum fit through range of sizes.
- Perfect design also at critical points.

MILITARY EQUIPMENT

Produk SAFETY Equipment yang kami miliki sangat dikenal oleh karena ketahanan dan ketangguhan. Penggunaan alat ini sebagian besar sama dengan pengguna dari FIRE & RESCUE EQUIPMENT. Hanya saja dalam jajaran Produk terdapat produk khusus untuk Kepolisian dan Militer.

PRODUK-PRODUK TERSEBUT TERDIRI DARI:



VS 20 SERIES

VS 20 SERIES

Gas- and liquid-tight triple vision assembly, universally chemical resistant, thermally stable and mechanically extremely robust, UV-resistant, crystal clear, anti-fog lenser with antibacterial characteristics, 15-year long-life guarantee (lensing) with ANGEL LIGHT & SENSOR SYSTEMS (optional)

Gas-tight protective material (SPKAM/SLIVERFLASH) with chemical, gas- and liquid-tight protective barrier film

ANGEL SENSOR SYSTEMS

Gas-tight protective gloves, WIPAN C-CK-CK+ made of HPE elastomers, partially (CK+) with chemically resistant, gas- and liquid-tight barrier film

Ultra seam (SPKAM/SLIVERFLASH) Patented safety seam made of para-aramid with a chemically resistant tape cover including barrier film, tacking outwards

HPE ULTRA zip (SPKAM/SLIVERFLASH) Gas-tight safety zip with chemical resistant, gas- and liquid-tight protective barrier film

Gas- and liquid-tight protective boots with HPE elastomers, extremely robust, antistatic, highly resistant to chemicals, safety sole - flexible and safe

VS 20 series: gas-tight totally encapsulated chemical protective suit - type Ia (ET) - Internal SCBA

The standard equipment varies depending on the model:

- One-piece (gas-tight) totally encapsulated chemical protective suit with a triple interchangeable (ET) vision lenser with one-lens protective state, chemical barrier and permanent anti-fog coating on the inside, a gas-tight zip (180 cm), partly with fabric cover, integrated protective gloves and boots, integrated trousers and pressure relief valves, with double protective fabric cover (300 g/m² high-quality HPE elastomers)
- CPS (chemical protective suit) for use in industrial and firefighting, industry, works fire brigades and military
- Classification by standard: Type Ia (ET) - gas-tight chemical protective suit with breathing air supply access inside the chemical protective suit, for example compressed air equipment
- The CPS online an excellent accordance with high-grade materials
- Highly resistant to fire and heat (resistant to 1000°C for 10 minutes) and the suit has a reinforced helmet, for example according to EN 442 for firefighter helmets, EN 12447 for technical rescue, EN 1281 for industrial helmets and EN 12450 for mountaineering helmets (not recommended)
- Service life: 10 years/30 years, then inspection; 15 years/30 years for limited-use CHEMIA (Optional: Safety STOCK: 20 years maintenance-free, vacuum packaged with seal)
- Size: Five individual sizes (S to XXL)
- Optional fit through use of slim
- Perfect design also at critical points

Protective suits - special features

Resistant chemical protective suits according to protection level EN 442 3/-2: Ia-b (ET)/1/-2 and 3/-2 Type Ia, Ib, 1/-2 and Ia, 1/-2, 1/-2, 1/-2

HAPPINESS MATERIALS

- Reinforced barrier film, reinforced by ADO (reinforced colour)
- PRO-ARM and skin-friendly materials
- Visor made of PVC, thus no highly toxic gas on respiration (fluorine), from heat-resistant, durable, tear-resistant, flame-resistant, PPS and PPS
- REINFORCED THERMAL THERMAL suits are produced without adhesives, making them extremely robust, better suitable, more sustainable than other suits and safety wearables
- Ultra seam: double stitching or gas-tight, chemically and thermally resistant, abrasion-resistant attachment (TP, HPE), on robust, lightweight and super-flexible fabric (HPE, HPE and HPE) with a seam
- Ultra seam: double stitching with outward facing chemical barrier (HPE film) that reliably deep barrier in substance without affecting the barrier film as with other protective suits (DCL, HPE, HPE)
- Outstanding chemical protection for up to 8 h (chemical tests according to EN 442 Parts 1 and 2) according to 20-hour gas-tight (EN standard: EN 442 3/-2: 1/-2)
- Chemical permeation data (d) for approx. 1000 hazardous substances
- Outstanding thermal resistance according to EN 12447-4: approx. 1000°C (EN 12447-4: 1000°C)
- Outstanding and proven according to EN 442 and European tests (EN 442, EN 12447-4: 1000°C)
- Superior tensile and tear propagation strength, puncture and abrasion resistance as well as seam strength offer extreme mechanical robustness and ensure the wearer's safety - according to EN 12447-4
- Approved for use in hazardous areas - reliable protection against entry
- Available in different versions: Totally encapsulated suit Type Ia (ET) (SCBA model), 1/-2 (ET) (SCBA suitable) for work in confined spaces as well as 3/-2 (without SCBA), with compressed air forced ventilation and Type 3 liquid-tight protective suits as coveralls or powered filter unit protective suits
- Extensive range of accessories: sensors, light, forced ventilation, functional endarm, optional extras
- Comprehensive service professional decision system: Total Care. Safe and sustainable - world-wide
- These protective suits meet excellent quality with high-grade materials and components
- Optional fit through use of slim
- Perfect design also at critical points



FIRE SYSTEM

Reliable®

Model GXLO Series Sprinklers

Storage and Non-Storage Sprinklers
K11.2 (160 metric)

Product Description

Reliable Model GXLO (extra-large orifice) upright and pendent sprinklers are standard coverage standard-response sprinklers that utilize a robust center strut, solder in compression thermal element. These sprinklers are intended for use in hydraulically calculated control mode density area (CMDA) storage and non-storage occupancies in accordance with the area/density curves of NFPA 13 or other applicable standards.

The Model GXLO sprinkler is FM Approved as a standard-response storage and non-storage sprinkler when used in accordance with FM Global Property Loss Prevention Data Sheets.

For new installations, the sprinkler is provided with either 3/4-inch NPT or ISO 7-R3/4 threads. The upright version is also available with 1/2-inch NPT or ISO 7-R1/2 threads for retrofit installations only. Sprinklers without guards are installed using the Model H wrench.

For use as an intermediate level sprinkler, the Model GXLO upright sprinkler is available with a factory installed water shield. Various other water shields, guards, or guard/shield options are also available for both upright and pendent models (please refer to Technical Specifications on following pages). Sprinkler guards or guard/shields may be installed in the field or factory installed. Use of the Model JV sprinkler wrench is required for installation where a guard is added to the sprinkler prior to threading the assembly into a fitting.

Important! Reliable fire sprinklers must be handled, stored, and installed in accordance with the guidelines in Caution Sheet 310 and this bulletin. Failure to follow these instructions may result in unintended operation or nonoperation of the fire protection system.



Upright



Pendent

Model GXLO Series Sprinklers



Upright with Factory Installed Shield
(Factory Installed water shield)

Model GXLO Specifications

Table A

Style	Sprinkler Identification Number (SIN)	Listings and Approvals	Sensitivity	K-Factor
Upright Intermediate Upright	R2921	cULus, FM	Standard Response	11.2 (160 metric)
Pendent	R2916	FM		

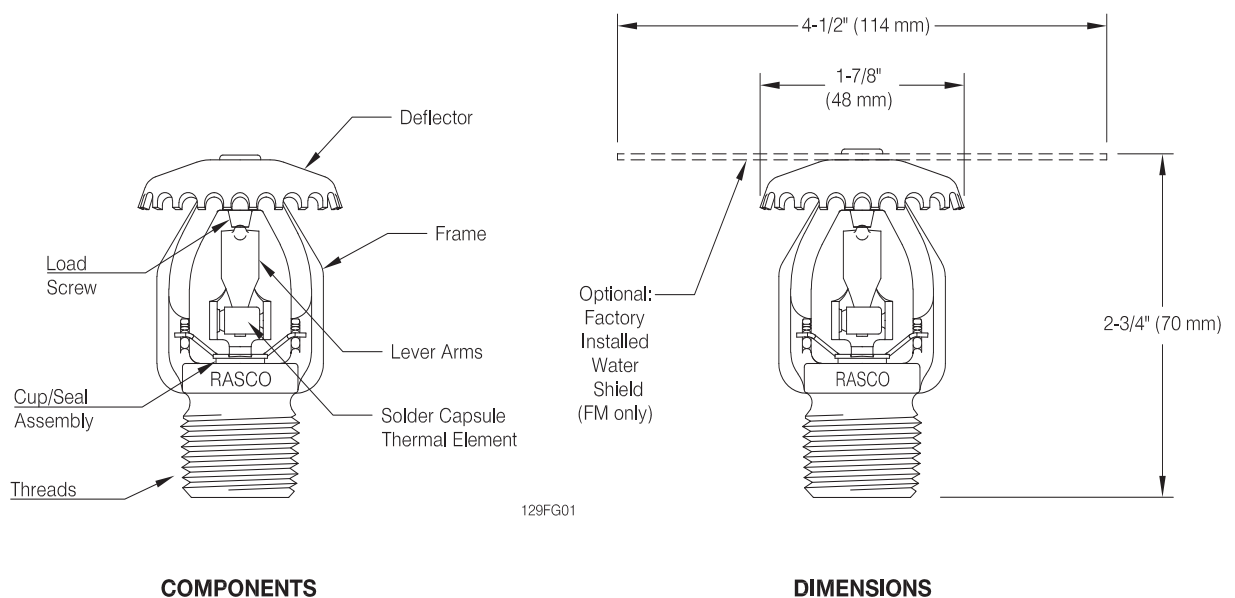
FIRE SYSTEM

Model GXLO Upright Sprinkler		SIN R2921
Technical Specifications Style: Upright, Intermediate Upright Threads: 3/4" NPT or ISO 7-1R3/4* Nominal K-Factor: 11.2 (160 metric) Max. Working Pressure: 175 psi (12 bar)	Sensitivity Standard Response Temperature Ratings See Table D	
Material Specifications Thermal Sensor: Solder Capsule Sprinkler Frame: Brass Alloy Button/Cup: Brass Alloy Sealing Assembly: Brass with PTFE Load Screw: Bronze Deflector: Bronze Alloy Levers: Bronze Alloy Ejection Spring: Stainless Steel	Guards & Shields D-6 Guard & Water Shield (cULus) D-7 Guard & Water Shield (FM) D-8 Guard (FM) Water Shield (factory installed; FM)	
Sprinkler Finishes See Table C	Sprinkler Wrench Model H Model W15 (with guard installed)	
	Listings and Approvals cULus Listed FM Approved	

***Note:** 1/2" NPT and ISO 7-R1/2 threads available for RETROFIT APPLICATIONS ONLY on upright sprinkler. This sprinkler will be identified with a pintle on the deflector. Not available on intermediate upright sprinkler.

Model GXLO Upright Components and Dimensions

Figure 1

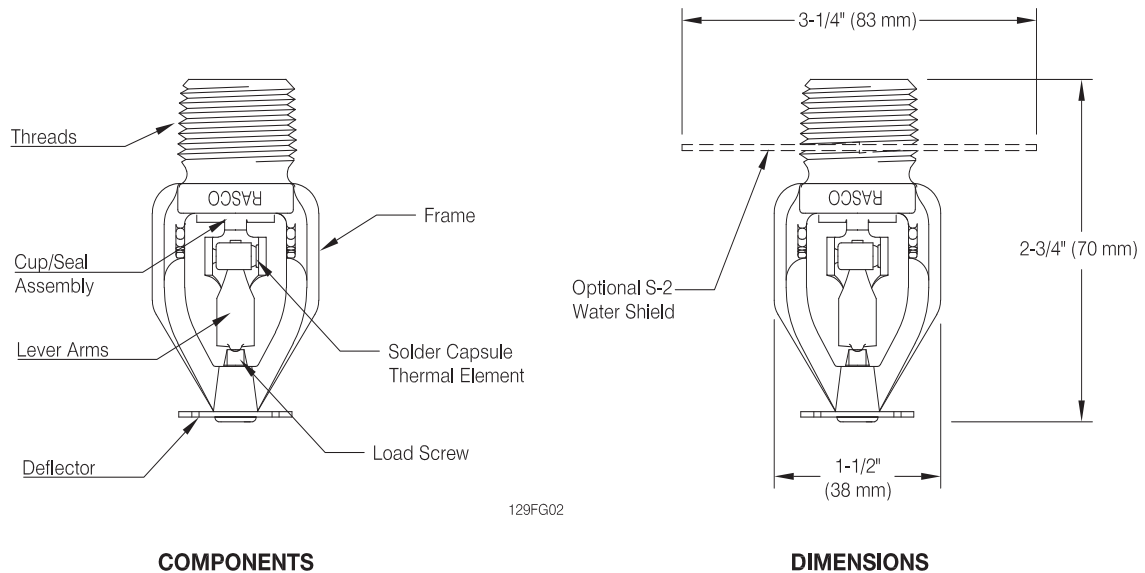


FIRE SYSTEM

Model GXLO Pendent Sprinkler		SIN R2916
Technical Specifications Style: Pendent Threads: 3/4" NPT or ISO 7-1R3/4 Nominal K-Factor: 11.2 (160 metric) Max. Working Pressure: 175 psi (12 bar)	Sensitivity Standard Response Temperature Ratings See Table D	
Material Specifications Thermal Sensor: Beryllium Nickel Solder Link Sprinkler Frame: Brass Alloy Button/Cup: Brass Alloy Sealing Assembly: Brass Alloy with PTFE Load Screw: Bronze Deflector: Bronze Alloy Levers: Bronze Alloy	Guards & Shields D-8 Guard D-9 Guard & Water Shield S-2 Water Shield	
Sprinkler Finishes See Table C	Sprinkler Wrench Model H Model W15 (with guard installed)	
	Listings and Approvals FM Approved	

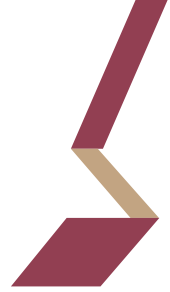
Model GXLO Pendent Components and Dimensions

Figure 2



129FG02

FIRE SYSTEM



Model GXLO Commodity Selection and Design Criteria Overview

Table B

Storage Type	NFPA	FM GLOBAL
Sprinkler Type	CMDA	Storage
Response Type	SR	SR
System Type	Pendent - Wet Upright - Wet, Dry, Preaction	Pendent - Wet Upright - Wet, Dry, Preaction
Temperature Rating °F (°C)	165, 212, 286 (74, 100, 141)	165, 212, 286 (74, 100, 141)
Roof Construction	See NFPA 13	See FM Global 2-0
Ceiling Slope	See NFPA 13	See FM Global 2-0
Maximum Coverage Area	See NFPA 13	See FM Global 2-0
Minimum Coverage Area	See NFPA 13	See FM Global 2-0
Maximum Spacing	See NFPA 13	See FM Global 2-0
Minimum Spacing	See NFPA 13	See FM Global 2-0
Minimum Clearance to Commodity	See NFPA 13	See FM Global 2-0
Sprinkler Distance to Ceiling	See NFPA 13	See FM Global 2-0
Open Frame, Single, Double, Multiple Row, or Portable Rack Storage of Class I - IV Commodity and Group A Plastic	See NFPA 13	See FM 2-0 & 8-9
Solid Pile or Palletized Storage of Class I - IV Commodity and Group A Plastic	See NFPA 13	See FM 2-0 & 8-9
Idle Pallet Storage	See NFPA 13	See FM 2-0,8-9 & 8-24
Rubber Tire Storage	See NFPA 13	See FM 8-3
Rolled Paper Storage	See NFPA 13	Pendent - N/A Upright - See FM 8-21
Flammable Liquid Storage	See NFPA 30	See FM 7-29 and 8-9
Aerosol Storage	See NFPA 13	See FM 7-31
Auto Components in Portable Racks	See NFPA 13	See FM 2-0 and 8-9



FIRE SYSTEM

Finishes

Table C

Upright (R2921)	Pendent (R2916)
Bronze	Bronze
Chrome ⁽¹⁾	
Lead ⁽¹⁾⁽²⁾	
Wax ⁽¹⁾⁽²⁾⁽³⁾	
Wax over Lead ⁽¹⁾⁽²⁾⁽³⁾	

Notes:

1. Not available with factory attached water shield
2. cULus listed as corrosion resistant
3. Clear wax used on ordinary temperature rated sprinklers. Brown wax used on intermediate temperature rated sprinklers. Brown wax may be used on high temperature rated sprinklers where the ambient temperature does not exceed 150°F (66°C).

Temperature Ratings

Table D

Classification	Sprinkler Rating		Maximum Ambient Temperature		Frame Color
	°F	°C	°F	°C	
Ordinary	165	74	100	38	Uncolored
Intermediate	212	100	150	66	White
High	286	141	225	107	Blue

Installation

Model GXLO sprinklers must be installed according to appropriate NFPA Standards, FM Global Loss Prevention Data Sheets, and/or the requirements of the authority having jurisdiction.

Use only the Model H sprinkler wrench for sprinkler installation or use the Model W15 wrench to install the sprinkler/guard assembly (Figure 3). Any other type of wrench may damage the sprinkler. Damaged sprinklers must be replaced immediately.

A leak tight joint should be obtained with a torque of 14 to 20 lb-ft (19 to 27 N.m) for 3/4 inch NPT and ISO 7-R3/4 thread sprinklers. For 1/2 inch NPT and ISO 7-R1/2 thread sprinklers the recommended installation torque is 8 to 18 lb-ft (11 to 24 N.m). Exceeding the maximum recommended torque may cause leakage or impairment of the sprinklers.

Wrenches

Figure 3



Maintenance

Reliable Model GXLO sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler which has been painted (other than factory applied). A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers.

Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify the following when ordering.

Model GXLO Sprinkler

- Upright
- Intermediate Upright
- Pendent

Threads

- 3/4" NPT
- ISO 7-R3/4
- 1/2" NPT (Retrofit installations only, upright only)
- ISO 7-R1/2 (Retrofit installations only, upright only)

Temperature Rating

- 165°F (74°C)
- 212°F (100°C)
- 286°F (141°C)

Finish

See Table C

Guards/Shields

See Technical Specifications

Wrench

- Model H
- Model W15 (with guards installed)

FIRE SYSTEM

Reliable

TECHNOLOGY • QUALITY • SERVICE

REL-OSY-399F

Resilient Seated OS&Y Flanged

Grooved End Butterfly Valves

Gate Valve



Valve Standard

Conforms to AWWA C515/BS5163

Working Pressure

300 psi (21 bar)

Max Working Temperature

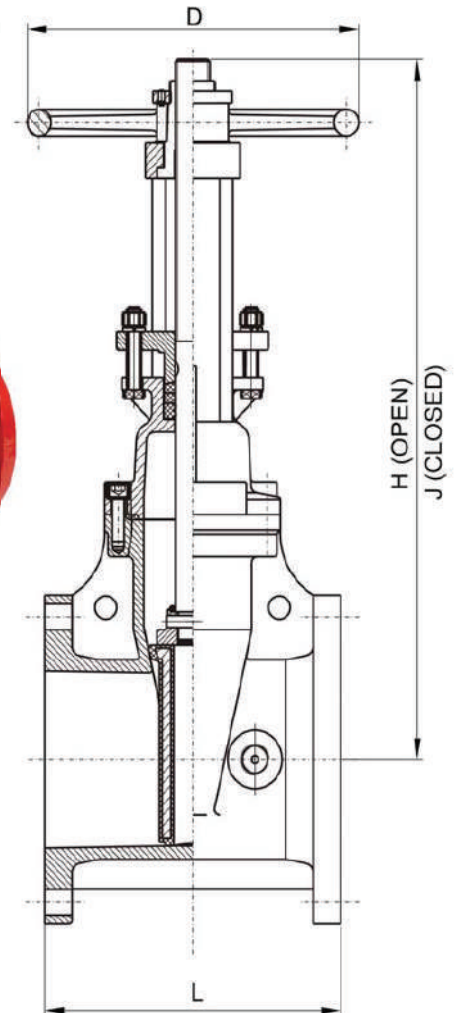
230°F (110°C)

Flanged Ends

ANSI B16.1 Class 125

Materials List

Part Name	Material	Specification
Body	Ductile Iron	A536 65-45-12
Wedge	Ductile Iron EPDM Coated	
Wedge Nut	Stainless Steel	AISI304
Stem	Stainless Steel	AISI304/302
Bonnet	Ductile Iron	A536 65-45-12
Gasket	EPDM	Commercial
Packing	Graphite	Non-asbestos
Stem Nut	Bronze	ASTM B62
Handwheel	Ductile Iron	A536 65-45-12



Dimensions: Inch (mm)

Size	2 ½ (65)	3 (80)	4 (100)	5 (125)	6 (150)	8 (200)	10 (250)	12 (300)
L	7.5 (191)	8.0 (203)	9.0 (229)	10.0 (254)	10.5 (267)	11.5 (292)	13.0 (330)	14.0 (356)
H	16.46 (418)	19.21 (488)	21.18 (538)	25.75 (654)	29.13 (740)	36.81 (935)	44.33 (1126)	51.81 (1316)
J	13.8 (350.5)	15.96 (405.5)	17.17 (436)	20.79 (528)	23.27 (591)	28.74 (730)	34.29 (871)	39.8 (1011)
D	7.2 (183)	9.96 (253)	9.96 (253)	12.05 (306)	12.05 (306)	13.98 (355)	17.52 (445)	17.52 (445)

Weight: lbs (kg)

Size	2 (50)	2 ½ (65)	3 (80)	4 (100)	5 (125)	6 (150)	8 (200)	10 (250)	12 (300)
W	41.89 (19)	46.3 (21)	61.73 (28)	81.57 (37)	110.23 (50)	127.87 (58)	216.05 (98)	295.42 (134)	418.88 (190)

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FIRE SYSTEM

Reliable®

Model E
4" (100 mm), 6" (150 mm)
and 8" (200 mm)
Alarm Check Valves
with Model E3 Trim

Features

1. Made expressly for all wet-pipe sprinkler systems.
2. Valve's grooved seat design insures positive water flow alarm operation.
3. Precision retard chamber prevents false alarms under variable pressure conditions.
4. External by-pass aids prevention of false alarms under all supply pressure conditions.
5. Installation in either vertical or horizontal positions.
6. Three connection styles available:
 - ANSI flanged inlet and outlet
 - ANSI flanged inlet and grooved outlet
 - Metric flanged inlet and outlet
7. Galvanized trim styles available:
 - Individual part trim
 - Pre-assembled trim
 - Factory trimmed valve
8. Pressure relief trim approved by Factory Mutual Corporation. (FM)

Approvals & Listings:

1. Listed by Underwriters Laboratories and certified by UL for Canada (cULus)
2. Approved by Factory Mutual Research Corp. (FM)
3. LPC (UK)
4. Scientific Services Laboratory (SSL, Australia)
5. Conforms to EN 12259-2 metric sizes only (CE)
6. UKCA: 0832-UKCA-CPR-S5042



The Reliable Model E Alarm Check Valve acts as a Water Flow Alarm Device in wet pipe sprinkler systems. The design allows for installation under both variable and constant supply pressure conditions. When water flows in the sprinkler system due to the operation of one or more Automatic Fire Sprinklers the Alarm Valve opens, allowing continuous flow of water into the system and a transmission of an alarm, both electrically and mechanically.

FIRE SYSTEM

Operation

Variable Pressure

The Reliable Model E Alarm Check Valve in its closed and open positions is shown in Fig.1 and Fig. 2. The closed position is maintained as long as the water pressure in the sprinkler system piping above the Alarm Valve is greater than, or equal to, the supply pressure. A flow of water in the system piping, resulting from the discharge through one or more fused Automatic Sprinkler(s), causes the Clapper to rise off its Grooved Seat and permits water from the supply to enter the system for distribution on the fire.

Virtually all sprinkler systems piping contain confined air. If a water hammer or pressure surge occurs in the supply line, the increased pressure will compress the confined air and cause the Alarm Valve Clapper to lift intermittently which may result in false alarms. The Model E Alarm Check Valve prevents false alarms under these conditions using two features:

- The By-Pass connection with Check Valve (Figure 3 & 4) allows pressure surges from the supply to by-pass the Alarm Valve Clapper. An excess system pressure is thus created which steadies the Clapper. Should a heavy surge unseat the Clapper and permit water to flow into the alarm line, the Retard Chamber then comes into action.
- Drain Orifice Restriction from / to the Retard Chamber allows intermittent flows to be drained before the Chamber fills and activates the Alarms.

Constant Pressure

The operation of the Model E Alarm Check Valve in installations where the water pressure is constant, is the same as described above, with this exception: The Retard Chamber is not required and water passing through the Groove in the Alarm Check Valve Seat flows directly to and activates the Mechanical and Electrical Alarms.

Valve Description

- Rated working pressure 175 psi (12,3 bar).
- Factory hydrostatic test pressure 350 psi (24,6 bar).
- End and trim connections—Three valve connection styles are available.
 - US Standard Flanged Inlet and Outlet Flanges mate with ANSI B 16.1 (125 lb.) Flange
 - Flanges mate with ANSI B 16.1 (125 lb.) Flange

U.S. Flange Dimensions In Inches (mm)					
Valve Size	Bolt Circle Dia.	Bolt Hole Dia.	Flange Outside	Flange Thickness	No. Bolts
4" (100mm)	7½	¾	9	15/16	8
6" (150mm)	9½	7/8	11	1	8
8" (200mm)	11¾	7/8	13½	11/8	8

- Threaded openings per ANSI B 2.1
 - Reliable's standard trim sets are compatible with US Flanged and Grooved Valves.
 - Color— Black
- US Standard Flanged Inlet and Grooved Outlet
 - Inlet flange mates with ANSI B 16.1 (125 lb.) Flange.
 - Outlet groove per ANSI/AWWA C606

U.S. Groove Dimensions In Inches (mm)				
Valve Size	Outlet Dia.	Groove Dia.	Groove Width	Outlet Face To Groove
4" (100mm)	4.500 (114)	4.334 (110)	3/8 (9.5)	5/8 (16)
6" (150mm)	6.625 (168)	6.455 (168)	3/8 (9.5)	5/8 (16)
8" (200mm)	8.625 (219)	8.441 (214)	7/16 (11.11)	¾ (19)

- Threaded openings per ANSI B 2.1
 - Reliable's standard trim sets are compatible with US Flanged and Grooved Valves.
 - Color— Black
- Metric Flanged Inlet and Outlet
 - 100mm & 150mm valve plain face flanges mate with DIN2501, NF-E-29-282, ISO 2084 NP10 and NP16 and BS4504 NP10 and NP16.
 - 200mm valve raised face flanges mate with DIN 2501, ISO 2084 NP16 and BS4504 NP16.

Metric Flange Dimensions in Millimeters							
Valve Size	Bolt Circle Dia.	Bolt Hole Dia.	Raised Dia.	Face Ht.	Flange Outside Dia.	Flange Thickness	No. Bolts
100mm	180	18.3	—	—	229	23.8	8
150mm	241	22.2	—	—	279	25.4	8
200mm	295	22.2	268	3	343	28.6	12

- Threaded openings per ISO 7/1 R.
- Reliable's standard trim sets may be used with Metric Valves providing trim is assembled carefully and extra thread sealant is applied to connections between valves and trim.
- Color— Red

Model E Alarm Valve

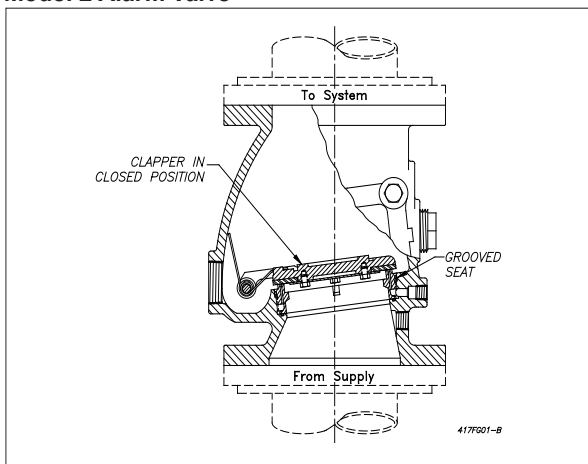


Fig. 1

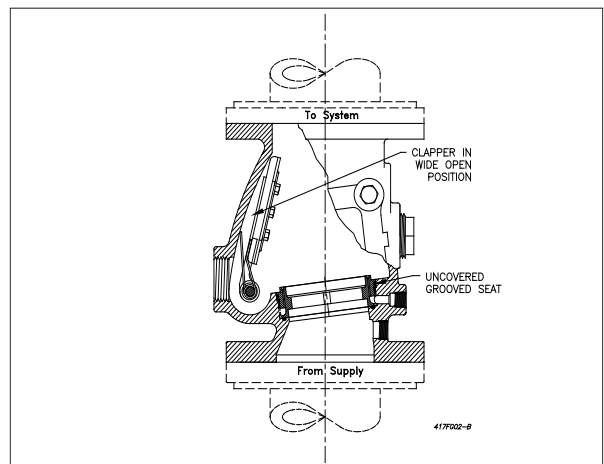


Fig. 2

FIRE SYSTEM

4. Face to Face Dimension
 - For 4" (100 mm) Model —11¾" (299 mm)
 - For 6" (150 mm) Model —13½" (343 mm)
 - For 8" (200 mm) Model —14 ½" (368 mm)

5. Shipping Weight

Flanged Inlet and Outlet	Flanged Inlet and Grooved Outlet
4" (100 mm) 80 lb. (36.3 kg)	70 lb. (31.8 kg)
6" (150 mm) 116 lb. (52.6 kg)	102 lb. (46.3 kg)
8" (200 mm) 155 lb. (70.3 kg)	143 lb. (64.9 kg)

6. Friction Loss—Expressed in Equivalent Length of Pipe, Based on Hazen & Williams formula with C = 120.

	Equiv Length
4" (100 mm)	17' (5.18 m)
6" (150 mm)	27' (8.23 m)
8" (200 mm)	29' (8.84 m)

- Installation position—All sizes may be installed either vertically or horizontally.

Model E3 Trim Description

The E3 trim sets for the Reliable Model E Alarm Valve (Figs. 3 & 4) are arranged for rapid, easy and compact attachment, and serve as connection points to Reliable alarm and other devices. They also act as a means for testing the system to operate. The Model E alarm valves are available in two trims and may be installed in the vertical or horizontal position in the main supply to the wet pipe system:

- **Constant Pressure, Closed Drain - Retard Chamber** is not required. The Model E3 trim comes as a constant pressure trim. This trim set is used where water supply pressure does not vary, such as a gravity tank. The mechanical sprinkler alarm line automatically drains to the 2" (50mm) main drain line.
- **Variable Pressure with Closed Retard Chamber Drain—**Retard Chamber is required. This trim is used where water supply pressures vary. The mechanical sprinkler alarm line automatically drains to the 2" (50mm) main drain line.
- **Variable Pressure with Open Retard Chamber Drain —**Retard chamber is required. Optional Drain Line Kit required (see Figs. 3 & 4). This trim set is used where water supply pressures vary. An open drip cup is provided to drain the retard chamber and the mechanical sprinkler alarm line. This drain connection should be piped separately from the 2" main drain.

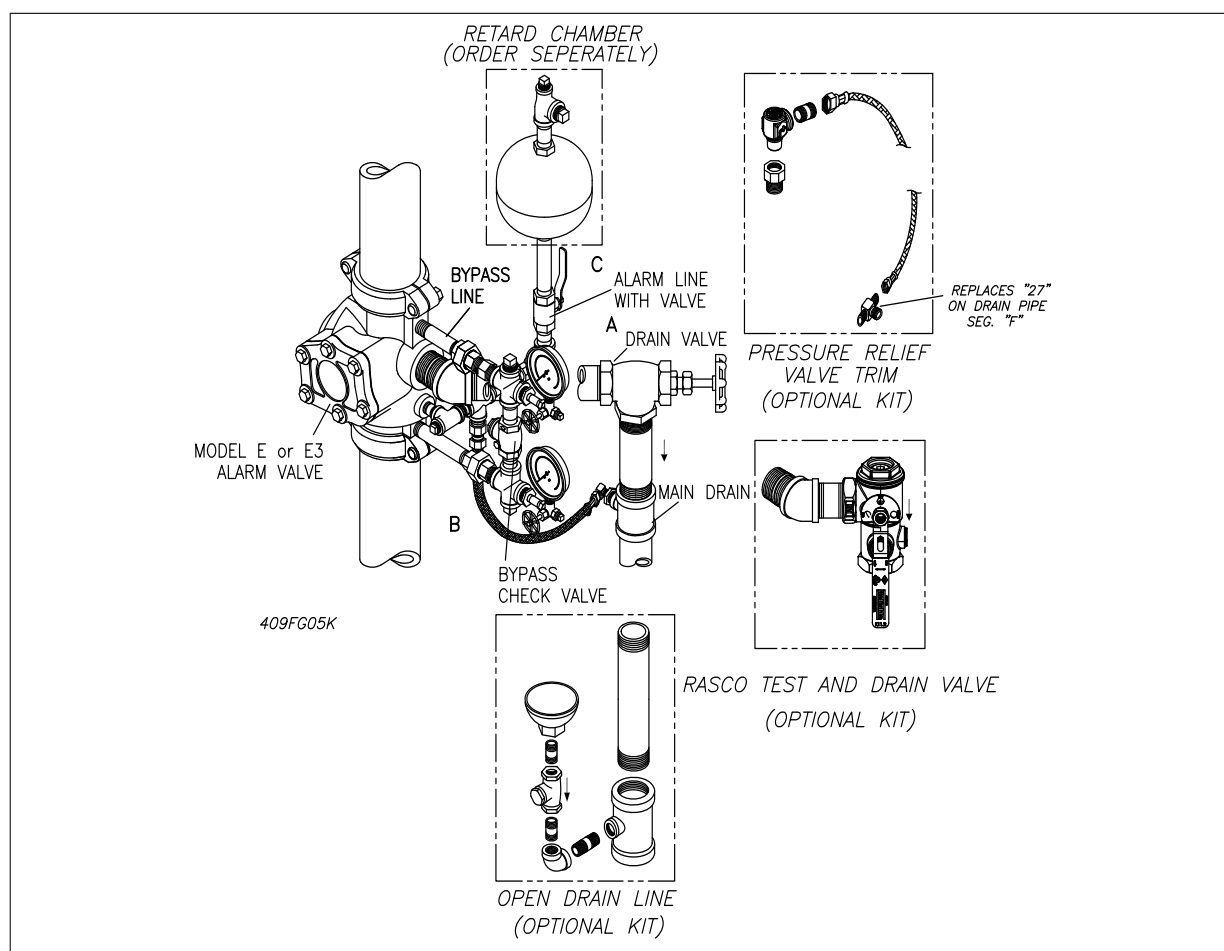


Fig. 3

FIRE SYSTEM

Note:

- The trim set permits both vertical (Fig. 3) and horizontal (Fig. 4) installations.
- A Reliable TD test and drain valve segment is optional, to be purchased separately, as a replacement to the Drain valve (see optional Kit in Figs. 3 & 4).
- All trim sets can be fitted with an optional Pressure Relief Trim Kit (see optional kit in Figs. 3 & 4) to relieve pressures above 175 psi in the sprinkler system, as required by NFPA 13 2010 edition and newer.
- Pressure Relief Trim Kit**—Required with a wet pipe system when a rise in ambient temperature can cause system pressure to exceed 175 psi (12 bar) or with gridded systems.

Pressure relief trim is not intended for use in relieving water hammer or fire pump surges. It must be installed and maintained in compliance with NFPA 13, local codes and the authority having jurisdiction.

Trim Kits are available, galvanized in three trim styles:

- Individual part trim
- Pre-assembled trim
- Factory trimmed valve

Alarm valves are listed and approved by Underwriters Laboratories, Inc. and Factory Mutual Research Corp. only when used with the valve manufacturer's trim sets.

Ordering Information—Specify:

- Valve Size — 4" (100mm), 6" (150mm) or 8" (200mm). When size is specified in mm, a metric valve per 3.c will be supplied.
- Inlet and Outlet Connection—Either Flanged/Flanged or Flanged/Grooved.
- Type of Trim—Constant Pressure or Variable Pressure/Open Drain or Variable Pressure/Closed Drain.
- Style of Trim—Individual Part Trim or Pre-Assembled
- Additional Equipment—Retard Chamber, Mechanical Sprinkler Alarm, Pressure Relief Trim Kit, and Pressure Alarm Switch must be separately ordered.

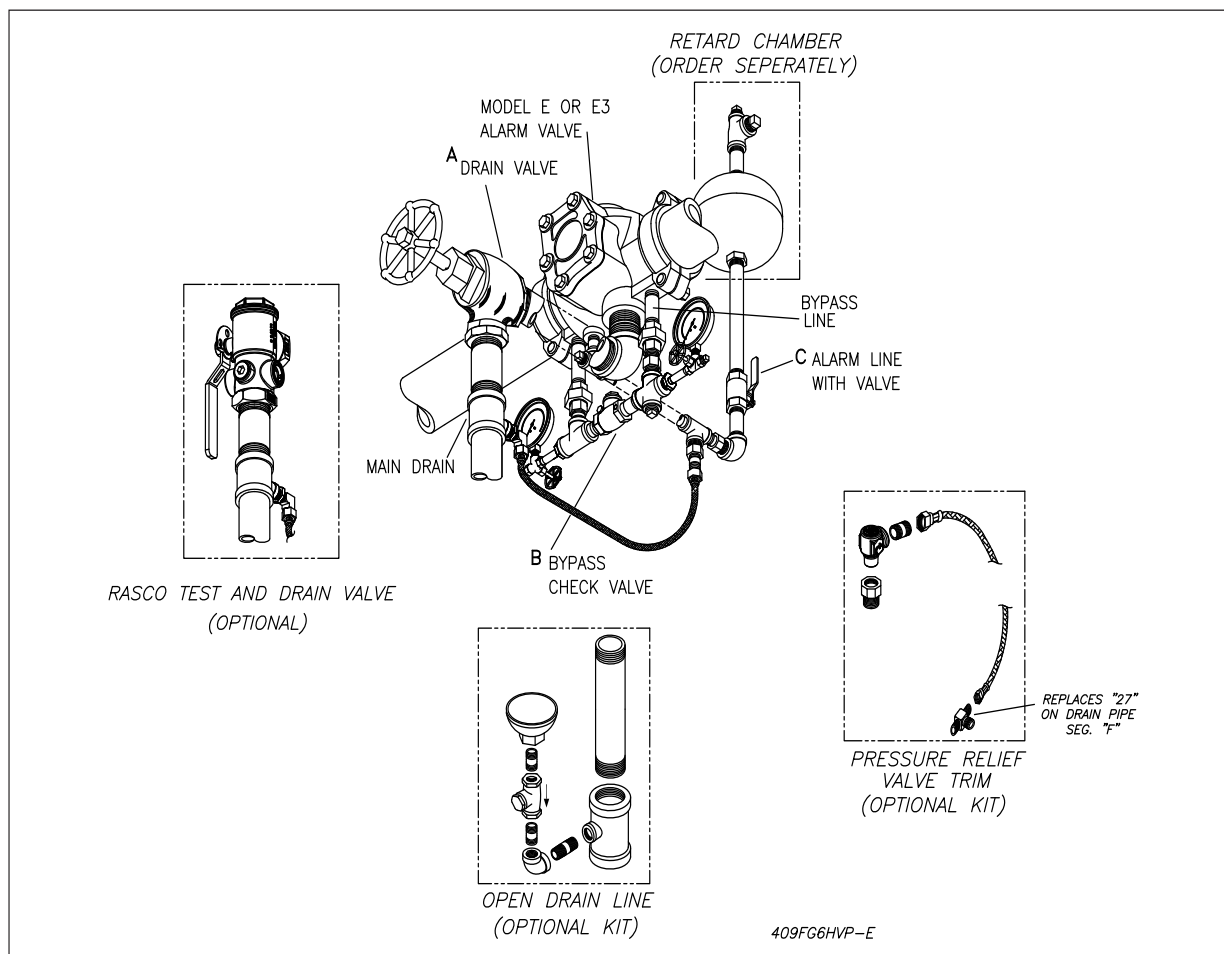


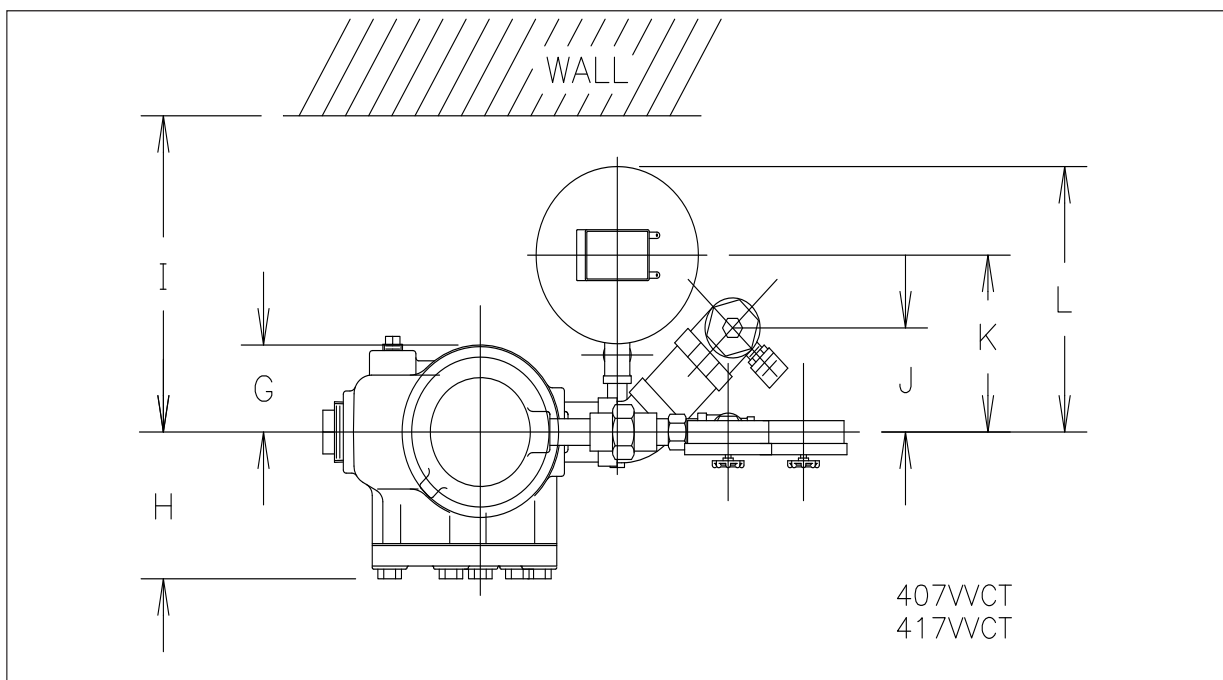
Fig. 4

FIRE SYSTEM

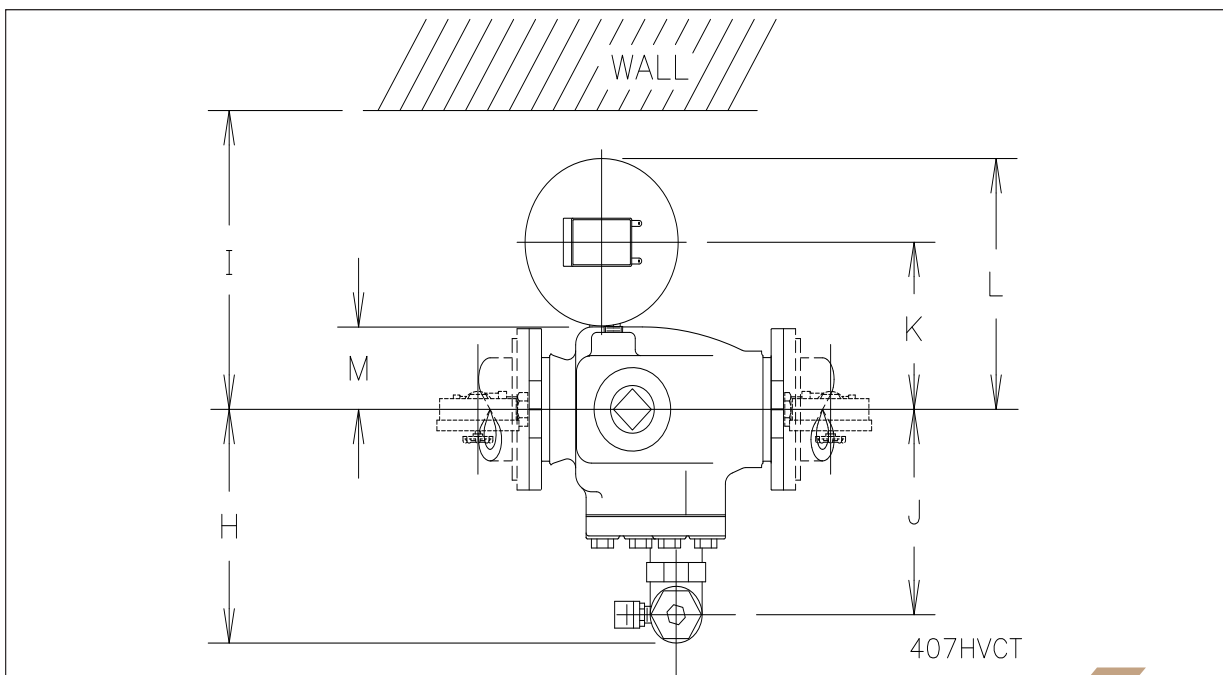
**Model E3 Trim Illustrations Vertical & Horizontal
Installation Measurement in Inches (mm)**

Valve	A	B	C	D	E	F	G	H	I	J	K	L	M
4 (100)	7 (178)	10½ (267)	16½ (419)	6 (152)	16¾ (426)	15 (381)	3½ (89)	5¾ (146)	12 (305)	4½ (114)	6½ (165)	10 (254)	8¾ (210)
6 (150) (165)	7 (194)	11½ (292)	17½ (445)	7 (178)	15¼ (387)	16½ (419)	4¼ (108)	7 (178)	12 (305)	4½ (114)	6½ (165)	10 (254)	6¾ (172)
8 (200)	7 (194)	11½ (292)	17½ (445)	7 (178)	15¼ (387)	16½ (419)	4¼ (108)	7 (178)	12 (305)	4½ (114)	6½ (165)	10 (254)	6¾ (172)

Vertical Trim, Variable Pressure - Top View



Horizontal Trim, Variable Pressure - Top View

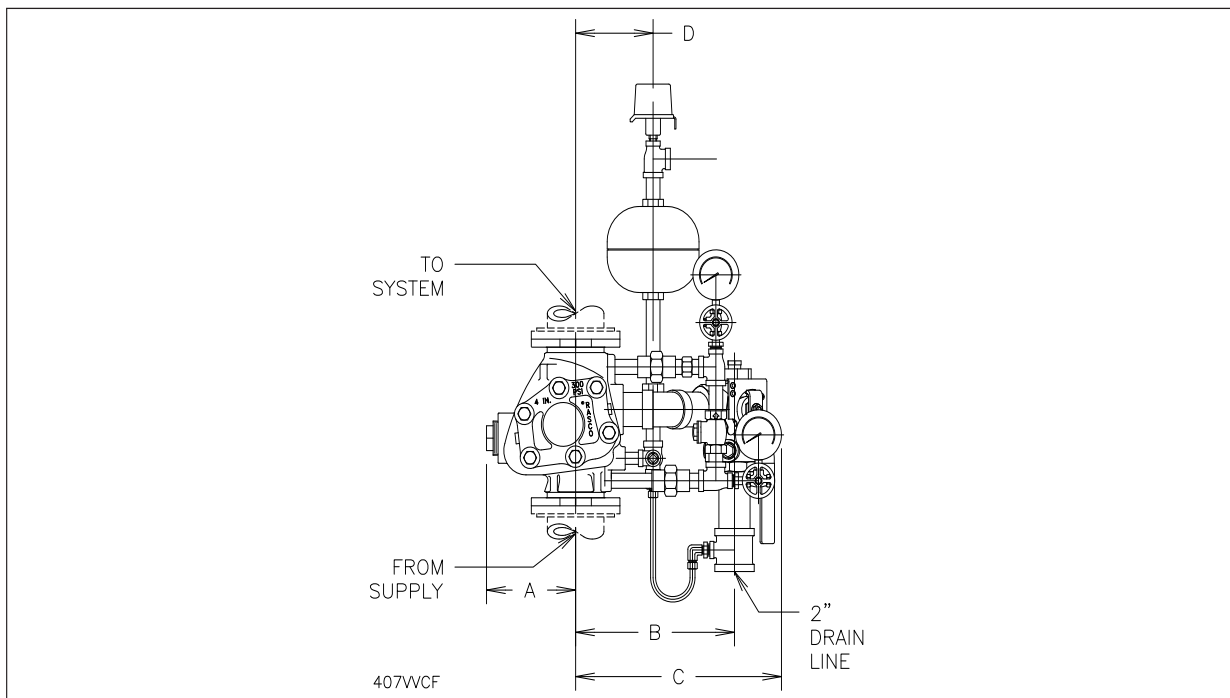


FIRE SYSTEM

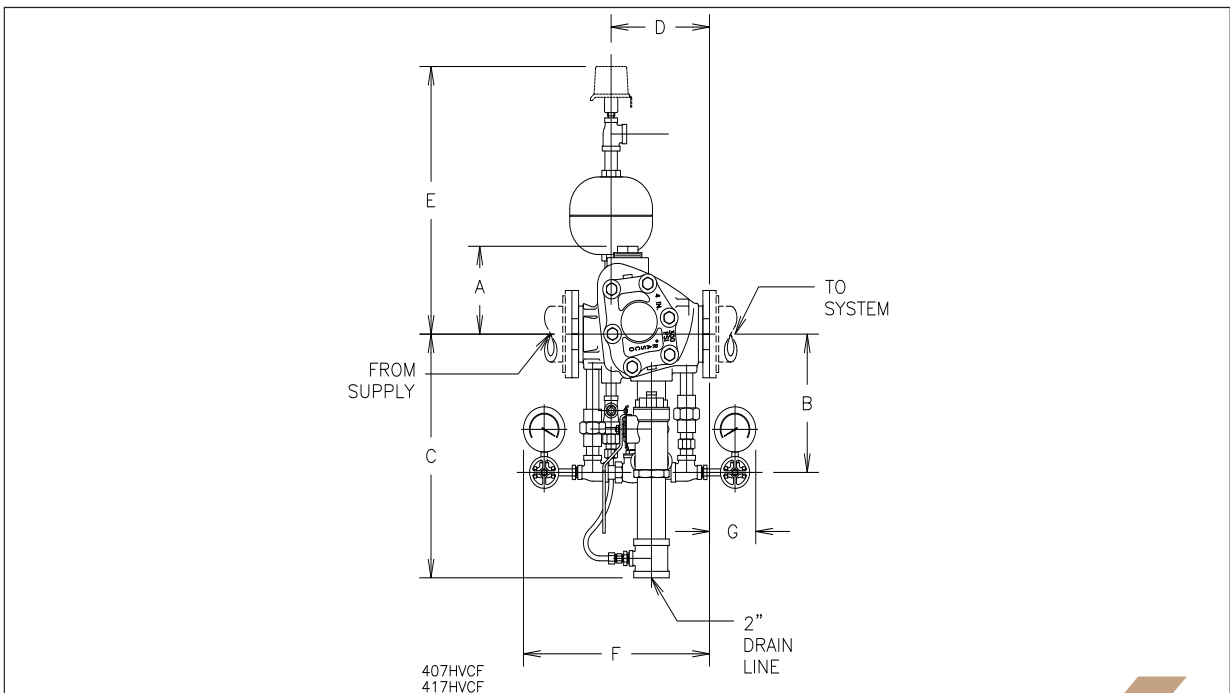
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8 (200)	7 (194)	11½ (292)	17½ (445)	7 (178)	15¼ (387)	16½ (419)	4¼ (108)	7 (178)	12 (305)	4½ (114)	6½ (165)	10 (254)	6¾ (172)

Vertical Trim, Variable Pressure - Front Elevation



Horizontal Trim, Variable Pressure - Front Elevation

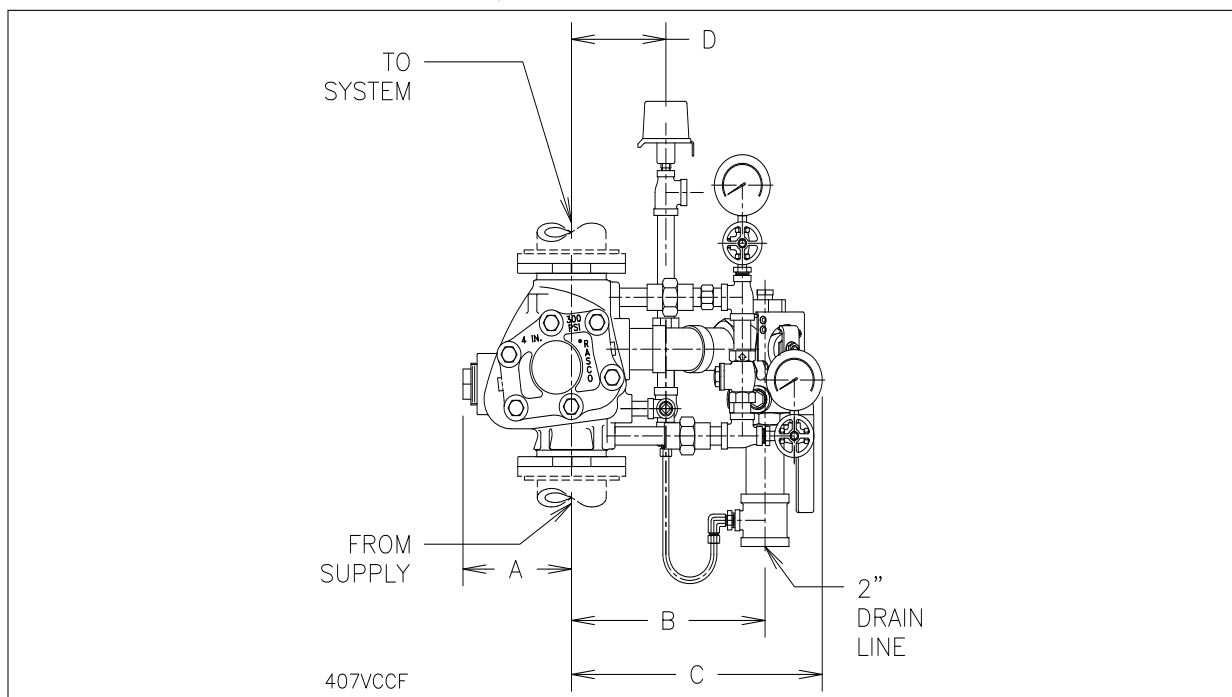


FIRE SYSTEM

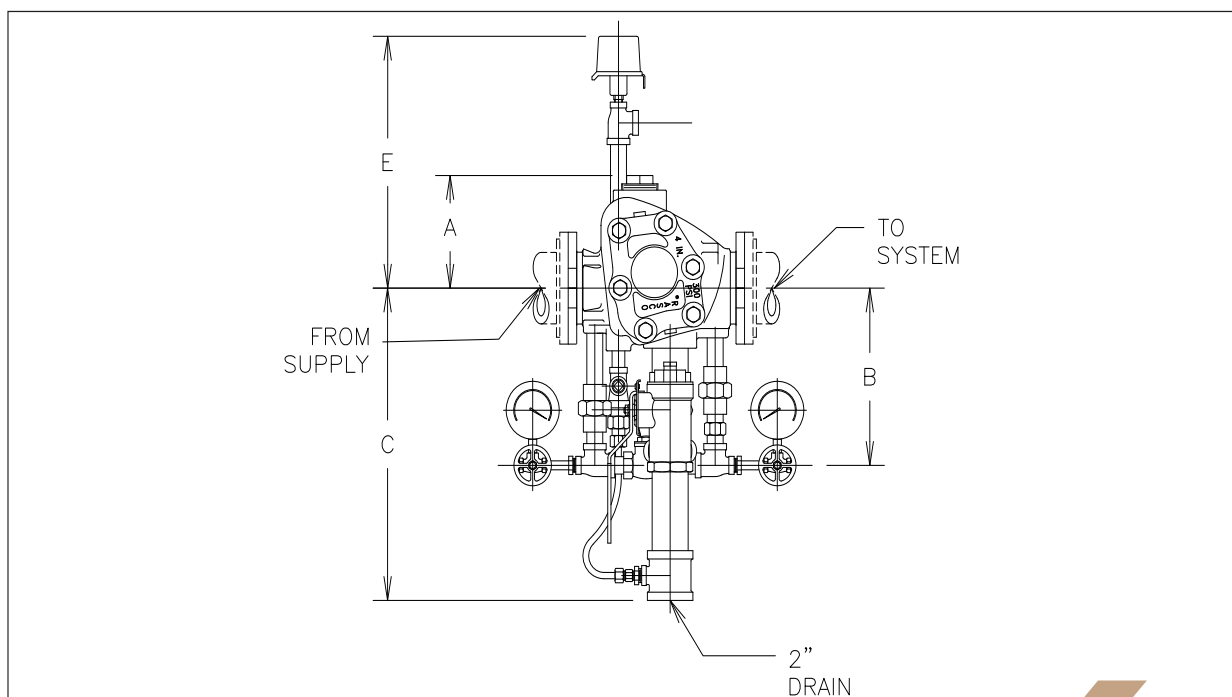
Model E3 Trim Illustrations Vertical & Horizontal
Installation Measurement in Inches (mm)

Valve	A	B	C	D	E	F	G	H	I	J	K	L	M
4 (100)	7 (178)	10½ (267)	16½ (419)	6 (152)	16¾ (426)	15 (381)	3½ (89)	5¾ (146)	12 (305)	4½ (114)	6½ (165)	10 (254)	8¾ (210)
6 (150) (165)	7 (194)	11½ (292)	17½ (445)	7 (178)	15¼ (387)	16½ (419)	4¼ (108)	7 (178)	12 (305)	4½ (114)	6½ (165)	10 (254)	6¾ (172)
8 (200)	7 (194)	11½ (292)	17½ (445)	7 (178)	15¼ (387)	16½ (419)	4¼ (108)	7 (178)	12 (305)	4½ (114)	6½ (165)	10 (254)	6¾ (172)

Vertical Trim, Constant Pressure - Front Elevation



Horizontal Trim, Constant Pressure - Front Elevation



FIRE SYSTEM

Reliable...For Complete Protection

Reliable offers a wide selection of sprinkler components. Following are some of the many precision-made Reliable products that guard life and property from fire around the clock.

- Automatic sprinklers
- Flush automatic sprinklers
- Recessed automatic sprinklers
- Concealed automatic sprinklers
- Adjustable automatic sprinklers
- Dry automatic sprinklers
- Intermediate level sprinklers
- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Electrical system
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges
- Identification signs
- Fire department connection

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

Manufactured by

Reliable[®]

Reliable Automatic Sprinkler Co., Inc.

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www.reliablesprinkler.com

Sales Offices

Sales Fax

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FIRE SYSTEM



VSR

Vane Type Waterflow Alarm Switch W/ Retard

Features

- Assembled in USA
- 0-90 second field replaceable time delay retard
- Easy to read retard time delay adjustment knob
- UL Listed models for 2"-6" steel pipe schedules 5 through 40
- UL Listed and FM approved models for 2"-8" steel pipe schedules 10 through 40
- Two SPDT (form C) contacts
- Weatherproof
- Easy to read wire terminal designations

WARNING

- Installation must be performed by qualified personnel and in accordance with all national and local codes and ordinances.
- Shock hazard. Disconnect power source before servicing. Serious injury or death could result.
- Risk of explosion. Not for use in hazardous locations. Serious injury or death could result.

CAUTION

Waterflow switches that are monitoring wet pipe sprinkler systems shall not be used as the sole initiating device to discharge AFFF, deluge, or chemical suppression systems. Waterflow switches used for this application may result in unintended discharges caused by surges, trapped air, or short retard times.



Description

The Model VSR is a vane type waterflow switch for use on wet sprinkler systems. It is UL Listed for use on a steel pipe; schedules 5 through 40, sizes 2" - 6" and is UL Listed and FM Approved for use on steel pipe; schedules 10 through 40, sizes 2" thru 8" (50 mm thru 200 mm). LPC approved sizes are 2" thru 8" (50 mm thru 200 mm). See Ordering Information chart.

The VSR may also be used as a sectional waterflow detector on large systems. The VSR contains two single pole, double throw, snap action switches and an adjustable, instantly recycling pneumatic retard. The switches are actuated when a flow of 10 GPM (38 LPM) or more occurs downstream of the device. The flow condition must exist for a period of time necessary to overcome the selected retard period.

Enclosure

The VSR switches and retard device are enclosed in a weather/UV/ flame resistant high impact composite plastic. The cover is held in place with two tamper resistant screws which require a special key for removal. A field installable cover tamper switch is available as an option which may be used to indicate unauthorized removal of the cover. See bulletin number 5401103 for installation instructions of this switch.

NOTICE

This document contains important information on the installation and operation of the VSR. Please read all instructions carefully and notify the building owner or their authorized representative before any work is done on the fire sprinkler or fire alarm system. A copy of this document is required by NFPA 72 to be maintained on site.

Technical Specifications

Conduit Entrances	Two knockouts provided for 1/2" conduit. Individual switch compartments suitable for dissimilar voltages
Contact Ratings	Two sets of SPDT (Form C) 10.0 Amps at 125/250VAC 2.0 Amps at 30VDC Resistive 10 mAmps min. at 24VDC
Enclosure	Cover - Weather/UV/Flame Resistant High Impact Composite Base - Die-cast aluminum
Environmental Specifications	NEMA 4/IP54 Rated Enclosure suitable for indoor or outdoor use with factory installed gasket when used with appropriate conduit fitting. Temperature Range: 40°F - 120°F, (4.5°C - 49°C) - UL Non-corrosive sleeve factory installed in saddle.
Flow Sensitivity Range for Signal	4-10 GPM (15-38 LPM) - UL
Maximum Surge	18 FPS (5.5 m/s)
Service Pressure	450 PSI (31 BAR) - UL
Service Use	Automatic Sprinkler One or two family dwelling Residential occupancy up to four stories National Fire Alarm Code NFPA-13 NFPA-13D NFPA-13R NFPA-72

Specifications subject to change without notice.

FIRE SYSTEM



VSR

Vane Type Waterflow Alarm Switch W/ Retard

Installation (see Fig. 1)

These devices may be mounted on horizontal or vertical pipe. On horizontal pipe they shall be installed on the top side of the pipe where they will be accessible. The device should not be installed within 6" (15 cm) of a fitting which changes the direction of the waterflow or within 24" (60 cm) of a valve or drain.

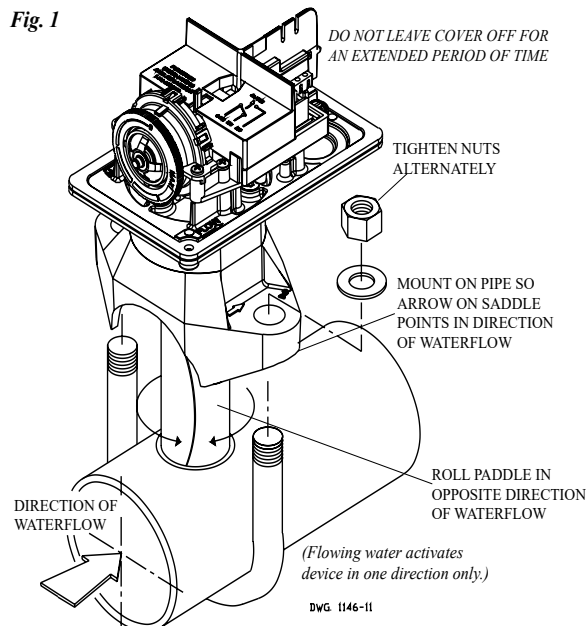
NOTE: Do not leave cover off for an extended period of time.

Drain the system and drill a hole in the pipe using a hole saw in a slow speed drill (see Fig. 1). Clean the inside pipe of all growth or other material for a distance equal to the pipe diameter on either side of the hole. Roll the vane so that it may be inserted into the hole; do not bend or crease it. Insert the vane so that the arrow on the saddle points in the direction of the waterflow. Take care not to damage the non-corrosive bushing in the saddle. The bushing should fit inside the hole in the pipe. Install the saddle strap and tighten nuts alternately to required torque (see the chart in Fig. 1). The vane must not rub the inside of the pipe or bind in any way.

CAUTION

Do not trim the paddle. Failure to follow these instructions may prevent the device from operating and will void the warranty. Do not obstruct or otherwise prevent the trip stem of the flow switch from moving when water flows as this could damage the flow switch and prevent an alarm. If an alarm is not desired, a qualified technician should disable the alarm system.

Fig. 1

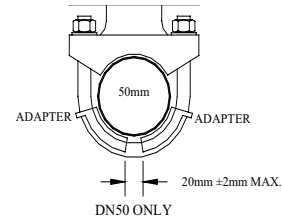


Retard Adjustment

The delay can be adjusted by rotating the retard adjustment knob from 0 to the max setting (60-90 seconds). The time delay should be set at the minimum required to prevent false alarms

CAUTION

Hole must be drilled perpendicular to the pipe and vertically centered. Refer to the Compatible Pipe/Installation Requirements chart for size.



USE (2) 5180162 ADAPTERS AS SHOWN ABOVE

Compatible Pipe/ Installation Requirements																		
Model	Nominal Pipe Size		Nominal Pipe O.D.		Pipe Wall Thickness										Hole Size		U-Bolt Nuts Torque	
					Lightwall		Schedule 10 (UL)		Schedule 40 (UL)		BS-1387 (LPC)		DN (VDS)					
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	ft-lb	n-m
VSR-2	2	DN50	2.375	60.3	.065	1.651	0.109	2.77	0.154	3.91	0.142	3.6	0.091	2.3	1.25 ± .125/- .062	33.0 ± 2.0	20	27
VSR-2 1/2	2.5	-	2.875	73.0	.084	2.134	0.120	3.05	0.203	5.16	-	-	-	-				
VSR-2 1/2	-	DN65	3.000	76.1	-	-	-	-	-	-	0.142	3.6	0.102	2.6				
VSR-3	3	DN80	3.500	88.9	.083	2.108	0.120	3.05	0.216	5.49	0.157	4.0	0.114	2.9	2.00 ± .125	50.8 ± 2.0		
VSR-3 1/2	3.5	-	4.000	101.6	-	-	0.120	3.05	0.226	5.74	-	-	-	-				
VSR-4	4	DN100	4.500	114.3	.084	2.134	0.120	3.05	0.237	6.02	0.177	4.5	0.126	3.2				
VSR-5	5	-	5.563	141.3	-	-	0.134	3.40	0.258	6.55	-	-	-	-				
VSR-6	6	DN150	6.625	168.3	.115	2.921	0.134	3.40	0.280	7.11	0.197	5.0	0.157	4.0				
VSR-8	8	DN200	8.625	219.1	-	-	0.148	3.76	0.322	8.18	0.248	6.3	0.177	4.5				

FIRE SYSTEM

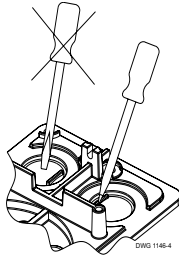


VSR

Vane Type Waterflow Alarm Switch W/ Retard

Fig. 2

To remove knockouts: Place screwdriver at inside edge of knockouts, not in the center.

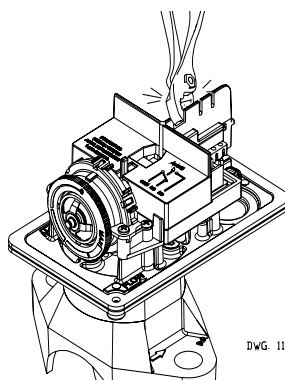


NOTICE

Do not drill into the base as this creates metal shavings which can create electrical hazards and damage the device. Drilling voids the warranty.

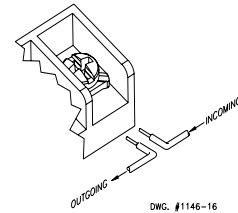
Fig. 3

Break out thin section of cover when wiring both switches from one conduit entrance.



Switch Terminal Connections Clamping Plate Terminal

Fig. 4



WARNING

An uninsulated section of a single conductor should not be looped around the terminal and serve as two separate connections. The wire must be severed, thereby providing supervision of the connection in the event that the wire become dislodged from under the terminal. Failure to sever the wire may render the device inoperable risking severe property damage and loss of life.

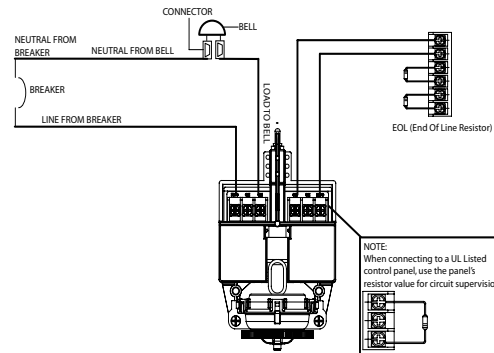
Do not strip wire beyond 3/8" of length or expose an uninsulated conductor beyond the edge of the terminal block. When using stranded wire, capture all strands under the clamping plate.

Typical Electrical Connections

Fig. 5

Notes:

1. The Model VSR has two switches, one can be used to operate a central station, proprietary or remote signaling unit, while the other contact is used to operate a local audible or visual annunciator.
2. For supervised circuits, see "Switch Terminal Connections" drawing and warning note (Fig. 4).



Testing

The frequency of inspection and testing for the Model VSR and its associated protective monitoring system shall be in accordance with applicable NFPA Codes and Standards and/or the authority having jurisdiction (manufacturer recommends quarterly or more frequently).

If provided, the inspector's test valve shall always be used for test purposes. If there are no provisions for testing the operation of the flow detection device on the system, application of the VSR is not recommended or advisable.

A minimum flow of 10 GPM (38 LPM) is required to activate this device.

Fig. 6 Mounting Dimensions

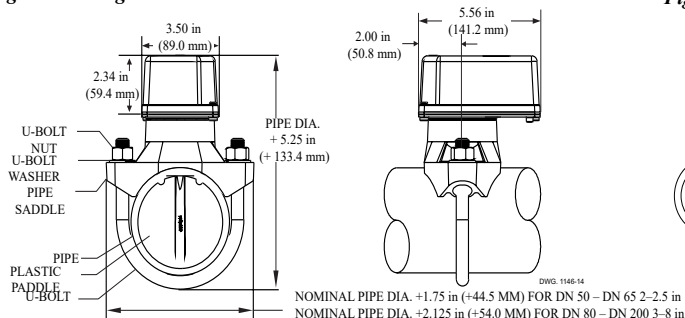
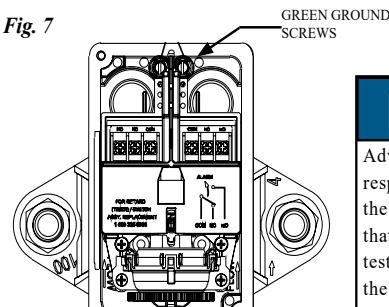


Fig. 7



NOTICE

Advise the person responsible for testing of the fire protection system that this system must be tested in accordance with the testing instructions.

FIRE SYSTEM



VSR

Vane Type Waterflow Alarm Switch W/ Retard

Maintenance

Inspect detectors monthly. If leaks are found, replace the detector. The VSR waterflow switch should provide years of trouble-free service. The retard and switch assembly are easily field replaceable. In the unlikely event that either component does not perform properly, please order replacement retard switch assembly stock #1029030 (see Fig. 8). There is no maintenance required, only periodic testing and inspection.

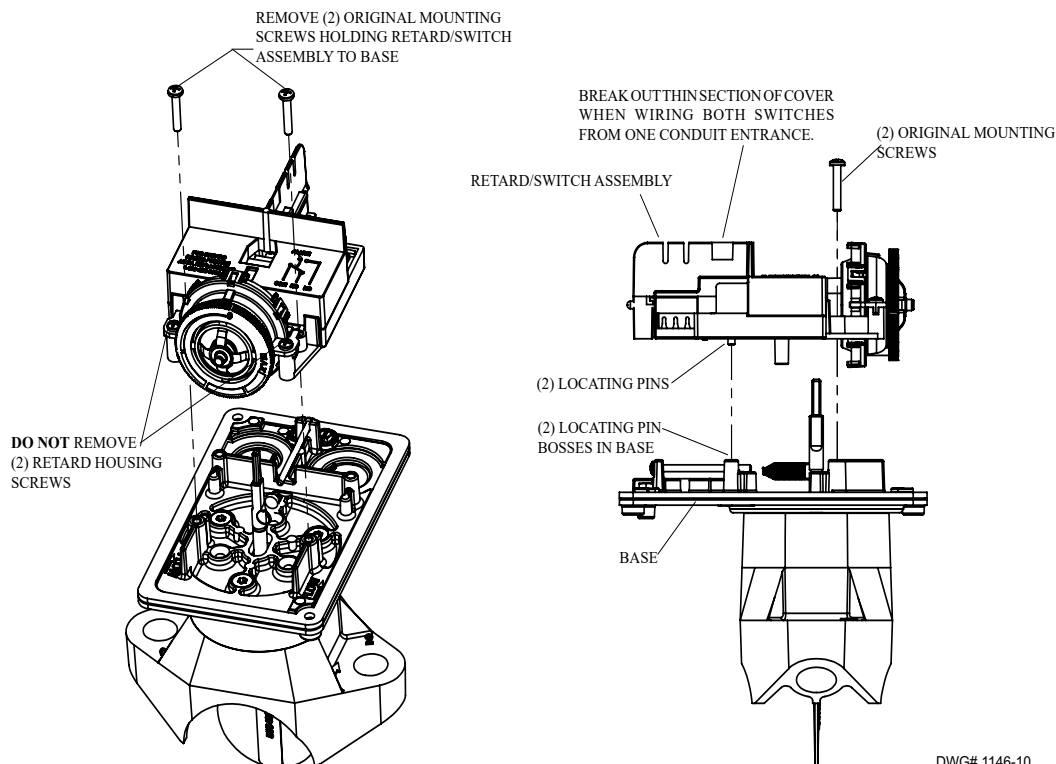
Retard/Switch Assembly Replacement (See Fig. 8)

1. Make sure the fire alarm zone or circuit connected to the waterflow switch is bypassed or otherwise taken out of service.
2. Disconnect the power source for local bell (if applicable).
3. Identify and remove all wires from the waterflow switch.
4. Remove the (2) mounting screws holding retard/switch assembly to the base. **Do not** remove the (2) retard housing screws.
5. Remove the retard assembly by lifting it straight up over the tripstem.
6. Install the new retard assembly. Make sure the locating pins on the retard/switch assembly fit into the locating pin bosses in the base.
7. Re-install the (2) original mounting screws.
8. Reconnect all wires. Perform a flow test and place the system back in service.

NOTICE

The Retard/Switch Assembly is field-replaceable without draining the system or removing the waterflow switch from the pipe

Fig. 8



FIRE SYSTEM



VSR

Vane Type Waterflow Alarm Switch W/ Retard

Removal of Waterflow Switch

- To prevent accidental water damage, all control valves should be shut tight and the system completely drained before waterflow detectors are removed or replaced.
- Turn off electrical power to the detector, then disconnect wiring.
- Loosen nuts and remove U-bolts.
- Gently lift the saddle far enough to get your fingers under it. With your fingers, roll the vane so it will fit through the hole while continuing to lift the waterflow detector saddle.
- Lift detector clear of pipe.

NOTICE

Flow switches have a normal service life of 10-15 years. However, the service life may be significantly reduced by local environmental conditions.

Ordering Information

Model	Nominal Pipe Size		Part Number
VSR-2	2"	DN50	1144402
VSR-2 1/2	2 1/2"	DN65	1144425
VSR-3	3"	DN80	1144403
VSR-3 1/2	3 1/2"	-	1144435
VSR-4	4"	DN100	1144404
VSR-5	5"	-	1144405
VSR-6	6"	DN150	1144406
VSR-8	8"	DN200	1144408

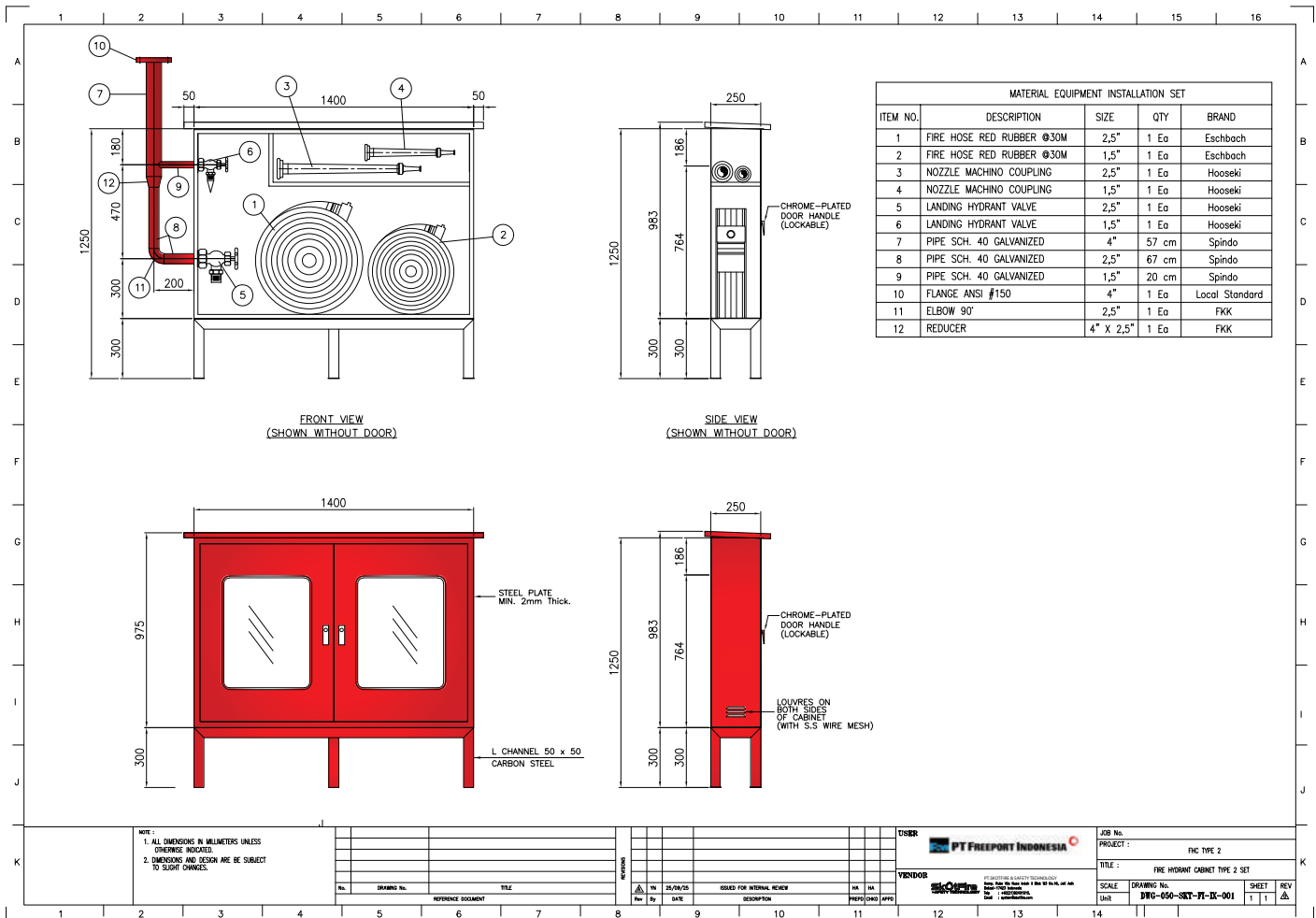
Optional: Cover Tamper Switch Kit, stock no. 0090148

FSBS-FLOWSWITCH BYPASS SWITCH, stock no. 3001006

Replaceable Components: Retard/Switch Assembly, stock no. 1029030

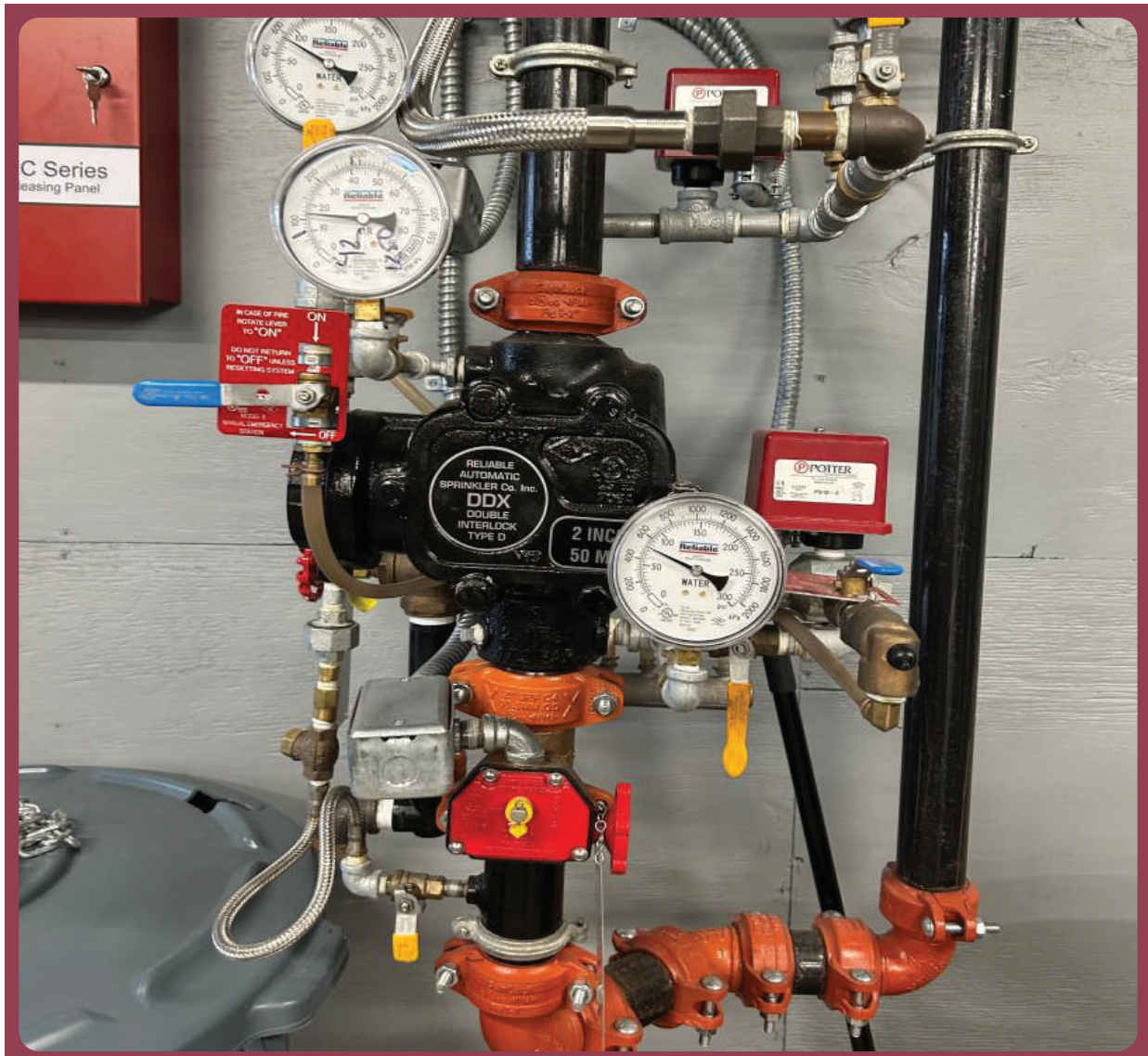
FHC

Fire Hose Cabinet - Skotfire



FIRE SYSTEM

SWAY BRACING /SEIMIC BRACING



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*Selain Menjual Produk Kami
Juga Menerima Jasa
Pemasangan, Service Dan
Maintenance Yang Di
Kerjakan Oleh Teknisi
Bersertifikat Di Bidangnya*

FIRE EXTINGUISHERS

- Installation & Repairs
- Inspections
- Maintenance
- All Services Mentioned Above
INCLUDE:
- ABC Powder Fire Extinguishers
- BC Powder Fire Extinguishers
- Carbon Dioxide Fire Extinguishers
- Halorton Fire Extinguishers
- Water/Water Mist Fire Extinguishers
- Clean Guard Fire Extinguishers



SPRINKLER SYSTEMS

- Installation & Repairs
- Inspections
- Maintenance
- Flow Tests
- All Services Mentioned Above Include both Wet & Dry Sprinkler Include both Wet & Dry Sprinkler Systems



FIREHOSE/CABINETS/ NOZZLES/VALVES

- Installation & Repairs
- Service & Re-Racking
- Maintenance
- All Services Mentioned Above Include Fire Hoses, Cabinets, Nozzels & Valves



Jakob Eschbach
Synthetic Special 500

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FIRE SUPPRESSION SYSTEM

- Installation & Repairs
- Inspections
- Maintenance
- All Services Mentioned Above
INCLUDE:
- FM - 200 Clean Agent Suppression Systems
- Novec 1230 Clean Agent Suppression Systems
- High Pressure Co2 Gas Suppression Systems
- Industrial Dry Chemical Powder Suppression Systems
- Wet Chemical Kitchen Suppression Systems



CALIBRATION GAS DETECTOR

- Installation & Repairs
- Inspections
- Maintenance
- All Services Mentioned Above
Include Portable Gas detector &
Fixed Gas detector



FIRE DETECTION SYSTEMS

- Installation & Repairs
- Service & Re-Racking
- Maintenance
- All Services Mentioned Above
INCLUDE:
- Smoke Detectors: Ionization & Photoelectric
- Heat Detectors: Standard & Explosive Proof
- Flame Detectors: Ultra Violet & Infrared
- Spark & Ember Detectors



SERVICE

*Selain Menjual Produk Kami
Juga Menerima Jasa
Pemasangan, Service Dan
Maintenance Yang Di
Kerjakan Oleh Teknisi
Bersertifikat Di Bidanganya*

POSSI CHECK BREATHING APPARATUS

- Mask leak-check
- Exhalation check-valve opening pressure
- Static mask-pressure
- Breathing resistance at standart (40 LPM) work-rate
- Breathing resistance at maximum (100 LPM) work-rate
- Bypass flow-rate
- Pressure gauge accuracy
- Low pressure alarm activation
- Visual inspection
- Optional medium pressure transducer lets you dynamically test first stage regulator performance



FIRE ALARM SYSTEMS

- Installation & Repairs
- Inspections
- Maintenance
- All Services Mentioned Above Include both New, Wireless Alarm System & Retrofit Fire Alarm Systems



HYDROSTATIC TEST

- Hydro Test Fire Extinguisher
- Hydro Test SCBA
- Hydro Test Air bank



WORKSHOP FACILITY

- REFILLING & SERVICE
FIRE EXTINGUISHER
- HYDROSTATIC TEST
LOW & HIGH
PRESSURE CYLINDER
- TRAINING



WORKSHOP FACILITY

- CALIBRATION GAS DETECTION
- FUNCTION TEST SCBA



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FACEMASK, GAS DETECTOR,
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ACCOUNTABILITY EQUIPMENT



ALLEGRO INDUSTRIES

BREATHING PROTECTION
EQUIPMENT



AIR SYSTEM

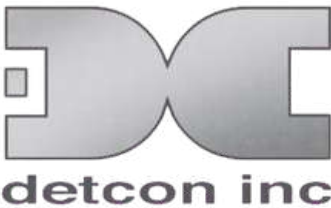
RESPIRATOR PROTECTION



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GAS AND FLAME DETECTION
Everywhere you look

TELEDYNE

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GAS DETECTION SYSTEM



Gas Measurement Instruments Ltd

GAS MEASUREMENT INSTRUMENTS LTD

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FIRE SYSTEM EQUIPMENT



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FIRE HOSE COUPLING



APEX FIRE SYSTEM

FIRE SYSTEM EQUIPMENT

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The logo for Fire Trace, featuring the word "FIRE" in red and "TRACE" in black, with a vertical line through the letter "E" in "TRACE".

FIRETRACE

**FIRE TRACE
INTERNATIONAL**

AUTOMATIC FIRE SYSTEM

ESTD - 1969

The logo for Johnson Scientific, featuring a stylized "JS" in blue and black, with the words "JOHNSON SCIENTIFIC" to the right.

**JOHNSON
SCIENTIFIC**

JOHNSON SCIENTIFIC

TUBES GAS DETECTOR



TAIWAN K.K.CORP.
台灣開廣股份有限公司

TAIWAN K.K. CORP

FIRE SUIT

The logo for Junkin Safety Appliance Company, featuring the word "JUNKIN" in large, bold, black letters, with "SAFETY APPLIANCE COMPANY" in smaller letters below it.

JUNKIN
SAFETY APPLIANCE COMPANY

**JUNKIN SAFETY
APPLIANCE COMPANY**

INDUSTRIAL FIRE BLANKET

The logo for Northern Diver, featuring a stylized "N" and "D" in red and black, with the words "NORTHERN DIVER" and "SPECIALIST RESCUE EQUIPMENT" to the right.

NORTHERN DIVER
SPECIALIST RESCUE EQUIPMENT

NORTHERN DIVER

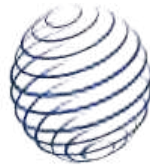
RESCUE EQUIPMENT

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ASIA PACIFIC FIBERS



We create chemistry

BRIDGESTONE



AGC Group



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indah kiat
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2



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THANK YOU



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YOUR LIFE”**



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