Search for Total Fire Solution

Fire & Safety Catalogue
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2. Conventional Fire Detection System
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**LOOSE FIRE FIGHTING APPLIANCE**
1. Fireman's Outfit
2. Fire Extinguisher
3. Sea Water Fire Fighting Equipment

**COMPANY INTRODUCTION**
High Pressure CO2 System

**CO2 Extinguishing agent**
High pressure CO2 systems for the fire protection of machinery spaces, pump rooms, cargo holds, paint stores and galley exhaust ventilation ducts. The systems are designed according to the SOLAS requirements and are type approved by the major classification societies. CO2 will extinguish a fire by reducing the percentage of oxygen in the surroundings to below what is needed to sustain combustion. If discharged, the CO2 will not do any damage to the ship. However, CO2 is hazardous to humans as it is an asphyxiant and therefore strict safety routine are required.

**Description**
- Suitable for extinguishing in closed spaces like engine rooms, auxiliary rooms, cargoholds, etc.
- Extinguish the fire within a short time and leave no residue after extinguishing.
- Suitable for extinguishing fires in combustible liquids, gases and electrical equipment, and for extinguishing smoldering fires in wood, paper, textiles, etc.
- Installed as a total flooding central bank system inclusive a number of distributions.
- Normally installed with pneumatic release, but can also be supplied with mechanical, electrical, and manual release upon your request.

**Applications**
High Pressure CO2 systems for all types of vessels with engine rooms from just a few m2 and up to super container vessels, VLCC and LNG with engine rooms of more than 30,000m
The advantage of water mist system?
The advantage of water mist system? Water, with its extinguishing/ control capability, has been a backbone of the fire fighting industry. In recent years since the Montreal Protocol and the phase-out of halons, there has been substantial reappraisal of the approaches to fire protection including water systems. Water, the most natural of substances, has taken on a new foam as a highly efficient ultra fine spray called Water Mist. As a result of extensive research and development, Water Mist has been demonstrated to be a suitable gas replacement for many commercial and industrial applications. DBM Water Mist Systems are the most environmentally-friendly fire protection systems. We have completed fire testing of Water Mist Systems for the protection of gas turbines and high risk machinery spaces and continue to develop new applications for our systems.

Description
The Fixed Local Water Mist Fire Extinguishing System remote operated, is a system using water when fighting fires. The system is designed and installed as a local application system to cover main and auxiliary engine top, boiler front, incinerator and purifier. In many cases, the local application system extinguishes the fire and there is no need for activation of the total flooding system. The water is distributed that the system starts immediately after the fire has occurred in order to reduce fire and heat damages. While local application system is running, the protected area is evacuated and decision made whether further steps are necessary with respect to extinguishment e.g. portable equipment.

Application
This system is applied to all types of vessels with engine rooms, which are over 200CBM, or with being over 2,000DWT.
**SOLAS Rules**
For Ships carrying chemicals or oils in bulk, SOLAS/IMO require a fixed deck foam system for extinguishing fires on deck or in tanks. In principal, the systems required are identical. however, for chemical tankers, IMO type2 and 3, the foam system is considerably lager than for crude oil tankers, due to the higher risk of fire in chemicals. Application Oil Tankers, Chemical Tankers and so on.

**Foam for Fire Protection purpose**
Foam for Fire Protection purpose is an aggregate of air-filled bubbles formed from aqueous solutions and is lower in density than the lights flammable liquids. It is mainly used to form a coherent floating blanket on flammable and combustible liquids to prevent or to extinguish fires by excluding air and cooling the fuel. It also prevents re-ignition by suppressing formation of flammable vapours. It has the property of adhering to surfaces, providing a degree of exposure protection from adjacent fires. Foam may be used as a fire prevention, control or extinguishing agent for flammable liquid in tanks or processing areas. Foam solutions for these hazards may be supplied by fixed systems or portable foam generating systems.

**Application**
This system is for Deck and Helicopter Deck. In case that this system is applied to Heli-Deck system, the foam liquid should be approved by ICAO (International Civil Aviation Organization)
Dry Chemical Powder System

Ships carrying liquefied gas and certain chemicals/agents in bulk shall be equipped a fixed dry powder system ready for operation. DBM can provide fixed dry powder systems, which comply with the IGC and IBC codes from SOLAS.

Characteristics
Dry Chemical Powder, when introduced directly to a fire, causes the flame to go out almost at once. The chemical used is in principle Sodium or Potassium Bicarbonate (BC). Various additives are mixed with the base chemicals to improve the storage, flow and water-repellent characteristics. Dry Powder is available at both low and high temperatures. BC powder is non-toxic, but due to the size of the particles (10 to 50 microns) temporary breathing difficulties may occur, and personnel must stay clear of the jets to avoid suffocation.

Application
DBM is specialised in the design, manufacturing and supply of dry powder extinguishing systems for the protection of vent stacks and tail pipes of safety valves on N2 storage tanks. In general these fixed dry powder systems are used for the attack on fires with gases. Dry Powder system has been developed to meet the increasing demands for large capacity systems for use in the extinguishing of fires involving bulk chemical agents and liquefied gases. SOLAS rules (IGC and IBC) require that dry powder systems protect the entire deck area, cargo manifold, and connection areas from fixed monitors. In addition the system should be capable of supplying dry powder to any part of the cargo deck from at least two sources i.e., hand hose or hand hose line/monitor. In order to design and calculate a system it is necessary to know the length, breadth, and format of the cargo deck together with details of any obstructions such as tank domes, cargo storage, and handling facilities, etc.
Addressable Fire Detection System

Minerva T2000 and T2000 CV Marine Detection Panels
The T2000 is a fully Marine approved EN54 compliant 1 to 8 loop networkable detection panel. The T2000 supports two Tyco MX DIGITAL detection loops and can be expanded to eight loops supporting up to 1000 addressable devices. The T2000 consists of a strong stainless steel or mild steel Marine approved enclosure incorporating the above features.

The T2000CV is a 3 loop marine approved panel housed in a mild steel enclosure designed for use in commercial vessels.

All panels have a strong cast aluminium front door, which incorporates a modular user interface that fully complies with EN54 pt2. The user interface incorporates the ODM800 operator display module with a 16 x 40-character backlit LCD display, simple alphanumeric keypad and 5 softkeys.

Features
- Fully Functional
- Optional Approved Mild Steel Enclosure
- Fully Monitored R-Bus

The T2000R full function repeater is an EN54 Marine approved repeater with optional addressable EN54-PL-4 power supply. The repeater consists of a steel backbox and cast aluminium front door which incorporates the ODM800 operator display module with a 16 x 40-character backlit LCD display, simple alphanumeric keypad and 5 softkeys. The OCM800 operator control module provides all mandatory operator control keys and LED functions including Day/Night switching. One control key and 2 indication LEDs are provided for vessel-specific functions. Control keys and LEDs are labelled in English according to the default Marine functionality. The slide in decals can be reversed and alternative text added. The back box has a removable chassis plate with the PSM800M power supply and APN800 addressable PSU monitor and space for 2 x 7 Ah batteries to provide 72h backup.

The T2000R CV indicating repeater is an EN54 Marine approved repeater (24Vdc Supply). The repeater consists of a mild steel backbox and cast aluminium front door which incorporates the ODM800 operator display module with a 16 x 40-character backlit LCD display, simple alphanumeric keypad and 5 softkeys. The operator control comprises a panel buzzer silence button, status LED’s are provided for fire, fault and power on indication.

Both repeaters are connected to the Panel via the remote bus (RS485, 1200 m distance). A maximum of 7 repeaters (including one MX REMOTE repeater) can be linked to each control panel and can provide repeater functions for all panels on the system.

The repeater can support up to 80 inputs and outputs in the form of LED annunciators, IOB800 input/output modules, XCM universal I/O modules or the 80 LED mimic module.
Addressable Fire Detection System

800PH Multi-Sensor Smoke and Heat Detectors

The 800PH is a state-of-the-art smoke and heat detector which allows a full set of detection modes to be implemented in the MX detection panel to suit most smoke and heat detection applications.

The 800PH incorporates a unique "mousehole" design optical chamber with an unrivalled signal to noise ratio providing high resilience to dust and dirt which means reduced service costs. In addition a unique chamber cover actually draws slow moving smoke into the chamber to provide a more responsive detector. The unique design provides immunity to small insects and thrips without the need for a separate thrip filter.

The 800PH provides all the features of MX VIRTUAL detectors including self verification, temperature and smoke level indication and unrivalled service functions.

### Technical Specification

- **Dimensions:** 109dia x 43H mm
- **Operating Temp.:** -20 to +70°C
- **Storage Temp.:** -40 to +80°C
- **Relative Humidity:** 95% (non-condensing)
- **Standards:** EN54 pt 5, EN54 pt 7

### Product Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tr>
<td>801PH</td>
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<tr>
<td>516.800.500.A</td>
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<td>THORN</td>
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<tr>
<td>516.800.500.Y</td>
<td>TYCO</td>
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<td>811PH</td>
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<tr>
<td>516.800.507</td>
<td>THORN</td>
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</tbody>
</table>

801PH and 811PH are available in Optical and Enhanced Optical (HPO) versions.

801PH and 811PH are approved with MX Fastlogic algorithms.

800H Heat Detectors

The 800H is a flexible cost-effective addressable heat detector with all the features of MX VIRTUAL detectors. The 800H returns the temperature to the MX detection panel which allows various detection modes to be implemented. The 800H uses a high quality thermistor with very low thermal mass. This allows the detectors to provide fast accurate temperature detection as well as heat detection.

### Technical Specification

- **Dimensions:** 109dia x 43H mm
- **Operating Temp.:** -25 to +70°C
- **(40 to +90°C for short periods)**
- **Storage Temp.:** -40 to +80°C
- **Standards:** EN54 pt 5

### Product Codes

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<td>516.800.509</td>
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</table>

801H and 811H are available in High Ambient ROR and Normal Ambient ROR formats.

800F Flame Detectors

The 800F is a digital addressable, low cost infrared flame detector with some high end features such as "Solar Blind" operation for false alarm free reliability and an automatic health check feature. Will detect a 0.1m² flaming fire at a range of 20m. Uses the standard MX detector bases and MX base accessories. An Intrinsically safe version is available as part of the System 800 I.S. range.

### Technical Specification

- **Dimensions (mm):** 108Diss x 21.2H
- **Weight:** 74g
- **Operation Temp.:** -20°C to +70°C
- **Storage Temperature:** -40°C to +80°C
- **Relative Humidity:** 90% RH continuous (non-condensing)
- **Range:** 0.1m²-heptane at 50m
- **Standards:** EN54 pt10 Certification

### Product Codes

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<td>516.800.007</td>
<td>Marine</td>
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<tr>
<td>811F</td>
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811F is available in Marine format.
### Addressable Fire Detection System

#### CP820 Indoor Callpoint

- The CP820 is an indoor MX addressable manual callpoint with programmable status LED. The CP820 is designed for LPCB approvals and the CP820M for Marine approvals. The CP820 provides high speed communication to the MX panel of a manual fire alarm.

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<td>Relative Humidity:</td>
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<td>50% RH non-condensing</td>
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<td>94H x 89W x 59SD</td>
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#### CP830 Outdoor Callpoint

- The CP830 is an outdoor MX addressable manual callpoint with programmable status LED. The CP830 is designed for LPCB approvals and the CP830M for Marine approvals. The CP830 provides high speed communication to the MX panel of a manual fire alarm.

<table>
<thead>
<tr>
<th>Technical Specification</th>
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<td>Dimensions:</td>
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<td>IP Rating: 67</td>
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#### 801PHEX/811PHExn Smoke and Heat Detector

- The 801PHEX/811PHExn Optical Smoke & Heat Detectors form part of the 800Ex Series of MX Addressable Fire Detectors. The detector plugs into the 58EX base.

- The mode of detector may be:
  - Optical smoke only detector (sensitivity - High, Normal or Low)
  - HPO smoke detector (sensitivity High, Normal or Low)
  - Heat only rate-of-rise (A1R) detector (no sensitivity selection)
  - Heat fixed temperature 60°C (A2S no sensitivity selection)
  - Optical (sensitivity High, Normal or Low) combined with heat fixed temperature 60°C (A2S)
  - HPO (sensitivity High, Normal or Low) combined with heat fixed temperature 60°C (A2S)

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<td>Ex II 1GD/3G</td>
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<td>811PHExn Optical Smoke + Heat Detector</td>
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<td>Manual Vol 17A-02-PHEX</td>
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<td>Relative Humidity:</td>
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#### 801HEX/811HExn Heat Detector

- The 801HEX/811HExn Heat Detectors form part of the 800Ex Series of MX Addressable Fire Detectors. The detector plugs into the 58EX base.

- The mode of detector may be:
  - EN54-5 A1R, rate-of-rise normal ambient
  - EN54-5 A2S, fixed 60°C
  - EN54-5 CR, rate-of-rise high ambient;
  - EN54-5 A2S, fixed 60°C
  - EN54-5 CR, rate-of-rise high ambient;

<table>
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</tr>
<tr>
<td>Relative Humidity:</td>
<td>98% non-condensing</td>
</tr>
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</table>
Addressable Fire Detection System

**801FEx Flame Detector**

The 801FEx point type flame detector forms part of the MX Technology range of digital addressable fire detectors. The detector plugs into the SBEX base. The 801FEx is a full featured solar blind flame detectors and can detect a 0.1m² fire at a range of 20m.

**Technical Specification**
- ATEX Code: Ex II 1GD
- Cenelec Code: Ex ia IIC T4
- Ex iaD 20 T135°C
- Weight: 0.2Kg detector and base (approx)
- Operating Temp Range: -20°C to +70°C
- Storage Temp: -40°C to +80°C
- Relative Humidity: 90% non-condensing

**Product Codes**
- 516.800.066
- 801FEx I.R. Flame Detector
- 516.800.067
- 811FEx Marine I.R. Flame Detector

Manual Vol 17A-02-FEX

**CP840EX/CP830Exn Break Glass Callpoint**

The CP840Ex and CP830Exn Weatherproof Break Glass Callpoint is designed to monitor and signal the condition of the switch contact associated with the break glass.

- ATEX Code: Ex II1GD/3G
- Cenelec Code: Ex ia IIC T5
- Ex iaD 20 T135°C

**Product Codes**
- 516.800.513
- CP840EX MX Digital Addressable Breakglass Calpoint
- CP830EX MX Digital Addressable Breakglass Calpoint

**Product Code**
- 514.800.514
- CP840EX MX Digital Addressable Breakglass Calpoint

Manual Vol 17A-02-WCP830Exn
17A-02-CP/EX

**IF800Ex Interface Module**

The Intrinsically Safe IF800EX Interface Module is designed to monitor fire contacts such as sprinkler flow switches. The IF800Ex is contained within a grey compression moulded glass filled polyester box with 2 x 20mm cable gland holes.

- ATEX Code: Ex II 1GD
- Cenelec Code: EEx ia IIC T5

**Product Code**
- 514.001.062
- IF800Ex MX Digital Addressable Interface Module Assembly

Manual Vol 17A-02-IFEX

**EXI800 Interface Module & Galvanic Isolators**

The EXI800 Interface Module, used with a galvanic isolator, provides a path for an MX panel to transparently communicate to slave devices (800Ex Detectors, IF800Ex Interface Module or CP840Exn Administrable Break Glass Calpoint) connected to the Intrinsically Safe loop. The interface reduces the standard MX loop supply voltage and signalling currents to levels that are acceptable for hazardous areas. The EXI800 can detect a short circuit of the left-loop, the right-loop, or the IS spur and will isolate the offending circuit from the other loop connections. The IS loop output of the EXI800 interfaces with the Pepperl+Fuchs KFD0-CS-Ex1.54 Galvanic isolator supplying loop voltage and signalling currents to the Intrinsically Safe loop. The EXI800 is supplied complete with one service tool MX Dongle that is required to activate address programming using the standard MX service tool. The MTI 5021 Isolating sounder driver enables an intrinsically safe sounder device located in the hazardous area, to be controlled from the safe area. The MTL 5021 has one channel and is suitable for connecting suitable certified loads in Zone 0, IIC, T4-g hazardous areas.

**Product Codes**
- 514.001.063
- EXI800 Interface Module
- 517.001.299
- Pepperl+Fuchs KFD0-CS-EX1.54 Galvanic Isolator
- 557.203.008
- MTL 5021 Intrinsically Safe Sounder Driver
- 517.001.245
- MTL 5021 Intrinsically Safe Sounder Driver

Manual Vol 17A-02-EXI
Conventional Fire Detection System

Features
- Developed for use in vessels which require between 4 and 32 zones of fire detection.
- Compact 4 zone option for Console Mounting.
- Range includes a separate Water Mist Panel.
- Integrated Voyage Data Recorder output on 16 and 32 Zone Panel.
- No external secondary power source required.
- Discrimination between Automatic Fire Detectors and Manual Alarm Call points to provide the appropriate response.
- Optional Marine Approved Muster Alarm.
- Text label Inserts for Controls and Indicators in customer supplied language.

T1200 Conventional Marine Controller
Developed and Manufactured in the United Kingdom the T1200 range of Conventional Panels are a powerful yet user friendly series of Control Panels. The range is fully approved by all major Marine Authorities and takes advantage of the very latest technological advancements both in terms of design and manufacturing to the latest European, Marine and Asian standards.

Benefits
- Allows very early detection of accommodation fires with significantly reduced false alarms when used with Tyco’s unique heat enhanced Compensated Carbon Monoxide (CCO) Detector.
- Configurable Detection Zones allowing zones to be configured for any or all of the following:- Latching or Non Latching Fire Indication Normal or Intrinsically Safe Zone Monitoring of Machinery space zones.
- Crew Alert Mode - Manages Alarm Annunciation.
- Pre-configured for Immediate use.

Detection Options
- Optical Detector - An excellent all round detector suited to all applications.
- High Performance Optical (HPO) Detector - A direct replacement for the Ion Chamber Smoke Detector.
- Flame Detector - Used where there is a risk of large flaming fires e.g. Machinery Spaces.
- Enhanced Compensated Carbon Monoxide (CCO) Detector - The best detector for early warning without false alarms, used in life threatening applications e.g. Cabins, Public Spaces etc.
- Heat Detector - Used where smoke detectors cannot be used e.g. Galley’s, Laundries, Drying Rooms etc.
- Extensive configuration options using simple on board DIL switches and links.

Fault Finding Features
- The following fault finding indications are available:-
  - General Fault - Any Fault Condition.
  - Power Supply Fault - Mains or standby power supply/charger fault.
  - System Fault - Micro Controller or memory fault.
  - Earth Fault - Positive or Negative Power Supply Earth Fault.
  - Fuse Fault - Auxiliary Supply Fuse Failure.
  - Repeater Fault - Repeater Fault or Repeater communications failure.
  - Sounder Fault - Any Sounder Fault.
  - Fire Output Fault - Fault on the Fire Output.
  - Fault Output Fault - Fault on the Fault Output.

Technical Specification
Dimensions:
- T1204 & T1216RDC - 335w x 270h x 148d mm
- T1216 & T1216R - 420w x 445h x 148d mm
- T1232/T1216W/T1232RAC/T1232RDC/T1232EA/T1200EDC - 500w x 535h x 174d mm
- T1200B - 335w x 170h x 102d mm

Environmental
- IP Rating: IP30
- Operating Temp: -10°C to +55°C
- Humidity: 95% RH (non condensing)
Conventional Fire Detection System

High Performance Optical Smoke

These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors. For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition. The HPO will not operate on a rate of rise of temperature alone.

Datasheet - Product Code PSF123
Manual - Vol01C-02-D2 "Detectors Fire Manual"

Optical Smoke

These detectors are capable of detecting the visible smoke produced by materials which smoulder or burn slowly, i.e. soft furnishings, plastic foam etc.; or 'smoke' produced by overheated but unburnt PVC. These detectors are particularly suitable for general applications and areas where cable overheating may occur e.g. electrical services areas. The novel design of the asymmetrical sampling chamber and signal processing techniques stop unwanted alarms caused by very small insects. i.e. thrips. Smoke entering the sampling chamber scatters the infra-red light pulses onto a photo-diode. These pulses are converted to an electrical signal which is compared against a preset alarm level.

Datasheet - Product Code PSF123
Manual - Vol01C-02-D6 "Detectors Fire Manual"

Heat

These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and the change of temperature. The rate of rise/fixated temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Datasheet - Product Code PSF123
Manual - Vol01C-02-D5 "Detectors Fire Manual"

Rate of Rise

- **Product Codes**: 516.600.003.A
  - Approval LPCB
  - Branded ADT
  - Model 601H-R

- **Product Codes**: 516.600.003.T
  - Approval LPCB
  - Branded Thorn
  - Model 601H-R

- **Product Codes**: 516.600.003.Y
  - Approval LPCB
  - Branded Tyco
  - Model 601H-R

- **Product Codes**: 516.600.203
  - Approval Marine
  - Branded Tyco
  - Model 601H-R-M

Fixed Temperature 60°C

- **Product Code**: 516.600.214
  - Approval LPCB/Marine
  - Model 611H-F

Fixed Temperature 90°C

- **Product Code**: 516.600.033
  - Approval LPCB/Marine
  - Model 631H-F

Solar Blind Infra Red Flame Detector

Flame detectors, unlike smoke and heat detectors, do not rely on convection to transport the fire product to the detector, nor do they rely on a ceiling to trap the products. They can therefore, be used to protect large open areas without sacrificing speed of response to flaming fires. In order to ensure full coverage, however, flame detectors do require direct line of sight to all parts of the protected area.

Infra-red flame detectors such as the 601F are designed to respond rapidly to fires which involve clean-burning fuels such as alcohol or methane, i.e. fires which would not be detected by smoke detectors. The 601F Flame detector, by virtue of it's operating wavelength and flicker discrimination, is insensitive to normal environmental influences. For outdoor use, a solar-blind detector (e.g. the 5200PPlus) should be used. The 601F flame detector should, normally, only be used inside buildings to supplement heat and smoke detectors.

- **Product Codes**
  - 516.600.006
    - 601F
  - 516.600.007
    - 601F-M Marine

Datasheet - Product Code PSF132
Manual - Vol01C-02-D9 "Detectors Fire Manual"
Conventional Fire Detection System

**Conventional MCP200 Callpoint**

The MCP200 is a red indoor callpoint with 'alert' resistors and LED indicator. The MCP200 is LPCB approved.

**Product Codes**
- 514.001.142.A
- MCP200 without backbox-ADT branded
- 514.001.142.T
- MCP200 without backbox - Thorn branded
- 514.001.142.Y
- MCP200 without backbox - Tyco branded

**Conventional MCP230 Callpoint**

The MCP230 is an IP67 red weatherproof callpoint with LED indicator and LPCB approved.

**Product Codes**
- 514.001.110.A
- MCP230 ADT branded
- 514.001.110.T
- MCP230 Thorn branded
- 514.001.110.Y
- MCP230 Tyco branded

**High Performance Optical Smoke**

The MR601TEX has been developed to overcome the slower response of the optical detectors to hot burning fires, by increasing the sensitivity of the optical detector when it is associated with a rapid change in temperature. In this way it is intended to become a detector which can cover some of the risks currently covered by ion chamber detectors.

Smoke detectors will not detect burning alcohol or other clean burning liquids which do not generate smoke particles.

**Product Code**
- 618.054.011.Y (Vol 01B-04-D12)

MR601TEX Conventional High Performance Optical Smoke Detector

**Heat Detectors**

If environmental conditions rule out the use of smoke detectors, then a heat detector of the type MD601Ex/MDE61Ex may provide an acceptable, though less sensitive, alternative. For general use, and particularly where the ambient temperature may be low, a ‘Rate-of-Rise’ heat sensor is to be preferred. This type of sensor reacts to abnormally high rates of change of temperature and provides the fastest response over a wide range of ambient temperatures. A fixed temperature limit is also incorporated in these detectors.

In many environments, e.g. kitchens and boiler rooms, sudden, large changes in temperature are considered ‘normal’. Rate-of-rise detectors are generally not suitable in these cases and fixed temperature [static] types should be used.

**Product Codes**
- 516.052.051.Y (Vol 01B-04-D11)

MR601TEX Conventional Rate of Rise Heat Detector
- 516.052.041.Y (Vol 01B-04-D11)

MD611TEX Conventional Fixed Temperature Heat Detector

**Flame Detectors**

Flame detectors, unlike smoke and heat detectors, do not rely on convection to transport the fire products to the detector nor do they rely on a ceiling to trap the products. They can therefore be used to protect large open areas without sacrificing speed of response to flaming fires. In order to ensure full coverage however, flame detectors do require direct line of sight to all parts of the protected area.

Infrarad flame detectors such as the 601FEX are designed to respond rapidly to fires which involve clean-burning fuels such as alcohol or methane, i.e. fires which would not be detected by smoke detectors. The 601FEX Flame Sensor, by virtue of its operating wavelength and flicker discrimination is insensitive to normal environmental influences. For outdoor use a solar-blind detector [e.g. the S200 Plus] should be used. The 601FEX Flame detector should, normally, only be used inside buildings to supplement heat and smoke detectors.

**Product Codes**
- 516.600.065 (Vol 01C-02-D10)
- 601FEX Infra-Red Flame Detector
- 516.600.067 (Vol 01C-02-D10)
- 601FEX-M Infra-Red Flame Detector (Marine)
# Detector Test Equipment

## Telescope Poles

<table>
<thead>
<tr>
<th>Product Codes</th>
<th>Description</th>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>517.001.230</td>
<td>SOLO100 Telescopic pole 1.28M to 4.5M long</td>
<td>517.001.226</td>
<td>SOLO101 Extension tube 1.13M long for use with Telescopic extension pole (517.001.230)</td>
</tr>
<tr>
<td>517.001.264</td>
<td>SOLO 610 Protective Carry/Storage Bag for Solo Detector Test Kit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SOLO330 Test Gas Dispenser

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>517.001.255</td>
<td>SOLO330 Aerosol dispenser for use with all detector ranges. (Connects directly to SOLO100/101 poles)</td>
</tr>
</tbody>
</table>

## SOLO461 Heat Detector Tester

<table>
<thead>
<tr>
<th>Product Codes</th>
<th>Description</th>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>517.001.254</td>
<td>SOLO461 Cordless heat detector tester kit including SOLO460 tester, SOLO760 battery batons and SOLO724 charger. (Connects directly to SOLO100/101 poles).</td>
<td>517.001.239</td>
<td>SOLO760 Spare battery baton for use with SOLO 450/460 tester</td>
</tr>
<tr>
<td>517.001.243</td>
<td>SOLO725 Spare mains/car battery charger for SOLO760 battery baton</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Smoke Detector Test Gas

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>517.001.256</td>
<td>Suretest Solo aerosol tester can. For use with SOLO 330 dispenser. Non-flammable, ozone and environmentally friendly. Approx 200 tests per can.</td>
</tr>
</tbody>
</table>

## 800RT Detector Removal Tool

The 800RT detector removal tool fits the SOLO range of telescopic poles and allows 800 series detectors to be remotely fitted, removed and turned to the “park” position.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>516.800.917</td>
<td>800RT Removal Tool</td>
</tr>
</tbody>
</table>

## M900 Address Key Extractor Tool

The M900 Address Key Extractor Tool can be used to remove the address key from either a 4” or 5” detector base from ground level.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>517.001.235</td>
<td>M900 Address Key Extractor Tool</td>
</tr>
</tbody>
</table>

## SOLO704

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>517.001.224</td>
<td>SOLO704 Adaptor tube B - Adapts SOLO100/101 pole sets for TYCO detector changers and testers</td>
</tr>
</tbody>
</table>

## SOLO200

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>517.001.240</td>
<td>SOLO200 Universal detector changer for use with various manufacturers detectors - not suitable for 600/800/900 series low profile detectors. Connects directly to the SOLO100/101 poles.</td>
</tr>
</tbody>
</table>
SOLO TEST EQUIPMENT FOR POINT & FLAME DETECTORS

Detector Test Equipment
AIR BREATHING APPARATUS

**Specification**
- Type: RHZK5/30
- Air cylinder volume: 5L
- Air storage capacity: 1500L
- Normal working pressure: 300Bar
- Alarm pressure: 50-60Bar
- Weight: Approx 16kg (including air cylinder)
- Approval: MED

FIRE SUIT

**Specification**
- Type: Aluminized proximity fire-fighting suit with Bag
- Testing Standard: Fire suit: ISO 15538
  - Helmet: EN443
  - Gloves: EN388, EN407, EN659
  - Boots: EN ISO 20344 & EN ISO 20345
- Product Feature: Two piece Aluminized Rayon fire suit of universal size.
  The jacket consist of 5 pieces and also fitted with fireproof cotton lined mandarin collar and with elastic band
- Approval: MED 96/98/EC (Amended on April 2009)

FIRE AXE

**Specification**
- Type: Shaft type
- Material: Steel head, Rubber shaft cover
- Design Standard: DIN 14924
- Weight: 1 Kg
- Approval: KG (Korea Government)
SAFETY LAMP

**Specification**
- Type: Flashlight / Explosion-Proof
- Power Source: Two D size Batteries
- Lamp: 2.4 v, 0.5 am
- Lamp Output: 11.4 lumens
- Lamp Life: 4 hours
- Weight: 0.113 kg (without batteries)
- Approval: UL, MSHA, CSA

Note: MSHA approved for use in methane-air mixtures and UL listed for Division I and II, Class I. Approved also for use in dust-air mixtures of Class II, Group G.

LIFELINE

**Specification**
- Type: Rope type
- Material: Line outer covering: Heat-resisting tube
  - Inner core: Stainless steel
  - Hook: Stainless steel
- Size: Line: 3mm
  - Length: 30m, 45m, 50m
  - (Other length available on request)
- Approval: KG (Korea Government) & KR (Korean Register of Shipping)
- Weight: 2.8Kg, 3.5Kg, 4.2 KG
**CO2 FIRE EXTINGUISHER**

**Description**

CO2 FIRE EXTINGUISHER
- Dielectric test at 35000 V at 1mtr distance.
- Use on electrical equipment up to 1000 v at 1 mtr distance min.
- Paint : Epoxy Coating RAL 3000
- Discharge Hose : Rubber SBS hose reinforced with steel wire
- Extinguishing Agent :
  - Carbon dioxide is a odorless and color less gas.
  - Weigh about 1.5 times the air
- Approval : MED

**Technical Data**

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14251</td>
<td>Co2</td>
<td>5Kg</td>
<td>-30℃ +60℃</td>
<td>14s</td>
<td>3m</td>
<td>51.7 bar@20℃</td>
<td>250bar</td>
<td>15Kg</td>
<td>180</td>
<td>785</td>
</tr>
</tbody>
</table>

- Note : Mounting bracket available on request

**CO2 FIRE EXTINGUISHER**

**Specification**

- Type : Stored pressure type
- Capacity : 20Kg
- Fire Rating : B
- Material : Steel 34CrMo4
- Cylinder : 230mm
- Dimension : H 965mm x W 410mm x D 600mm
- Operating Pressure : 60 Bar at 20 ℃
- Test Pressure : ≥250Bar according 97/23/EC
- Temperature Range : -30 ℃ + 60℃
- Extinguisher Agent : Carbon Dioxide
- Propellant : Carbon Dioxide
- Total Weight : 68 Kg
- Range of Discharge : 4 Mtr
- Discharge Time : 32 Sec.
- Approval : MED
POWDER FIRE EXTINGUISHER

Description
- Dielectric test at 35000 V at 1mtr distance.
- Use on electrical equipment up to 1000 v at 1 mtr distance min.
- Paint : Epoxy polyester powder coating RAL 3000 U.V
- Discharge Hose : Rubber hose reinforced textiles
- Internal Cartridge : Capacity 55g, high pressure seamless steel, tested at 250 bar
- Extinguishing Agent : Dry powder produced according to EN615 & ISO9000. Not corrosive, abrasive and toxic for humans & animals
- Approval : MED

Technical Data

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14/67</td>
<td>Powder</td>
<td>6kg</td>
<td>-30°C +60°C</td>
<td>18s</td>
<td>7m</td>
<td>13 bar @20°C</td>
<td>26bar</td>
<td>11kg</td>
<td>190</td>
<td>560</td>
</tr>
</tbody>
</table>

FOAM FIRE EXTINGUISHER

Description
- Dielectric test at 35000 V at 1mtr distance.
- Use on electrical equipment up to 1000 v at 1 mtr distance min.
- Paint : Epoxy polyester powder coating RAL 3000 U.V
- Discharge Hose : Rubber hose reinforced textiles
- Internal Cartridge : Capacity 55g, high pressure seamless steel, tested at 250 bar
- Extinguishing Agent : Special formula AFFF based, by the interaction of two extremely powerful product, reaching very high performance specially agent class A, B and F fire.
- Approval : MED

Technical Data

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>14392</td>
<td>Foam</td>
<td>9L</td>
<td>0°C +60°C</td>
<td>34s</td>
<td>5m</td>
<td>15bar @20°C</td>
<td>30bar</td>
<td>15kg</td>
<td>225</td>
<td>540</td>
</tr>
</tbody>
</table>
**FOAM FIRE EXTINGUISHER (50L)**

**Specification**
- Type: Cartridge type
- Capacity: 50 Ltr
- Fire Rating: A, B
- Cylinder: 300 mm (0 ~ 15mm)
- Dimension: H 1145mm x W 455mm x D 550mm
- Operating Pressure: 13 Bar at 20 °C
- Test Pressure: 30 Bar according 97/23/EC
- Temperature Range: + 0 °C to + 60 °C
- Extinguisher Agent: Sealfire 2% (AFFF)
- Propellant: CO₂ 3 Ltr
- Total Weight: 85 Kg
- Range of Discharge: 8 Mtr
- Discharge Time: 47 Sec.
- Approval: MED
- Note: Available antifreeze - 20 °C or -30 °C & available with hose 10 mtr length on request.

**FOAM FIRE EXTINGUISHER (150L)**

**Specification**
- Type: Cartridge type
- Capacity: 150 Ltr
- Fire Rating: A, B
- Cylinder: 450mm
- Dimension: H 1380mm x W 700mm x D 900mm
- Operating Pressure: 13 Bar at 20 °C
- Test Pressure: 30 Bar according 97/23/EC
- Temperature Range: + 0 °C to + 60 °C
- Extinguisher Agent: Sealfire 2% (AFFF)
- Propellant: CO₂ 6,7Ltr
- Total Weight: 230 Kg
- Range of Discharge: 8 Mtr
- Discharge Time: 150 Sec.
- Approval: MED
- Note: Available antifreeze - 20 °C or -30 °C & available with hose 10 mtr length on request.

**FOAM APPLICATOR**

**Specification**
- Type: Low expansion branch pipe
- Material: Pipe: Stainless steel
- Casing: Brass
- Valve: Nickel-plated brass
- Hose & Suction pipe: Plastic
- Connection: 1 1/2" BSP female thread
- Foam expansion ratio: Up to 1:15
- Capacity: 215 l/min @ 6 bar
- Weight: 4 Kg
**FIRE HOSE (SPECIAL500)**

**Specification**
- Jacket: 100% High tenacity synthetic yarn circular woven
- Liner: EPDM-compound, steam or hot air vulcanized
  Low friction loss, Aging and ozon resistant
- Temperature Range: -40 °C ~ +100 °C
- Coating (on request): Synthetic coating in plain and relief version for better abrasion-resistance better resistance to oil, chemicals and dirt
- Approvals: DIN 14 811, LR, SBG, GL, MED 96/98 EC
- Applications: Refineries
  Standard fire hose available in length up to 500m depending on diameter

<table>
<thead>
<tr>
<th>Inner Dia inch</th>
<th>Inner Dia mm</th>
<th>Weight g/m</th>
<th>Burst pr. bar/psi</th>
<th>Work pr. bar/psi</th>
<th>Test pr. bar/psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>25</td>
<td>146</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>1 1/4&quot;</td>
<td>32</td>
<td>185</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>38</td>
<td>221</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>1 3/4&quot;</td>
<td>45</td>
<td>252</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>2&quot;</td>
<td>52</td>
<td>294</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>2 1/2&quot;</td>
<td>64</td>
<td>388</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>2 3/4&quot;</td>
<td>70</td>
<td>409</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>3&quot;</td>
<td>75</td>
<td>469</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
</tbody>
</table>

**FIRE HOSE (POLYDUR)**

**Specification**
- Jacket: Embedded-Made of 100% High Tenacity Synthetic Yarn Circular Woven
- Liner & Cover: Nitrile/PVC - Compound
  Through-the-weave-extrusion-process which forms a unified lining Minimum friction loss Oil and chemical resistance and food protection against ozone and atmospheric weathering Ribs on the surface of the hose for high abrasion-resistance Light ribless version also available
- Temperature Range: -35 °C up to 100 °C
- Approvals: DIN 14 811, LR, SBG, GL, MED 96/98 EC
- Applications: Refineries
- Standard fire hose available in length up to 500m depending on diameter

<table>
<thead>
<tr>
<th>Inner Dia inch</th>
<th>Inner Dia mm</th>
<th>Weight g/m</th>
<th>Burst pr. bar/psi</th>
<th>Work pr. bar/psi</th>
<th>Test pr. bar/psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>25</td>
<td>230</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
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<tr>
<td>1 1/2&quot;</td>
<td>38</td>
<td>310</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
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<tr>
<td>1 3/4&quot;</td>
<td>45</td>
<td>340</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>2&quot;</td>
<td>52</td>
<td>420</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>2 1/2&quot;</td>
<td>64</td>
<td>530</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
<tr>
<td>2 3/4&quot;</td>
<td>70</td>
<td>590</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
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<tr>
<td>3&quot;</td>
<td>75</td>
<td>650</td>
<td>50/725</td>
<td>17/250</td>
<td>30/435</td>
</tr>
</tbody>
</table>
Sea Water Fire Fighting Equipment

JET SPRAY NOZZLE

Specification
- Material: Chrome plated brass
- Nominal Pressure: 10 BAR (230 PSI)
- Approval: Germanischer Lloyd, American Bureau of Shipping, Lloyd's Register of Shipping, Marine Safety Agency, Det Norske Veritas, Russian Maritime Administration, Bureau Veritas

| S : Small, L : Long, LC : Long with cone, A : with applicator, P : with handle, PC : with handle and cone, B : with ball valve |

Overview of Flow Rates and Throw Distance

<table>
<thead>
<tr>
<th>Product No.</th>
<th>HS12</th>
<th>HS16</th>
<th>HS20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlet</td>
<td>2&quot; male</td>
<td>2&quot; male</td>
<td>2&quot; male</td>
</tr>
<tr>
<td>Dimension(mm)</td>
<td>350x98</td>
<td>350x98</td>
<td>350x98</td>
</tr>
</tbody>
</table>

Overview of Flow Rates and Throw Distance

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Straight Jet</th>
<th>Spray 120°</th>
</tr>
</thead>
<tbody>
<tr>
<td>liters/min</td>
<td>throw distance(m)</td>
<td>liters/min</td>
</tr>
<tr>
<td>Bar</td>
<td>HS12</td>
<td>HS16</td>
</tr>
<tr>
<td>3</td>
<td>165-23</td>
<td>250-24</td>
</tr>
<tr>
<td>8</td>
<td>280-32</td>
<td>410-34</td>
</tr>
</tbody>
</table>

Overview of Flow Rates and Throw Distance

<table>
<thead>
<tr>
<th>Nozzle Size</th>
<th>Range</th>
<th>Flow Rate</th>
<th>Range</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>23 m</td>
<td>130 l/min</td>
<td>12 m</td>
<td>200 l/min</td>
</tr>
<tr>
<td>12</td>
<td>33 m</td>
<td>170 l/min</td>
<td>19 m</td>
<td>230 l/min</td>
</tr>
<tr>
<td>16</td>
<td>29 m</td>
<td>190 l/min</td>
<td>20 m</td>
<td>330 l/min</td>
</tr>
<tr>
<td>19</td>
<td>29 m</td>
<td>220 l/min</td>
<td>15 m</td>
<td>450 l/min</td>
</tr>
</tbody>
</table>
HYDRANT COUPLING (JIS TYPE)

Specification
- Material: Brass, Bronze
- Lug Size:
  - JIS 40A: 61 mm
  - JIS 50A: 71 mm
  - JIS 65A: 91 mm

Hose Coupling
- Coupling w/ Male Thread
- Coupling w/ Female Thread
- Blanking Cap w/ Chain
- Spanner

HYDRANT COUPLING (STORZ TYPE)

Specification
- Material: Brass, Bronze
- Lug Size:
  - Storz C: 66 mm
  - Storz 65 mm: 81 mm
  - Storz B: 89 mm

Hose Coupling
- Coupling w/ Male Thread
- Coupling w/ Female Thread
- Blanking Cap w/ Chain
- Spanner

HYDRANT COUPLING (BS336 TYPE)

Specification
- Material: Brass, Bronze
- Male Coupling w/ Hose Sleeve
- Female Coupling w/ Hose Sleeve
- Male Coupling w/ Male Thread
- Male Coupling w/ Female Thread
- Blanking Cap Female w/ Chain
- Blanking Cap Male w/ Chain
FIRE HYDRANT VALVE (STRAIGHT TYPE)

Specification
- Type: Fire hydrant valve with flange
- Material: Gunmetal (Bronze)
- Capacity: PN16
- Design Code: DIN 86211
- Approval: DNV
- Note: Coupling with cap available on request

FIRE HYDRANT VALVE (ANGLE TYPE)

Specification
- Type: Fire hydrant valve with flange
- Material: Gunmetal (Bronze)
- Capacity: PN16
- Design Code: DIN 86211
- Approval: DNV
- Note: Coupling with cap available on request

FIRE HOSE BOX

Specification
- Material: Box: GRP, Hinge, Clip, Bolt/Nut: Stainless Steel
- Weight: 9.5 kg
- Approval: KR (Korean Register of Shipping)
1. COMPANY'S OVERVIEW

▶ COMPANY NAME : DongBang Marine Co., Ltd.
▶ FOUNDATION : April. 1998
▶ NUMBER OF EMPLOYEES : Twelve (12)
▶ MAIN BUSINESS : Fixed Fire Fighting System
  
  "CO2, Water Mist, Ext. Fi-Fi, Water Spray System etc"

  Fire Detection & Alarm System
  
  "Addressable, Conventional Type"

  Loose Fire Fighting Equipment
  
  "Fireman's Outfit"

  "Sea Water Fire Fighting Appliance"

  "Fire Extinguisher"

  Engineering service, Manufacture.

▶ CERTIFICATE : EQA ISO 9001, WPS-Welder (BV, DNV)
▶ ADDRESS : (I15-11BL), #598-20, Hwajeon-Dong, Gangseo-Gu,
  Busan, Korea
▶ TEL / FAX : + 82-51-205-1585 / + 82-51-205-1584
▶ WEBSITE : www.dbmarine.co.kr

2. OFFICE & FACTORY